NEW TITLES

APRIL 2016 - JANUARY 2017

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BIOLOGY AND MEDICINE
Post-Acute and Long Term Geriatric Care Clinical Advisor. Volume I
Jochanan E. Naschitz (The Technion Israel Institute of Technology, Haifa, Israel and Geriatric Medical Center, Baitbalev, Nesher, Israel)

In series: Geriatrics, Gerontology and Elderly Issues

Changing demographics have resulted in the elderly constituting a more significant proportion of the population. Many older people will develop functional impairment and disability, necessitating either support at home or admission to long-term care facilities, rehabilitation centers, psychiatric institutions and hospices. Guidance in the clinical challenges that face the staff of such institutions is essential. Clinical practice guidelines dealing with many of the prevalent conditions in long-term care facilities have been published by the American Medical Directors Association; these aim to educate staff, improve patient outcomes, decrease avoidable transfers and reduce costs. Yet, guidelines do not cater methodically to problems resulting from the complex situations seen in older patients with multiple comorbidities. Textbooks are also often deficient in providing a focused approach to conditions encountered frequently, to help them recognize “red flag” signals, and to highlight significant unusual situations.

When fine-tuning of management is indicated, the text goes into specifics, such as details on nutrition, pharmacology, medication dosing, therapeutic procedures, and the recognition of adverse events. Recent progress, shifting evidence, controversial issues and uncertainties are pinpointed. Expert advice is provided. It is hoped that this book might prove to be a worthy contribution to the medical field, enriching doctors and nurses committed to long-term geriatric care.

Post-Acute and Long Term Geriatric Care Clinical Advisor. Volume II
Jochanan E. Naschitz (The Technion Israel Institute of Technology, Haifa, Israel and Geriatric Medical Center, Baitbalev, Nesher, Israel)

In series: Geriatrics, Gerontology and Elderly Issues

About the Living Body: Introduction to Philosophical Anatomy
Mauro Barone, Nicola Di Stefano, and Vittoradolf Tambone (Dept. of Plastic, Reconstructive and Aesthetic Surgery, Campus BioMedico University of Rome, Roma, Italy)

In series: Human Anatomy and Physiology
Hardcover: 978-1-63484-357-7. $160.00.

The anatomical description of the human body outlines its morphology, answering mainly the question of “how it works”. Therefore, a detailed layout is displayed on the anatomical board, where every element is analyzed thoroughly. A description of the body as such does not trace the real body: the unity of the corporeal reality is closely connected with the entirety of the person, whose body is in the necessary condition to be able to carry out actions which are peculiar to it. As the reality of the body is to be an acting body, then a description that captures the real physical entity in its fullness must go through the acts that the subject does with its own body, which is always living a symbolic, intentional and emotional lifestyle. In this volume, we present the first version of the “philosophical” anatomy of the body, which outlines through a survey the intentional acts of humans, or the true reality of man and his body. From this new perspective, the unity and entirety of the body are highlighted: the body is what a person has to feed, what makes someone play sports and music, dance, pray, work, and what allows me to carry out all those actions which make someone feel realized as a person. This new conceptual approach brings us on a phenomenological level when describing this data, and thus the acts of the living body. A new perspective, from which the corporeality takes shape as a living entity, and not as a set of substance and accidents, or an aggregate of organs, or a transcendent spiritual unity.

The Lymphatic System: Components, Functions and Diseases
Christy Ramirez

In series: Human Anatomy and Physiology
Hardcover: 978-1-63484-689-9. $110.00.

This book provides research on the components, functions and diseases of the lymphatic system. Chapter One reviews the role of lymphatic drainage of cerebrospinal fluid from the brain. In particular, the authors review the current hypotheses on the possible drainage of lymphatic fluid from the brain. Chapter Two expose the actual refinements of the surgical technique for the pedicled and free greater omentum flap, facing the treatment lymphedema. Chapter Three summarizes the recent development of the molecular mechanisms of tumor lymphangiogenesis, especially the role of bone marrow-derived cells.
and the growth factors implicated in this process. Chapter Four reviews molecular mechanisms related to the activation of tumor lymphangiogenesis and their clinical implications.

**BIOLOGY**

**African Trypanosomiasis: Clinical Symptoms, Diagnosis and Treatment**

*Gerald T. Hughes*

In series: *Parasites and Parasitic Diseases*


Softcover: 978-1-63484-712-4. $82.00.

e-book: 978-1-63484-723-0. $82.00.

Human African trypanosomiasis or sleeping sickness is caused by infection with the morphologically indistinguishable subspecies Trypanosoma brucei rhodesiense (in East and Southern Africa) and Trypanosoma brucei gambiense (in West and Central Africa). The disease is presently almost under control and less than 4000 cases are currently reported. In both, T. b. rhodesiense and T. b. gambiense infection, after the injection of infective metacyclic trypanosomes with tsetse fly vector saliva, the parasites establish in the skin, differentiate to the bloodstream stage and spread via the local draining lymph node into the vascular system. In this book, Chapter One presents an overview of the current epidemiology, clinical features, diagnosis and treatment options. Chapter Two provides an in-depth review of diagnostic methods for African trypanosomiasis. Chapter Three discusses the use of aminoadamantane derivatives against Trypanosoma brucei.

**Allium sativum: Chemical Constituents, Medicinal Uses and Health Benefits**

*Abel Haynes*

In series: *Plant Science Research and Practices*


Hardcover: 978-1-63484-264-8. $110.00.


The use of Allium sativum (garlic) for medicinal purposes has origin in antiquity and is still included in the traditional medicine of many cultures. Oral tradition and recorded history show that garlic is one of the earliest examples of plants used extensively since the existence of man. Historically, there has been great interest in the role and potential benefits of garlic in the management of diseases and maintenance of health. This book provides research on the chemical constituents, medicinal uses and health benefits of Allium sativum. The first chapter provides a historical perspective and folkloric applications of garlic in ancient cultures, the supposed role and benefits perceived claimed to have played in health and disease and the substantive validation made so far by modern science. The next chapter provides a comparative review of Allium sativum extract and bioactive constituents. Chapter three reviews recent progresses in facilitating the in situ generated allinid methodology and its possible medicinal applications. Chapter four evaluates the antimicrobial activity, in vitro, of fresh Allium sativum Liliaceae against Staphylococcus aureus (Sa) and Escherichia coli (E. coli). The last chapter's main objective is the development of a preliminary mechanical system for the culture of garlic.

**Bacteriocins: Production, Applications and Safety**

*Troy Padilla*

In series: *Bacteriology Research Developments*


Hardcover: 978-1-63484-499-4. $110.00.

e-book: 978-1-63484-531-1. $110.00.

Bacteriocins are a heterogenous group of peptides or proteins with antimicrobial activity synthesized ribosomally and released extracellularly by bacteria belonging to nearly all taxonomic groups. These are classified according to their genetic, structural and biochemical characteristics. Use of bacteriocinogenic cultures to improve the safety of food products would represent an attractive alternative to the use of chemical preservatives, based on the long history of safe use of naturally occurring bacteriocin producing food-grade bacteria. Chapter One in this book discusses the effects of bacteriocin production in situ by bacteria in food products and evidence for the probiotic properties of bacteriocin producers are collected in order to identify processes in which the application of bacteriocinogenic cultures can be effectively implemented. Chapter Two examines the importance of the use of bacteriocins in food preservation and also their potential use in human health. Chapter Three discusses a broad range of bacteriocin applications focusing not only on food biopreservation but also on biofilm control. Chapter Four reviews the recent applications of bacteriocin-producing PC in meats and meat products throughout the world. Chapter Five evaluates the effect of mild pressure treatments in the survival of Pediococcus acidilactici HA-6111-2 and on its bacteriocin production capacity.

**Bacteriophages: An Overview and Synthesis of a Re-Emerging Field**

*Daniel Harrington*

In series: *Bacteriology Research Developments*

2016.

Softcover: 978-1-63485-455-9. $95.00.

e-book: 978-1-63485-467-2. $95.00.

This current book provides an overview of current research on bacteriophages. Chapter One discusses bacteriophages of pathogenic vibrios, identification and differentiation. Chapter Two reviews recent literature about the application of phages for the biocontrol of pathogenic microorganisms in meat and meat products, with a particular emphasis on chicken, beef and pork in order to shed light on the efficacy of such strategy for the prevention and eradication of spoilage and pathogenic microorganisms in foods and food processing environments. Chapter Three studies the synthesis of the divalent cation requirements for efficient adsorption of bacteriophage onto bacterial cells. Chapter Four focuses on the isolation and evaluation of the lytic spectrum of bacteriophages active against food-borne bacteria. Chapter Five presents data about the history and present-day of using bacteriophage preparations in treatment and prevention of various infectious diseases, in particular – of suppurative-inflammatory diseases of the respiratory organs. Chapter Six reviews phagebiotics in treatment and prophylaxis of healthcare-associated infections.

**Bile Acids: Biosynthesis, Metabolic Regulation and Biological Functions**

*Aileen Murphy*

In series: *Hepatology Research and Clinical Developments*


Hardcover: 978-1-63484-074-3. $110.00.

e-book: 978-1-63484-075-0. $110.00.

Bile acids (BAs) have received considerable attention as the key players of systemic metabolism. In the past, bile acids were known to play important roles in absorption of cholesterol, fat-soluble vitamins, and lipids. However, the new roles of bile acids as signaling molecules have been recognized in the last two decades because of discovery of bile acid receptors such as nuclear hormone receptor farnesoid X receptor (FXR) and the membrane receptor G-protein-coupled bile acid receptor 5 (Gprar1, TGR5). As the metabolic regulators, BAs play pivotal roles in the regulation of bile acid, cholesterol, fatty acid, lipoprotein synthesis, glucose metabolism and energy metabolism. Therefore, BAs, bile acid derivatives, and bile acid sequestrants are potential therapeutic agents for treating a number of metabolic disorders, especially those related to the metabolic syndrome. The first chapter of this book summarizes the basic information of bile acids but
focuses on its new functions in different diseases. The next chapter discusses mixed micelles of bile acid salts and phospholipids starting from historical Small's disc model up to the advanced version as “stacked disk” and “radial shell”. The final chapter studies bile aspiration as a host factor for modulating chronic respiratory infection.

**Biological Energetics**  
_Pang Xiao Feng (Institute of Life Science and Technology, University of Electronic Science and Technology of China, Sichuan, P.R. China)_

In series: _Biochemistry Biology - Theory, Techniques and Applications_

In series: _Biochemistry Research Trends_  

This book presents a complete review of biological energetics and responds systematically that there is no possible activity without bio-energy in the living bodies. In this case, we elucidate and describe concretely the generations of bio-energy and its properties, regulation of bio-energy metabolism, bio-energy transport and its theoretical description, the stability of bio-energy transport, the experimental evidences of correctness of bio-energy theory and its wide applications, as well as the use of bio-energy in living systems involving animals, plants and human beings. Additionally, the biological phenomena, processes and effects related to bio-energy are also delineated, explained and shed light on theoretical calculations and analyses, numerical simulations and experimental measurements using biology, molecular biology and biophysics. This book contains seven chapters, in which 380 pages and a great number of illustrations and figures reveal the theoretical and experimental results. It is intended for researchers, teachers, graduate students and upper-level undergraduate students.

**Craniosynostosis and Rare Craniofacial Clefts: Diagnosis, Treatment, and Outcomes**  
_Justine C. Lee (Division of Plastic and Reconstructive Surgery, David Geffen School of Medicine, University of California Los Angeles, CA, USA)_

In series: _New Developments in Medical Research_  

Craniosynostosis and rare craniofacial clefts represent overlapping spectra of craniofacial disorders that present significant multi-system challenges in reconstructive surgery. Caused by the premature fusion of cranial bones, craniosynostosis may occur in isolation or as a part of a syndrome. The consequences of untreated craniosynostosis are significant to the neuropsychological development, as well as to the overall appearance of the child. Rare craniofacial clefts, unlike the common cleft lip and palate, frequently affect multiple functional units of the face. Similar to craniosynostosis, rare clefts may occur in isolation or as a manifestation of a rare craniofacial syndrome. For both entities, reconstructive complexity may range from routine to extraordinarily complex requiring multiple surgeries with the involvement of multiple disciplines. In the ensuing chapters, 27 authors from the United States and abroad share their expertise on the current knowledge in craniosynostosis and rare craniofacial clefts. From the disciplines of plastic surgery/craniofacial surgery, neurosurgery, otoaryngology, ophthalmology, and orthodontics, comprehensive reviews of nonsyndromic craniosynostosis, syndromic craniosynostosis, genetic advances in craniosynostosis, orthodontic perspectives in dental rehabilitation, ophthalmologic perspectives in craniosynostosis, minimally invasive techniques, rare craniofacial clefts, treatment of craniofacial microsomia with an emphasis on microtia and atresia, treatment of pediatric facial nerve paralysis, and Treacher Collins syndrome are detailed.

**Ginkgo biloba: Biology, Uses and Health Benefits**  
_Emmett Fisher_

In series: _Plant Science Research and Practices_  
Softcover: 978-1-63485-825-0. $95.00.  
e-book: 978-1-63485-826-7. $95.00.

The major component of ginkgo, heparan sulfate covalently attaches to proteoglycan core proteins, which is abundant at the cell surface and in the extracellular matrix. Heparan sulfate could provide binding sites on endothelial cells to retain and activate highly diffusible cytokines and inflammatory chemokines to regulate cell functions, such as proliferation and migration. Under physiological and pathological conditions, the remodeling in structure of heparan sulfate including the abnormal expression, and irregular distribution that critically play a fundamental role in inflammation and atherosclerosis, as well as many other diseases was observed. This book aims to integrate a current understanding of the identified molecular mechanisms in the regulation of ginkgo, especially the heparan sulfate structure. Additionally, the available drugs that can protect the heparan sulfate or induce its synthesis, and the measurement techniques of the endothelial glyocalyx, as well as the relationship between structure and function of heparan sulfate in the progression of inflammation and atherosclerosis are analyzed.

**Glycocalyx and its Roles in Inflammation and Atherosclerosis**  
_Ye Zeng (Associated Professor, Institute of Biomedical Engineering, West China school of Preclinical and Forensic Medicine, Sichuan University, Chengdu, Sichuan, P.R. China)_

In series: _Cell Biology Research Progress_  
2016.  
Softcover: 978-1-63485-825-0. $95.00.  
e-book: 978-1-53610-105-8. $95.00.

The major component of glycocalyx, heparan sulfate covalently attaches to proteoglycan core proteins, which is abundant at the cell surface and in the extracellular matrix. Heparan sulfate could provide binding sites on endothelial cells to retain and activate highly diffusible cytokines and inflammatory chemokines to regulate cell functions, such as proliferation and migration. Under physiological and pathological conditions, the remodeling in structure of heparan sulfate including the abnormal expression, and irregular distribution that critically play a fundamental role in inflammation and atherosclerosis, as well as many other diseases was observed. This book aims to integrate a current understanding of the identified molecular mechanisms in the regulation of glycocalyx, especially the heparan sulfate structure. Additionally, the available drugs that can protect the heparan sulfate or induce its synthesis, and the measurement techniques of the endothelial glyocalyx, as well as the relationship between structure and function of heparan sulfate in the progression of inflammation and atherosclerosis are analyzed.

**Robust Designs and Their Applications to Control, Signal Processing, Communication, Systems and Synthetic Biology: An Integrated Course for Engineering, Mathematics, and Bioscience**  
_Bor-Sen Chen and Chia-Chou Wu (Department of Electrical Engineering, National Tsing Hua University, Taiwan)_

In series: _Systems Biology - Theory, Techniques and Applications_
Honey bees and other pollinators.

Cycling, flood and erosion control, and recreation. This book discusses production, the maintenance of natural plant communities, and the dollars. Unabated, these losses of our pollinators threaten agricultural increase our nation's crop values each year by more than 15 billion plants in the world require pollination by an animal, most often an pollinators play a critical role in maintaining diverse ecosystems and in supporting agricultural production. Some three

The theoretical H∞ robust design results, the authors also give some practical design examples to illustrate the procedure and validate the performance of the proposed H∞ method with computational simulations and tables.

Hydrocephalus: Prevalence, Risk Factors and Treatment
Merle Reeves

In series: Congenital Disorders - Laboratory and Clinical Research

Hydrocephalus is an abnormal build-up of cerebrospinal fluid (CSF) in the brain. In normal circumstance, CSF is produced by the choroid plexus located in ventricles. CSF flows through the ventricular system to the cerebral and cerebellar subarachnoid spaces where it is reabsorbed into the blood circulatory system. Any obstruction of this pathway results in accumulation of CSF, which in turn compresses the surrounding brain tissue and causes the dilatation of CSF pathway spaces and the malfunction of central nerve system. Hydrocephalus may result from either impaired reabsorption or the production of CSF (communicating hydrocephalus) or blockage of CSF flow (non-communicating hydrocephalus). It can be caused by either congenital factors or acquired factors. Knowledge on the etiology and pathophysiology of hydrocephalus is important for the prevention and treatment of this disease. In this book, the prevalence of hydrocephalus is discussed, as well as risk factors and treatment options available.

Improving the Health of Honey Bees and Other Pollinators: National Strategy and Research Action Plan
Christina L. Evans

In series: Insects and Other Terrestrial Arthropods: Biology, Chemistry and Behavior

Wherever flowering plants flourish, pollinating bees, birds, butterflies, bats, and other animals are hard at work, providing vital but often unnoticed services. But many pollinators are in serious decline in the United States and worldwide. Preventing continued losses of our country’s pollinators requires immediate national attention, as pollinators play a critical role in maintaining diverse ecosystems and in supporting agricultural production. Some three-fourths of all native plants in the world require pollination by an animal, most often an insect, and most often a native bee. Pollinators, most often honey bees, are also responsible for one in every three bites of food we take, and increase our nation’s crop values each year by more than 15 billion dollars. Unabated, these losses of our pollinators threaten agricultural production, the maintenance of natural plant communities, and the important services provided by those ecosystems, such as carbon cycling, flood and erosion control, and recreation. This book discusses national strategies and research action plans to improve the health of honey bees and other pollinators.

Marijuana: Medical Uses, Regulations and Legal Issues
Margie Vasquez

In series: Plant Science Research and Practices

Cannabis sativa is the scientific name for the widely used drug commonly known as marijuana. Marijuana is the most commonly used illegal drug in the United States as well as in many other countries. Considered a “soft” drug, it is a naturally growing plant that is harvested as its crude product for use. Other familiar names for marijuana are weed, dope, pot, hemp, cannabis, and reef. Marijuana contains tetrahydrocannabinol (THC), which is a mind altering substance that is generally smoked, but also can be taken orally or as oil on the skin in order to receive a “high.” New laws regarding the marijuana’s legalization have led to more questions and increased interest in the effect marijuana has on its users. Chapter One of this book discusses differences across motivation variables and marijuana use. Chapter Two compares the medical necessity of marijuana to the political agenda. Chapter Three examines the evidence for and against the medical use of marijuana, and the effects and implications of its recent legalization in several states especially with regard to its use by college-age young adults. Chapter Four examines the issues surrounding legalization and teen use and the policy steps that might be taken to effectively communicate the risks to adolescents amidst an ever more socially acceptable climate. Chapter Five discusses the recent rise of legally sold marijuana, the risks of use, arguments in support of mandating warnings on packages of legally sold marijuana, the likely benefits and costs of mandating warnings, ways of evaluating proposed and actual warnings, and specific recommended warnings. Chapter Six exhibit how and the extent to which federal government marijuana regulation and policy contributes to disparities in arrest, in particular for African Americans of lower socioeconomic standing. This book ends with a commentary on aims to answer the question of whether marijuana and video games can engender “real” addictions in a way that bridges the gap between scientific and colloquial understandings of problem use.

Membrane Organization and Lipid Rafts in the Cell and Artificial Membranes
Angel Catalá (Instituto de Investigaciones Fisiocquímicas Teóricas y Aplicadas, (INIFTA-CCT La Plata-CONICET), Facultad de Ciencias Exactas, Universidad Nacional de La Plata, Argentina)

In series: Cell Biology Research Progress

This book presents an overview of membrane organization and lipid rafts in the cell and artificial membranes. The topics analyzed in this book cover a broad spectrum of functions played by lipid rafts in membrane organization within the cell and artificial membranes, and presents new information in this area of research. The topics analyzed include: fluid-mosaic cell membrane structure from cellular control and domains to extracellular vesicles; lipid rafts in binary lipid/cholesterol membranes; membrane assembly and lipid rafts in the cell and artificial membranes; the effect of lipid peroxidation; drugs, delivery systems and membrane organization in model and cell membranes; role of sphingomyelin on membrane domain formation and its influence in protein interaction focusing on the nanometer scale; lipid rafts and cell adhesion; mutual modulators of cell signaling; and finally, roles of glycosphingolipids in the regulation of the membrane organization and cell signaling in lipid rafts.
Microbes in Action
Neelam Garg and Abhinav Aeron (Department of Microbiology, Faculty of Life Sciences, Kurukshetra University, Kurukshetra, Haryana, India)
In series: Microbiology Research Advances
Hardcover: 978-1-63484-491-8. $270.00.
e-book: 978-1-63484-520-5. $270.00.
The present book is a collection of twenty different articles from across the globe divided into four basic themes of microbializers, microbial metabolites, microbes in health and microbial fuels. The first chapter discusses removal of undesirable compounds from soil by a process called thizomerization. Sustainability of the ecosystem is greatly needed, which is pertinently covered in the first sub-theme of this volume. The second sub-theme of this collection focuses on diverse types of microbial metabolites with chapters on biosurfactants, carotenoids, organic acids, antibiotics and biosensors, each of which is important and significant in its own way. The third sub-theme of the book is enriched by a discussion on microbes in health with four chapters, each explaining probiotics, direct fed microbials (DFMs), the role of microbes in the production of vaccines, and survival mechanisms of human pathogenic fungi. The chapter on probiotics elucidates the role of microbiota in development of the immune system and their influence on the development of atopic conditions. Finally, the importance of probiotics as a simple but powerful tool that may influence human health by modulating the microbiota is introduced. In the review on DFMs, dissemination and efficacy of Bacillus direct-fed microbial candidates in the gastrointestinal tract of broiler chickens and their effect on health and performance parameters in different poultry diets is discussed as well. Next in this book, vaccines are analyzed, which have reduced the harmful impact of pathogenic microbes on human life. A discussion about long-chain polyunsaturated fatty acids (LC-PUFAs), such as the omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) that provide significant health benefits is introduced. LC-PUFAs can be recovered from many marine organisms, transgenic plants, fungi and many microorganisms, but the largest amount is currently extracted from fish. Finally, biological fuels like biodiesel and bioethanol, which can be generated by efficient utilization of the biotransforming ability of various microorganisms such as microalgae, cyanobacteria and yeasts, are covered in the fourth sub-theme of this volume with six engaging chapters. One of the chapters discusses the use of waste water for growth of microalgae. Integration of waste water treatment with microalgae performs nutrient incorporation to algal biomass, and waste water remediation as additional benefit are also presented. Thus, the dual-process system provides the potential for energy and effective waste water treatment at lower costs compared to chemical treatment methods.

Microbiological Industrial Hygiene
Eino Elias Hakalehto (Microbiologist, Biotechnologist, Adjunct Professor, Institute of Biomedicine, University of Eastern Finland, Kasarmikatu, Kuopio, Finland)
In series: Microbiological Hygiene
“Microbiological industrial hygiene” is defined as the safeguarding of industrial products, premises, personnel and raw materials from harmful or hazardous microbes which could cause a threat to the general public or the environment. The microbiological means for pursuing these goals in sampling, enrichment and detection are examined in the chapters of this book. Industries have been established for the production of a huge variety of products, from the cleanest medical or other healthcare products to the foods and other basic products people use on a daily basis. The micro-organisms are present in almost everything, and their presence needs to be monitored with skill. They often constitute an important component in the product composition by themselves. In these cases, the purity of the microbial supplements and seed cultures as well as their prevalence in the processes need to be surveilled. After this, the microbial communities could be within the scope of analysis. Sometimes, the industrial microorganisms need to be researched, too. Consequently, issues like clean room production, medical blood products, use of preservatives, milk and meat production, forest industry products, biorefineries, energy production with biohydrogen and methane, organic fertilizers and biochemicals are included in these chapters. Raw material safety, such as the Brucella spp. in milk is also dealt with in close attention. The microbiological industrial hygiene, as outlined above, should include the responsibility on the wastes of the various industries. In fact, these and the side streams could be converted into valuable raw materials for novel products with the aid of the microbes. This book introduces several steps for the industries to continue in this direction, which could also improve the overall hygienic status. The purpose of this book is to help the industrial production of microbiologically clean products using basic knowledge based on the microbiological and hygienic principles.

Oxidative Stress: Causes, Role in Diseases and Biological Effects
Cassidy Croft
In series: Cell Biology Research Progress
Hardcover: 978-1-63117-578-7. $190.00.
Softcover: 978-1-63110-040-2. $89.00.
Active oxygen species are produced as inescapable by-products of a normal aerobic metabolism, and their production is further enhanced by exposure to certain environmental conditions, or as a result of some diseases. Oxidative stress is defined as an imbalance between the production of free radicals (FR) and antioxidant defenses in favor of the former, which can result from an excess of prooxidant, antioxidant deficiency or both factors. There are many kinds of FR, but these can be grouped together under the name of reactive oxygen species (ROS) or reactive nitrogen species (RNS), determined by the ability of each species according to the four basic characteristics: reactivity, specificity, selectivity and diffusivity. This book aims to discuss the biological effects, role in diseases, and causes of oxidative stress. Some of the topics provided include oxidative stress in biofilms; age reation to oxidative stress; controlling of oxidative stress in non-alcoholic steatohepatitis; and the role of nitric oxide toxicity and oxidative stress in graft vs. host disease.

Oysters and Clams: Cultivation, Habitat Threats and Ecological Impact
Jesús L. Romalde (Professor of Microbiology, Departamento de Microbiología y Parasitología, Biology and Medicine

Bivalve molluscs are scientifically and economically important invertebrates. Among them, oysters and clams dominate other species with respect to global distribution and aquaculture production. Recently, with research advancements in farming technology, environmental monitoring and disease control, as well as the diversification of cultured species, new findings and outcomes have emerged. This book presents a compilation of the latest research on oyster and clam culture, including aspects of ecological distribution and management, disease, physiological responses to environmental stressors or host-pathogen interactions, in most cases from a multidisciplinary approach.


Polyphenols are secondary metabolites of plants. Dietary phenolics are not only classified as human nutrients, but also play important roles in human health and are therefore called nutraceuticals. Both epidemiological studies and controlled human studies have shown that regular intakes of diets rich in phenolics are inversely related to some chronic diseases such as certain cancers and coronary heart diseases. Types and contents of phenolics in different food system vary greatly and foods of plant origin including fruits, vegetables, legumes and some beverages are good sources of bioactive phenolics. Beside the edible part of plant foods, some agricultural by-products usually contain higher levels of polyphenols, particularly, flavonoids than products themselves. This book describes the major classes of dietary phenolics, and their occurrence in the commercially important agricultural by-products including peanuts skin, grape pomace, apples pomace, citrus processing by-products, and cranberry pomace. It also discusses agricultural by-products as important food sources of polyphenols; the role of polyphenols in the prevention of ultraviolet light induced inflammation and immunosuppression; yerba mate; the Mediterranean diet; bioactive compounds from different food sources; industrial apple pomace; the role of polyphenols in human diseases; the influence of extraction methods on the stability of polyphenols; and bioactivity of polyphenolic rich functional foods and nutraceuticals from the tropical island of Mauritius.


Rapeseed is the traditional name of a large winter or spring annual oilseed crop from the Brassicaceae family, and is related to mustard, cabbage, broccoli, among others. As one of the leading oilseed crops, rapeseed is primarily grown for its oil content. This book presents research on the chemical composition, production and health benefits of rapeseed. The first chapter reviews the literature on rapeseed/canola derived bioactive peptides with emphasis on strategic production and processing methods as well as anti hypertensive, antitumor, hypocholesterolemic, and multifunctional properties. Chapter two summarizes recent advances on the extraction processes of rapeseed-derived protein and bioactive compounds and reviews the possibilities as well as the challenges that these ingredients face regarding skin care, food and nutraceutical applications. Chapter three examines physical properties of fat filling produced with oil industry by-products – sunflower and rapeseed lecithin in comparison with widely used emulsifier soy lecithin. Chapter four provides a comprehensive summary about contribution of mass spectrometric methods to analysis of rapeseed, reflecting their irrepressibility to the field of “Food control.” The final chapter studies antioxidant activity in transgenic canola plants grown in vitro.


Chia (Salvia hispanica L.) is an annual herbaceous plant belonging to this taxonomic hierarchy. This book explores a range of topics related to this plant and their nutritional components. The chapters to this volume provide a survey of chemical composition, functional properties, and its impact on human health, but also the opportunities for chía as an ingredient to be incorporated into foods for the benefit of consumers. The topics include: 1. Plant history and agronomy. 2. Chemical composition of Chia (Salvia hispanica) 3. Nutritional value of chia seeds 4. Composition of fatty acid of chia oil 5. Fatty acids ω-3 and ω-6 in chia oil 6. Chia seeds as source of dietary fiber 7. Physicochemical properties of chia gums 8. Biological value of chia proteins 9. Chemical and functional characteristics of chia proteins 10. Biological properties of chia 11. Some pharmacology studies 12. Health aspects of chia 13. Experimental and industrial application of chia: Encapsulation and film properties 14. Prospective utilization of chia in functional foods The contributors to this volume provide valuable information about Salvia hispanica. The biofunctional, technofunctional potential and health implications of consumers are presented in this book.


Snake bites are a major health concern, especially in tropical countries. Understanding the pathology of envenomation and chemical composition of snake venoms is important in the development of medical countermeasures (including, but not limited to, antivenoms). Furthermore, snake venoms can be considered natural “combinatorial libraries” of proteins and peptides. Thus, it is not surprising that components of snake venom have been found extensively useful in biomedical research as well as clinical use for treating diseases as diverse as cancer and muscle pain. In this book, well-known scientists from the Americas, Asia, and Europe discuss recent trends and
outlooks in regards to snake venom research. A distinctively broader coverage of the subject is given, with topics ranging from protein biochemistry to pathology. Several chapters highlight protein biochemistry and enzymology of snake venoms, immune response to envenomation and antivenoms, production and use of snake venom components as antigens for antivenom preparation, and the therapeutic value of snake venom components in the treatment of various diseases. A comprehensive and authoritative monograph, this book will be equally interesting to both established researchers and graduate students interested in toxicology and pathology of envenomation.

**Spermatogenesis: Molecular Mechanisms, Regulation and Biological Perspectives**  
**Gladys Robinson**  
In series: *Human Reproductive System - Anatomy, Roles and Disorders*  
2016. 120 pp.  
Hardcover: 978-1-63484-715-5. $110.00.  
e-book: 978-1-63484-726-1. $110.00.

Spermatogenesis is a tightly regulated cellular renewal and differentiation process. It consists of self-renewal and differentiation of spermatogonial stem cells (SSCs), spermatocytic meiosis and spermiogenesis; each of these processes is essential to the continuous, successful production of male gametes. During spermiogenesis, haploid spermatids undergo extensive cellular, molecular and morphological changes, including acrosome biogenesis, flagellum development, cytoplasmic reorganization and chromatin condensation. These changes ultimately result in mature spermatozoa with an acrosome-covered head and motile tail. In this book, Chapter One summarizes the progress that has been made in understanding the molecular mechanisms underlying acrosome biogenesis, and the authors discuss the potential directions of future investigations of this process. Chapter Two briefly addresses the basics of spermatogenesis and the synthesis of ncRNAs, and then the authors discuss the recent progress in understanding of the functions of miRNAs, endo-siRNAs, piRNAs and IncRNAs in the regulation of spermatogenesis. Chapter Three provides a review of the current literature on testicular immunoregulation and its underlying mechanisms, along with its effect on testicular functions.

**The Evolving Human Primate: An Exploration through the Natural and Social Sciences**  
**Donald Sharps (Emeritus College, Arizona State University, Senior Visiting Fellow, Cambridge University)**  
In series: *Science, Evolution and Creationism*  
Hardcover: 978-1-63484-092-7. $190.00.  

The theme of this book is our primate biology, or who we are as a continuum of our animal ancestors. Professor Sharps first uses comparative animal studies and recent finds in archaeology to outline this argument and theme, and thus provides evidence for human animal origins. He then reveals how our emotions and behaviors influence our lives as demonstrated through the major social sciences—the philosophy of our cognitive functioning, our psychology, and our religious beliefs as consumers (the economy), as national citizens (political science, government), and as world citizens (climate change). The idea is to examine the human condition from more than one discipline, and to synthesize research studies that analyze human behavior that is socially similar to other primate behavior. What makes this book unique is its interdisciplinary investigation of human primates from the variety of the social sciences. He has conducted similar research in two previous books, *The Evolution of the Social Sciences* (2009) and *Outcast and Heretics, Profiles in Independent Thought and Courage* (2007). The target audience is the articulate and literate community in the broad field of the social sciences, a book appropriate for a general audience, and students in all the social science specialties, including interdisciplinary studies such as courses in evolution, climate change, politics, anthropology, psychology and the life sciences.

**The Zika Virus: Background, Issues, and U.S. Response Considerations**  
**Veronica Salazar**  
In series: *Virology Research Progress*  
2016.  

In late 2015, health officials in Brazil recognized a marked increase in the number of infants born with microcephaly (from Greek, meaning “small head”), a birth defect that may accompany significant, permanent brain damage. Although not conclusive, the increase in microcephaly is suspected to be related to the emergence of Zika virus infections in Brazil early in 2015. Zika virus is related to the viruses that cause yellow fever, dengue, West Nile, and Japanese encephalitis viruses. Historically, Zika virus was found in Africa. Since 2007, Zika transmission has also occurred in Southeast Asia and the Western Pacific. In the Americas, transmission was first identified in Brazil in May 2015. As of January 29, 2016, the Pan American Health Organization (PAHO) had received reports of local transmission in 25 countries and territories in the Americas, including Puerto Rico and the U.S. Virgin Islands. This book discusses scientific and technical aspects of Zika virus infection, including modes of transmission, symptoms, diagnosis and treatment, and prevention. Policy concerns and official actions are evolving and will also be discussed.

**Weed and Pest Control: Molecular Biology, Practices and Environmental Impact**  
**Ilias S. Travlos, Dimitrios Bilalis and Demosthenis Chalakis (Faculty of Crop Science, Agricultural University of Athens, Greece)**  
In series: *Plant Science Research and Practices*  
Hardcover: 978-1-63484-100-9. $190.00.  

In this book, current research is presented no the study of weed and pest control with a special focus on molecular biology, agronomic practices and environmental impact. Topics discussed include integrated weed management in winter cereals; control of Orobanche spp. in terms of molecular aspects and agronomic practices; alien plant species invading rare and protected habitats; “belowground” seedbank processes as alternative non-chemical options for weed control; glyphosate-resistant volunteer maize (Zea mays L.) and its impact and management; the case of several Fabaceae weeds in terms of their tolerance to glyphosate and its mechanisms; the case of the invasive pest Phyllocnistis citrella and some proposed control strategies; pollen provisioning for the conservation of omnivorous phytoseiids: an integrated approach for pest control in protected cropping systems, vineyards and orchards; aphidophagous ladybird beetles as biological control agents and the use of Bacillus spp. as a biocontrol agent. By means of the above mentioned chapters, it is shown how management of several noxious weeds and pests should be achieved, relies on the several achievements of molecular biology and minimizes the negative environmental effects of a sole and non-orthologic chemical control. Integrated management of weeds and pests gives the opportunity to significantly reduce the use of pesticides by utilizing a variety of methods, including cultural, biological and structural strategies to control a multitude of weed and pest problems, and keep them from becoming a problem.
CANCER

Bile Duct Cancer: Symptoms, Treatment and Prognosis
Donna E. Matthews
In series: Cancer Etiology, Diagnosis and Treatments
2016. 102 pp.
Softcover: 978-1-63484-713-1. $82.00.
e-book: 978-1-63484-724-7. $82.00.
Primary bile duct cancers are rare and generally aggressive entities. Historically, this disease was managed exclusively with surgical therapy with few long-term survivors. However, with improvements in chemotherapy, targeted therapy, interventional radiology techniques and development of alternative surgical approaches, treatment has moved to the utilization of a multidisciplinary care team employing multimodality treatments which has finally led to improvement in outcomes. In this book, Chapter One examines symptoms and the current state of medical and surgical management of bile duct cancer, while Chapter Two discusses the clinical aspects of care of extrapleural biliary cancers with an emphasis on diagnosis and management. Chapter Three assesses the risk of bile duct cancer among beneficiaries of The Health Insurance Society of Printing Industry (HISPI) using diagnosis-procedure-combination (DPC) data in comparison with general population. Chapter Four concludes with a summary of results for chemotherapy and targeted therapies.

Breast Cancer: Risk Assessment, Treatment and New Developments
Wendell Armstrong
In series: Cancer Etiology, Diagnosis and Treatments
Softcover: 978-1-63485-184-8. $82.00.
Cancer risk prediction models provide an important approach to assess risk and susceptibility by identifying individuals at high risk, facilitating the design and planning of clinical chemoprevention trials, and allowing the evaluation of interventions. Conventional breast cancer risk model includes the cumulative estrogen exposure data such as age, age at menarche and menopause, age at first live birth, and use of HRT in risk calculation, since estrogens are the main risk factor for mammary carcinogenesis. The most widely known and commonly used model for breast cancer risk assessment is the Gail model, which focuses primarily on non-genetic risk factors, with limited information on family history. The first chapter of this book examines breast cancer risk assessment models. The following chapters discuss the association between obesity and breast cancer development; current and future standards for treatment of breast cancer and long term care of patients; and mastectomies and voluntarism.

Cancer: Pain and Symptom Management
Breanne Lechner, Ronald Chow, Natalie Pulenzas, Marko Popovic, Na Zhang, Xiaojing Zhang, Edward Chow, and Joav Merrick (Odette Cancer Centre, Sunnybrook Health Sciences Centre, Toronto, Canada)
In series: Health and Human Development
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
Hardcover: 978-1-63483-864-1. $110.00.
Many cancer patients experience a variety of distressing symptoms, adversely affecting their functional status and quality of life (QOL). Subjective symptoms such as pain, fatigue and depression are common among cancer patients, with approximately 33-55% of cancer patients experiencing pain during the course of their illness. Previous literature commonly examined a single symptom and its effect on patients’ functional status and QOL, but patients often experience multiple symptoms simultaneously. Since individual symptoms are often associated with decreased QOL, the assumption that symptom clusters might have a greater effect on QOL is logical. The coexistence of symptoms provides an insight into the importance of assessing clusters of symptoms rather than focusing on individual symptoms. Although the focus of single symptoms has advanced the understanding of those particular symptoms, it may not be as helpful to health care professionals in guiding practice when patients present several concurrent symptoms. It is important for clinicians to address and ultimately treat all concurrent symptoms. Symptom cluster research will help our understanding and treatment of multiple symptoms.

Cancer: Survival, Quality of Life and Ethical Implications
Breanne Lechner, Ronald Chow, Natalie Pulenzas, Marko Popovic, Na Zhang, Xiaojing Zhang, Edward Chow and Joav Merrick (Department of Radiation Oncology, Odette Cancer Centre, Sunnybrook Health Sciences Centre, University of Toronto, Canada)
In series: Health and Human Development
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
Hardcover: 978-1-63483-905-1. $160.00.
Several medical options in palliative care can have complex moral, religious, cultural, medical and legal issues. These treatment options, such as assisted suicide, rehydration, parenteral nutrition and cardiopulmonary resuscitation have been heavily debated in the literature. Physician-assisted suicide is a controversial topic for debate, with growing pressure from advocacy groups for legalization in regions that have yet to decide. Currently, there is substantial opposition from concerned medical professionals. However, a school of medical professionals acknowledges that physician-assisted suicide may have a role in terminal care. The debate over the use of artificial nutrition and hydration (ANH) in terminal illness is also contentious despite extensive ethical and empirical research. Advocates for and against ANH both agree that the most compassionate and humane option for patients near the end of life is hospice and/or palliative care. However, many of those who support ANH do not seem to appreciate that the standard palliative practice is to avoid the use of ANH in almost all instances. These topics remain heavily disputed in the medical community. In formulating a satisfactory answer, we need to remind ourselves that we cannot generalize a treatment as a correct or incorrect option. Rather, we need to consider each case individually, weigh the risks and benefits of each treatment, and individually consider treatment options in a multidisciplinary care model.

Cancer: Treatment, Decision Making and Quality of Life
Breanne Lechner, Ronald Chow, Natalie Pulenzas, Marko Popovic, Na Zhang, Xiaojing Zhang, Edward Chow, and Joav Merrick (Odette Cancer Centre, Sunnybrook Health Sciences Centre, Toronto, Canada)
In series: Health and Human Development
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
In early stages of cancer, patients are often presented with treatment options and encouraged to have shared treatment decisions with their oncologists. Shared decision making becomes particularly important, as several treatment options with different possible outcomes and adverse events exist. For example, women with early breast cancer are counseled on the options of mastectomy versus lumpectomy and radiation. The same principle should also apply in late stages of cancer, where cure is usually not possible in patients with widespread metastases. In these cases, the aim of treatment should be to relieve symptoms and suffering. Improving quality of life (QOL) rather than tumor control takes priority in palliative care. QOL has also been identified as an important endpoint for new cancer drugs, as determined by the Food and Drug Administration (FDA); as such, cancer drug approval can be based on improvement of QOL. The use of patient-reported QOL instrument tools help clinicians determine if certain treatments improve QOL. The research of palliative interventions should have QOL assessment to assist clinicians, patients and their family members in shared decision making.

Chronic Lymphocytic Leukemia: Diagnosis, Treatment Options and Prognosis
Kimberly Rodríguez

In series: Cancer Etiology, Diagnosis and Treatments 2016. 171 pp.
Hardcover: 978-1-63485-510-5. $160.00.

Chronic Lymphocytic Leukemia (CLL) is the most common leukemia in the western world, seen mostly in the elderly age-group and has a very variable clinical outcome. Traditionally considered an indolent, antigen inexperienced leukemia of slowly accumulating cells that do not die, researchers now acknowledge that CLL cells are highly proliferative, antigen experienced cells that have a high cell turnover and a subset show an aggressive clinical course. The onset of the disease is usually asymptomatic; only abnormalities in whole blood count such as leukocytosis with lymphocytosis are found. Nowadays, CLL is diagnosed more often at an early, asymptomatic stage due to more frequent routine blood tests. More advanced stages are characterized by lymphadenopathy, hepatomegaly/splenomegaly, recurrent infections, weakness, pallor and hemorrhagic diathesis, and general symptoms such as weight loss, fever and night sweats are observed. This book reviews the diagnosis, treatment options and prognosis of CLL.

Diffuse Large B-Cell Lymphoma (DLBCL): Symptoms, Treatment and Prognosis
Haipeng Shao (Department of Hematopathology and Laboratory Medicine, Moffitt Cancer Center, Tampa, FL, USA)

In series: Cancer Etiology, Diagnosis and Treatments 2016. 194 pp.
Hardcover: 978-1-63484-402-4. $190.00.

The diagnosis and treatment of Diffuse large B-cell lymphoma (DLBCL) have evolved significantly in the past decade. With advances in our understanding of DLBCL through the application of immunophenotypic, molecular cytogenetic analysis and clinical correlation, a growing number of discrete subtypes and entities of DLBCL have been recognized, along with improved prognostic stratification and treatment strategies. A simple diagnosis of DLBCL and standard chemotherapy are no longer appropriate for every individual patient anymore. Pathologists and practicing clinicians need to be familiar with current literature in order to achieve the best treatment of their patients. This book aims to provide the most up-to-date knowledge of the diagnosis, prognosis and treatment strategies of DLBCL. Each chapter focuses on a different subject of DLBCL: pathology, prognosis, chemotherapy regimens and future directions, role of radiation therapy and hematopoietic stem cell transplant, and treatment strategies, as well as special considerations in the treatment of the most common subtypes of DLBCL. The authors are practicing physicians in major medical centers and university hospitals, and are familiar with the challenges of diagnosing and treating patients with DLBCL. The book is written for practicing physicians and provides practical information and advice for their daily practice. Residents, fellows and physicians in their early career development will also find the contents of this book useful for their education and board preparation. The authors hope that the material covered in this book will serve as a foundation for readers to keep up with future developments in this specific field of study.

Diversity, Versatility and Leukaemia
Geoffrey Brown (College of Medical and Dental Sciences, University of Birmingham, Edgbaston, Birmingham, UK) and Isidro Sanchez-Garcia (Senior Staff Researcher, IBMCC-CSIC/University of Salamanca, Salamanca, Spain)

In series: Cancer Etiology, Diagnosis and Treatments 2016. 137 pp.
Hardcover: 978-1-63484-781-0. $110.00.

The blood cell system has provided a model system that has been used by many researchers to investigate how a stem cell can give rise to a wide variety of mature cell types. The principles that emerged in developmental biology have been applied to the structure of tissues throughout the body. However, many of the principles have been challenged by recent findings, changing the way we view blood cell development. In turn, this has impacted our understanding of the origin and nature of leukaemia, as well as cancer in general. Like the development of any body tissue, cancer is an organised and hierarchical tissue with its own identity. A new viewpoint is that the mutations that give rise to cancer re-programme cancer cells to their own abnormal pattern of tissue development. Understanding how the hierarchy of tumour identity differs from that of normal tissue provides important new avenues to the development of new treatments for cancer. No doubt further refinement to our understanding of normal and cancer cells will continue for many years to come. Even so, we appear to be moving towards an exciting prospect of providing the key to unlocking the long standing mystery of primary cellular events that undermine and distort our normal cells and give rise to the disease of cancer. The importance of this is the prospect of developing new treatments for cancer. In particular, the distorted behaviour of cancer cells might be reversible so that they can be restored to their normal state. Diversity, Versatility and Leukaemia examines how normal and cancer cells are inextricably linked, and focuses on the changes to how we view the development of normal cells and the subversion of this process in cancer.

Ependymomas: Prognostic Factors, Treatment Strategies and Clinical Outcomes
Raquel Fowler

In series: Cancer Etiology, Diagnosis and Treatments 2016. 159 pp.
Hardcover: 978-1-63484-402-5. $160.00.

This book provides research on ependymomas, a rare brain tumor that arises from the ependymal cells of the intra-ventricular central nervous system (CNS) parenchyma with a propensity to affect both children and adults. Ependymomas account for only 1.9% of all primary brain and CNS tumors. Chapter One discusses the prognosis and outcomes in patients with ependymal tumors. Chapter Two investigates the effects
of gender, age, race, tumor grade, and treatment on clinical outcomes of ependymoma diagnosed patients. Chapter Three examines survival rates, and prognostic factors. Chapter Four contains a contemporary review of the literature and an evidence-based systematic review about intraspinal ependymomas (ISE). Chapter Five reviews literature on ependymal neoplasms arising in the setting of hereditary tumor syndromes. Chapter Six discusses the current management of pediatric ependymomas and examines evolving biological data.

**Hepatocellular Carcinoma in the 3rd Millennium**
Massimiliano Berretta and Bruno Cacopardo
(Department of Medical Oncology, CRO Aviano National Cancer Institute IRCCS, Aviano, Italy)

In series: *Cancer Etiology, Diagnosis and Treatments* 2016. 223 pp.
Hardcover: 978-1-63484-025-5. $190.00.

HCC is the most common primary cancer of the liver and according to the WHO report, the fourth commonest cause of death. The estimated incidence of new cases worldwide is about 500,000-1,000,000 per year causing 600,000 deaths globally per year. Although there are large areas of the world where the incidence of HCC is still unknown, several countries in East Asia and some Sub-Saharan African regions are affected by a very high prevalence of HCC (over 20 cases/100,000 population). Areas with a moderately high risk (11-20 cases/100,000 population) include Italy, Spain and Latin America, while France, Germany and the United Kingdom have instead an intermediate risk (5-10 cases/100,000 population). A relatively low prevalence (less than 5 cases/100,000 population) is found in the United States, Canada and Scandinavia. The incidence of HCC has been rising in developed western countries in the last two decades, along with the emergence of the hepatitis C virus infection and due to the rise of immigration rates from HBV-endemic countries. In addition, even though the incidence of HCC reaches its highest peak among persons over 65 years, an increased incidence among younger individuals has been noted in the last two decades both in USA and Europe. A multidisciplinary approach should be taken when assessing patients with HCC; stage of HCC and liver disease should always be taken into account and the best treatment should be offered. Liver resection and ablative treatments should never be denied to patients, and curative procedures should be performed in hepato-biliary-pancreatic centers. Each HCC patient has to be evaluated singularly, stratifying each time the risk for the procedure so as to determine which treatment is the best treatment. It is also important to analyze all the possibilities that can be offered. This similar approach showed a good efficacy and safety in all “frail” patient categories, such as elderly patients or patients with HCC and HIV infection. Early diagnosis of HCC and retreatment for HCC recurrence have a key role in the survival of patients. Therefore, regular screening programs for HCC should be extended to all patients according to proposed guidelines, together with a greater proactivity for treatment and retreatment options in cases of an HCC diagnosis or recurrence. This may be an important and needed breakthrough for this rising problem.

**Horizons in Cancer Research. Volume 60**
Hiroto S. Watanabe

Hardcover: 978-1-63483-997-6. $190.00.

This book presents original results on the leading edge of cancer research. Lipomas are extremely common benign lesion representing the most common soft tissue tumor, with a wide spectrum of clinical presentations and imaging appearances. Several subtypes are described, ranging from lesions entirely composed of mature adipose tissue to tumors intimately associated with nonadipose tissue, to those composed of brown fat. Chapter one begins with an overview of the available evidence about the classification, clinical manifestations, diagnostic tests and treatment options of lipomas. The following three chapters examine parosteal lipomas and giant lipomas. Chapter five studies the first literary description of cavernous angioma of the subcutis in a 75-year-old man, delivering a new lipomatous entity. Chapter six focuses on immune plasticity and susceptibility to cancer from fanconi anemia, which is characterized as a genetic disorder of genomic instability, with main clinical symptoms involving congenital abnormalities, infertility, bone marrow failure and a predisposition to the development of several types of cancer, especially acute myelogenous leukemia (AML) and head and neck carcinomas. Chapter seven discusses radiotherapy for patients with fanconi anemia.

Chapters eight and nine examine the effects of ursoic acid (UA) and flavonol-enriched extract (FL) on the cell cycle behaviour of DU145 human prostate cancer cells in vitro. Chapter ten describes the most current advances made in characterizing the role of PLAT in tumor development and progression, as well as highlight some of our most recent studies involving IPLA2 and cancer. The remaining chapters discuss the preclinical rationale for targeting human EGFR and recent clinical reports of targeted agents in esophageal cancer; study the pharmaceutical properties and drug likeness of anticancer drugs administered for the clinical treatment of lung cancer; and covers the epidemiology, different etiology and pathogenesis of hepatocellular carcinoma.

**Horizons in Cancer Research. Volume 61**
Hiroto S. Watanabe

Hardcover: 978-1-63484-503-8. $190.00.

This book presents original results on the leading edge of cancer research. Chapter One explains unanswered questions of contemporary oncology from the standpoint of karyogamic theory of carcinogenesis. Chapter Two focuses on the molecular players of the human papillomaviruses (HPVs) infection leading to chronic inflammation and cancer. Chapter Three describes Multiple Myeloma (MM), and Monoclonal Gammopathy of Undetermined Significance (MGUS). Chapter Four reviews the role of choline metabolites as second messengers in cellular pathways leading to enhanced cell survival, migration, and proliferation to explore the possibility that <i>in vivo</i> imaging of choline metabolism can be used to obtain readouts of cell signal transduction in cancer. Chapter Five investigates the possible correlation between anatomic melanoma distribution on the specific back area and lack of sunscreen application. Chapter Six describes the known molecular mechanisms of epigallocatechin (EGC) and epigallocatechin-3-gallate (EGCG) in malignant neuroblastoma that can help find new directions for future research. Chapter Seven discusses the burdens of childhood cancer survivorship and the consequences of different treatment therapies on the incidence of CVD and explores potential monitoring methods and the need for consistent cardiovascular monitoring of childhood cancer survivors regarding their cardiovascular health. Finally, Chapter Eight considers a model for implementing recommendations pertaining to Lynch syndrome, and also looks at what is happening in the field now to support Lynch syndrome genetic testing and surveillance, and how a deliberative conference can point the way to changes that need to take place to deliver screening to those at risk.

**Horizons in Cancer Research. Volume 62**
Hiroto S. Watanabe

Hardcover: 978-1-63485-463-4. $250.00.

This book presents original results on the leading edge of cancer research. Chapter One summarizes what is currently known regarding the epigenetic regulation of osteosarcoma pathways and oncogenes, as
well as clinical trials of drugs that exert epigenetic regulation. Chapter Two critically discusses the role of ECM-dependent signaling in osteosarcoma progression. Chapter Three illustrates the harmful effects of ultraviolet radiation exposure by focusing on photocarcinogenesis. Chapter Four examines the psychology of sunscreen use and outlines the key psychological factors associated with sunscreen use. Chapter Five reviews the cellular and molecular mechanism of Regulatory T cells (Tregs) and Transforming Growth Factor-β mediating cervical cancer development. Chapter Six examines the effects of the American cranberry extract on expression of insulin-like growth factor-I and insulin-like growth factor binding proteins in human prostate cancer cells in vitro. Chapter Seven discusses the design of synthetic peptides to specifically interfere the papillomavirus binding factor/14-3-3beta binding to restore papillomavirus binding factor apoptotic functions. Chapter Eight examines brain development using correlations between Diffusion Kurtosis and neurite orientation dispersion and density imaging (NODDI) in neonates and young children. Chapter Nine highlights the opportunities that are available to prevent the late effects related to stress and fears, emphasizing the importance of teaching patients resiliency and how to cope.

Horizons in Cancer Research. Volume 63
Hiroto S. Watanabe
In series: Horizons in Cancer Research
This book presents original results on the leading edge of cancer research. Chapter One reviews the most recent advances in the management, analyses the best possible treatment in each scenario, and discusses the future research direction on brain metastases from non-small cell lung cancer. Chapter Two discusses the positive effects of microscopic complete resection on controlling the local recurrence of a single brain metastasis. Chapter Three encapsulates the trends of the computer-aided diagnosis (CAD) development for the estimation of tumor malignancy. Chapter Four examines dendritic cells cross talk with cytomegalovirus pp65-specific cytotoxic T cells, Vγ 9γ δ T cells, and invariant NKT cells in patients with glioblastoma multiforme. Chapter Five addresses CD8+ T cell activation and regulation in the skin, paying special attention to what is known about CD8+ T cell activity and its link with SCC development. Chapter Six discusses knowledge of the molecular basis of anti-cancer drug resistance and the mechanisms through which triterpenoids modulate ABC transporter-mediated multi drug resistance. Chapter Seven reviews cancer and heparan sulfate alterations. Chapter Eight focuses on Ganoderma lucidum targeting apoptosis. Chapter Nine examines the integrated model of cAMP-dependent DNA expression which reveals an inverse relationship between cancer and neurodegeneration. Chapter Ten studies the prognosis of male breast cancer.

Oligodendroglialomas (ODs): Diagnosis, Outcomes and Prognosis
Chad Reeves
In series: Cancer Etiology, Diagnosis and Treatments
2016. 156 pp.
Hardcover: 978-1-63484-278-5. $110.00.
Cancer is the second leading cause of morbidity and mortality worldwide, ranking just after cardiovascular diseases. In the central nervous system, gliomas constitute the most frequent type of tumors. According to the definition, oligodendroglialomas are diffusely infiltrating glial tumors, composed of neoplastic oligodendrogial cells, typically found in cerebral hemispheres in adult population, although not uncommon in children. They encompass a range of tumours, from well-differentiated to frankly malignant neoplasms. In the current World Health Organization (WHO) classification of tumors of the central nervous system, covering a four-tiered WHO grading scheme, oligodendrogliomas are recognised as grade WHO II and WHO III by the degree of malignancy. They may be either well differentiated, composed of neoplastic cells that morphologically resemble oligodendroglia, or may harbor focal or diffuse features of malignancy, respectively. Their prognosis is in this case less favorable. This book provides current research on the diagnosis, outcomes and prognosis of oligodendroglialomas. Chapter one examines the pathology, molecular mechanisms and clinical references of ODs. Chapter two discusses the ODs and the problematic diagnostic markers. Chapter three examines the histopathologic features of oligodendroglialomas and of an assortment of other central nervous system neoplasms that can resemble them and reviews features that allow one to sort through these histopathologic differential diagnoses. The final chapter reviews speech mapping in oligodendroglioma operations and provides data regarding patient outcomes with these methods.

Pathobiology of Hepatocellular Carcinoma and Clinical Impact
Antonio Mazzocca, Pasquale Agosti and Carlo Sabbà
(Interdisciplinary Department of Medicine, University of Bari School of Medicine, Piazza G. Cesare, Bari, Italy)
In series: Cancer Etiology, Diagnosis and Treatments
This book offers a comprehensive review on hepatocellular carcinoma (HCC) with a particular focus on the relationship between the pathobiology of disease and the clinical aspects including diagnosis and treatment. HCC is becoming one of the most common causes of cancer related death worldwide and is predicted to be the third leading cause of cancer death by 2030. In recent years, the epidemiology of this tumor has undergone a major change, a revolution considering the increased incidence of HCC on NASH and NAFLD in patients with metabolic risk factors. We are witnessing the emergence of new cancer risk factors and new pre-cancerous conditions, especially in countries with a Western lifestyle. Many exciting discoveries in the field of pathogenesis and mechanisms of carcinogenesis have taken place in recent years, including findings from tumor interactions with the host and the microenvironment. This book aims to provide researchers, medical students and clinicians with a valuable resource for complete and up-to-date research on the pathogenesis of HCC by providing a link between biology and natural history of the disease with clinical implications, including diagnosis, prognosis and therapy. This book offers an in-depth knowledge of HCC pathobiology as well as hints for developing new experimental research lines aiming to improve the understanding and management of the disease, and to prevent the increase of incidence and mortality expected in 2030.

Pathological Diagnosis of Breast Cancer
Sachin B. Ingle, Priti Katkade, Kundan Chavan, and Datta Girji (Department of Pathology, Secretary Research & Development MIMSR Medical College, Vishwanathpuram, Latur-Maharashtra, India)
In series: Cancer Etiology, Diagnosis and Treatments
Softcover: 978-1-63485-171-8. $95.00.
Breast tumors are one of the most worrisome and challenging problems for surgeons and pathologists. In this book, the authors present research in the study of the epidemiology, management and prevention of breast tumors; some examples of these types of breast cancer are DCIS, LCIS, IDC, ILC, medullary carcinoma, metastatic carcinoma, papillary carcinoma, adenoid cystic carcinoma, and rare tumors of the breast. This book is useful to surgeons and pathologists, postgraduates in
understanding the pathology for the diagnosis, treatment and prevention of these tumors.

Targeted Therapies in Cancer: An Update
Marc Lacroix (Division of Cancer Research, InTextoResearch, Baelen, Belgium)
In series: Cancer Etiology, Diagnosis and Treatments 2016. 145 pp.
Hardcover: 978-1-63484-668-4, $190.00.

Besides surgery, radiation therapy, endocrine therapy or chemotherapy, which were widely used in cancer patients for decades, the 21st century has seen the emergence of “targeted” therapy, resulting from the identification of molecular pathways in cells and their alterations in tumors. An increasing number of compounds targeting specific molecules or cancer cells have been developed and, for some of them, approved by the United States Food and Drug Administration (FDA) as well as other regulators in EU and Japan. Additional new and more efficient types of compounds, are still in clinical trials, but are expected to gain future approval. More than eighty FDA-approved targeted therapies are described here, along with about eighty other promising compounds. These drugs are members of various therapy classes, including tyrosine kinase inhibitors; serine/threonine kinase inhibitors; dual specificity kinase inhibitors; lipid kinase inhibitors; poly ADP ribose polymerase inhibitors; mono/oligoclonal antibodies; microtubule targeting agents; histone deacetylase inhibitors; proteasome inhibitors; antimitabolites; immunomodulatory agents; DNA methyltransferase inhibitors; hedgehog pathway inhibitors; enzymes; protein translation inhibitors; vaccines, oncolytic viruses; chimeric antigen receptor T-cells (CAR-T); and so on. A series of “companion” diagnostics intended to be used as an indication for specific therapies, and approved to this aim are also mentioned. The book aims to present the broad landscape of compounds and companion diagnostics that are expected to pave the way towards a future of hope for cancer patients.

The Easy Book of Cancer Pharmacology
Esther Una Cidon (Medical Oncologist, Oncology Department, Royal Bournemouth Hospital NHS Foundation Trust, Bournemouth, United Kingdom)
In series: Pharmacology - Research, Safety Testing and Regulation
In series: Cancer Etiology, Diagnosis and Treatments 2016. 524 pp.
The Easy Book of Cancer Pharmacology represents the efforts of young oncologists, haematologists, pharmacists and oncology nurses who are highly motivated and encouraged by the significant development of new effective anticancer drugs. Since the discovery of antimitabolites and alkylating agents in the 1940s and 1950s, many new products have been introduced into our daily arsenal not only through chemotherapy agents, but also by means of biological or immunotherapeutic drugs whose side effects differ significantly. The idea of this book was born from a simple observation and confirmation of fact. New doctors in training experience high levels of stress and lack of confidence when confronting cancer patients and explaining a treatment or managing frequent side effects. Patients’ questions will only add more nervousness, and this will lead to a failure in the doctor-patient relationship, causing the patient’s mistrust and doctor’s frustration. Nurses dealing with these patients will suffer pressure too, as many questions regarding anticancer drugs will be asked of them and patients expect them to ease their doubts. This feeling of vulnerability in front of a patient, though a part of the maturation process when becoming a professional caretaker, causes discomfort and incertitude. In this context, it is crucial to gain great knowledge about pharmacokinetic and pharmacological features of each active anticancer drug used, as well as the indications, dosages, interactions and toxicities, to be able to face the daily practice of oncology without concerns and manage daily therapeutic complications easily. This may be considered very difficult, taking into account the huge number of active agents doctors manage routinely, but doctors have accepted the challenge and designed a straightforward, comprehensible book to solve this issue. The Easy Book of Cancer Pharmacology provides the means to overcome the problem. It is conceived as an accessible, concise and yet exhaustive tool which displays a vast amount of knowledge in a very schematic way. It is easy to consult and offers a very practical expertise to develop the ability of managing effectively each antineoplastic agent quickly. It gives the necessary insights to explain this to the patients with confidence. Each chapter reviews one active drug and shows the information with a pragmatic style, and they are divided into different sections. Each section covers distinct aspects of the agent, from general characteristics to more specific details related to clinical pharmacology. In quickly advancing fields such as oncology, such a book is necessary to help update the ever-developing and expanding knowledge of clinicians and patients in an efficient and effective manner.

Understanding Cancer at the Subcellular Level
Jagannath B. Lanture, Ph.D. (Retired, Pune, India)
In series: Cancer Etiology, Diagnosis and Treatments 2016.
Hardcover: 978-1-63485-700-0, $230.00.
The human life is considered most vital of all the living creatures on Earth because humans are bestowed with the highest level of cognition. One can enjoy life if the natural gift, the body, is in a good or healthy condition. A disease is an abnormal condition of the body resulting from infections, toxicity, unfavourable environmental conditions, or illness due to inherited genetic defects in the body. In the past, contagious diseases like the plague resulted in widespread death. About 100 years ago tuberculosis (TB), which is caused by a single bacteria, was one of the deadliest diseases. However, today even a fourth stage TB patient can live a normal life after receiving the allopathic treatment. Unfortunately, that is not the case with cancer. Today cancer is the most dreaded disease and the #1 killer worldwide. Unlike TB, cancer is difficult to treat as there are more than 100 different types of cancers. However, with a communal unifying zeal and drive for finding a cure for cancer, a lot of progress has been made recently in treating different types of cancers, some of them resulting in total cure. Understanding Cancer at a Subcellular Level delves into the root cause of cancer, which is the mutations in DNA molecules or genes. Further, it elaborates on the risk factors which cause mutations in genes. The internal causes are either inherited faulty genes from one of the parents or changes in genes due to the cell’s internal microenvironment; the external risk factors are many, such as age, alcohol, food, tobacco, etc. If your health is in good condition, that means your genes are quite healthy. If DNA or genes are mutated, it leads to cancer development. Multiple mutations in a single gene and multiple mutated genes are needed to develop cancer. Today, with advancements in science and technology, it is possible to offer various treatment options to cancer patients. The book gives details about: i) signs and symptoms of cancer; ii) causes or risk factors of developing mutations in a healthy gene using the concept of molecular biology at the genetic level; iii) different types of genes and cancers; iv) country specific treatment options; v) dealing with cancer; and vi) estimated treatment costs. The last chapter is dedicated to definitions of different terms used in this book. This book covers extremely vital information useful for scientists in research laboratories (such as chemistry, biochemistry, molecular biology, oncology, human genome, bioengineering/genetic-engineering etc.), general physicians, oncologists, all other medical practitioners, students and professors, cancer patients and their relatives and for anyone interested in learning about this abnormality.
CARDIOLOGY

Cardiac Remodeling: Molecular Mechanisms, Treatment and Clinical Implications
Jerald Sherman
In series: Cardiology Research and Clinical Developments
Cardiovascular diseases are the leading cause of death in almost 40% of patients suffering from end stage renal disease (ESRD). Cardiomyopathy and ischemic heart disease are the most frequent causes of cardiac death. The risk of cardiovascular mortality in dialysis patients is 10 to 20 times greater than the general population, particularly in younger patients, taking into account that the relative risk decreases with age. Left ventricular hypertrophy (LVH) is the most common cardiac abnormality in chronic kidney disease (CKD), and the survival risk ratio in such patients is dependent. This book examines the molecular mechanisms, treatments and clinical implication of cardiac remodeling. The first chapter discusses risk factors for cardiovascular disease in patients on continuous ambulatory peritoneal dialysis. The following chapters examine the impacts tropomyosin, vitamin D, and coffee have on cardiac remodeling.

Cardiac Resynchronization Therapy: From Epigenetic to Social Networks
Celestino Sardu (Department of Medical, Surgical, Neurological, Metabolic and Aging Sciences, Second University Study of Naples, Naples, Italy)
In series: Cardiology Research and Clinical Developments
Over the last few decades, cardiac resynchronization therapy (CRT) has been introduced as a choice treatment for heart failure (HF) patients, refractory to maximal drug therapy and left bundle branch block. Advanced heart failure is related to cardiac fibrosis, hypertrophy and apoptosis, and CRT in 30% of patients is not able to ameliorate cardiac performance and mechanical efficiency. This clear loss of effect (CRT failure) is frustrating and leaves HF patients in a steady and/or advanced, uncontrolled worsening state of clinical symptoms and NYHA class. Several hypotheses have been conducted to explain this loss of effect: investigating epigenetic (microRNA activation pattern), echocardiography (mechanical cardiac dyssynchrony assessment), arrhythmias (atrial fibrillating patients), left ventricle lead positioning (target wall and vessel) and pacing modalities (bipolar vs multipolar), and epicardial approaches (cardiac surgery) to reach the target ventricular wall. The selection criteria, the implant technique and CRT monitoring are relevant aspects of the “CRT world” in all its complexity. The necessity to follow and characterize CRT recipients (responders vs non responders), and the routine follow up with recent advancements in technology (telemonitoring) may be an instrument to improve CRT response entity and clinical outcomes. The creation of a social platform (social networks) may represent a necessary and evolutionary step to share individual experiences and to exchange ideas about CRT recipients and experienced operators. The opportunity to improve CRT responses’ percentage may represent a gold standard and an attractive prospective in failing heart patients CRT recipients. In this book, we have investigated these aspects, hoping to provide to the reader the right reading tools in the CRT world. Our message remains: To help people suffering from cardiovascular diseases and to live better with their disease. Target Audience: Medicine students, medical doctors, cardiovascular diseases training doctors, electrophysiologists, biomedical engineers, cardiovascular diseases technicians.

Chronocardiology and Cardiac Research
Krasimira Hristova, Jan Fedacko, Germaine Cornelissen, and Ram B. Singh
In series: Cardiology Research and Clinical Developments
Hardcover: 978-1-63485-569-3. $230.00.
Chronocardiology and Cardiac Research bring evidence to the public domain about the role of time in cardiovascular function and dysfunction that results in a number of cardiovascular diseases. The book is divided into three parts and covers the subjects extensively. Chronocardiology is not new to cardiologists, but it needs to be introduced to mainstream medicine, which is the main purpose of the editors of this volume.

Current Trends in Cardiovascular Research
Jan Fedacko, Krasimira Hristova, Germaine Cornelissen, and Ram B Singh
In series: Cardiology Research and Clinical Developments
Hardcover: 978-1-63485-646-1. $230.00.
Current Trends in Cardiovascular Research brings evidence to the medical community about the role of metabolic factors in the pathogenesis of cardiovascular function and dysfunction which results in different cardiovascular diseases.

Horizons in World Cardiovascular Research. Volume 10
Eleanor H. Bennington
In series: Horizons in World Cardiovascular Research
2016. 208 pp.
Hardcover: 978-1-63484-327-0. $190.00.
This book provides readers with the latest developments in cardiovascular research. Topics covered include the morphology and implications of atrial septal defects; the epidemiology, clinical presentation, preliminary diagnostics and imaging of arterial septal defects; the pathophysiology, epidemiology, clinical presentation, imaging, treatment and prognosis of constrictive pericarditis and cardiac tamponade; the psychological distress lived by patients and their caregivers after a cardiac arrest; the significance and limitations of coronary angiography and intravascular imaging systems, covering almost all devices currently available in Japan, where intracoronary imaging is being utilized aggressively; previous reports on coronary endothelial dysfunction and/or spasm after stent implantation and the clinical implications, and prognosis; and the relationship between Type D personality and health-related behaviors.

Peripheral Artery Disease (PAD): Risk Factors, Diagnosis and Emerging Treatments
Neeraj N. Shah, and Jalaj Garg (Lehigh Valley Health Network, Allentown, Pennsylvania, USA)
In series: Cardiology Research and Clinical Developments
Softcover: 978-1-63484-880-0. $110.00.
Peripheral Artery Disease (PAD): Risk Factors, Diagnosis and Emerging Treatments is a concise summary of information on the incidence, diagnosis, classification and non-surgical treatment of peripheral artery disease (PAD). PAD imposes a significant burden on health care system. Patients suffering from PAD have leg pains, difficulty walking, and lower extremity ulcers. If untreated, this condition can result in limb loss. It is both a life and a limb-threatening condition. It is important to recognize this condition early on, even in the absence of symptoms, in order to provide the best possible therapy in a timely manner. Early and aggressive treatment of PAD is crucial for limb salvage. The surgical therapeutic options for PAD are well-known and described in the literature; however, the information on medical and other non-surgical options for PAD is scattered and not well-summarized. In this book, the authors have attempted to assimilate and summarize in one place all the available information regarding the epidemiology of PAD, clinical features of the disease, and anatomical classification of PAD, medications used to treat PAD, role of fish oil supplementation in PAD and the endovascular therapeutic options for PAD. The authors have summarized the latest available endovascular interventional strategies for the management of aortoiliac, femoropopliteal as well as infrapopliteal PAD. Peripheral vascular intervention is an exciting and ever-changing field, and the authors have attempted to synthesize information from all the major and relevant studies in this field. The authors hope that their book serves as a valuable reference resource for clinicians who are actively involved in the management of patients suffering from PAD, including primary care physicians, cardiologists, vascular surgeons, and cardiovascular fellows in training.

**Pioneer of the Homocysteine Theory**

**Kilmer Serjus McCully** (Network Consolidated Laboratories, VA New England Healthcare System; Associate Clinical Professor of Pathology, Harvard Medical School, VA Medical Center, West Roxbury, MA)

In series: Cardiology Research and Clinical Developments


Coronary artery disease (CAD) is a leading cause of mortality and morbidity worldwide. In approximately half of the patients with newly diagnosed CAD, the first presentation is either acute myocardial infarction or sudden cardiac death. This book provides current research on the characteristics, management and long-term outcomes of coronary artery disease. Chapter One begins with an overview of biological characteristics, clinical classification, and descriptive clinical and non-invasive data. Chapter Two examines the role of multi-detector computed tomography in the detection of subclinical coronary artery disease in patients without known CAD.

**CELL BIOLOGY**

**Endoplasmic Reticulum Stress: Regulation, Function and Role in Health and Disease**

**Cameron Wagner**

In series: Cell Biology Research Progress


Softcover: 978-1-63485-564-8. $95.00.

This book provides current research on the regulation, function and role in health and disease of endoplasmic reticulum (ER) stress. The first chapter focuses on evidence that supports the role of endoplasmic reticulum stress, mitochondria-associated membranes (MAMs) microdomain and oxidative stress during obesity as a molecular pathway to type 2 diabetes mellitus (T2DM) development. Also, it
addresses protein misfolding and mitochondria function as potential targets to improve metabolic derangements in obesity and T2DM. Chapter Two summarizes and discusses the current understanding of molecular mechanisms linking ER stress to beta cell fate. Chapter Three depicts the association between elf2a kinase-linked pathways and diet-linked pathogenic responses (such as ones caused by microbes or nutritional abnormalities). Chapter Four reviews placent al endoplasmic reticulum stress in the determination of pregnancy outcome. The last chapter discusses the role of ER stress in mediating the anticancer effects of tocotrienols.

**Exosomes: Biogenesis, Therapeutic Applications and Emerging Research**
*Armando Meyer*

In series: *Cell Biology Research Progress*
2016.
Softcover: 978-1-63485-701-7. $82.00.
e-book: 978-1-63485-716-1. $82.00.
Exosomes are small (30-100 nm diameter) membrane enclosed vesicles of endosomal origin, released by a variety of cell types, which are capable of transferring biologically active macromolecules, such as proteins, lipids and RNA to other cells. Therefore, exosomes are important mediators of intercellular communication influencing physiological or pathological processes at recipient cells. In this book, Chapter One briefly reviews the knowledge gained on the molecular mechanisms underlying exosome formation and release. Chapter Two studies whether the Extracellular Vesicle (EV) Array can be utilized to phenotype unpurified small EVs (sEVs) from other body fluids such as urine, saliva, synovial fluid, cerebrospinal fluid (CSF), ascites, bone marrow (BM) and bronchoalveolar lavage fluid (BALF). Chapter Three examines the multifaceted roles of tumor-associated exosomes in the development and progression of cancer as well as the unique utility they present to detect, monitor, and therapeutically combat tumor occurrences. Chapter Four provides a review of the types of EVs encountered by sperm in the environment they traverse on their journey to the ampulla in the oviduct.

**Mesenchymal Stromal Cells (MSCs): Biology, Mechanisms of Action and Clinical Uses**
*Randy Morrison*

In series: *Stem Cells - Laboratory and Clinical Research*
2016.
Softcover: 978-1-63485-699-7. $82.00.
e-book: 978-1-63485-720-8. $82.00.
Mesenchymal stromal cells (MSCs) are considered an important tool in tissue engineering due to their multilineage potential in vitro as in vivo beyond their capacity to produce bioactive molecules involved in tissue regeneration. MSCs are essential elements of the microenvironment because they are the precursors of all stromal cells. MSCs influence HPC functions, such as proliferation, apoptosis, and clonogenic growth, directly via cell-cell contacts or indirectly via the secretion of soluble factors. This book reviews the biology, mechanisms of action and clinical uses of MSCs. Chapter One analyzes the modulation of adhesion molecules on MSCs to help in understanding their possible contribution to cancer initiation and progression. Chapter Two studies adipose derived MSCs in cancer therapy. Chapter Three discusses the improvement of clinical uses of MSCs by 3D scaffold-free constructs. Chapter Four reviews the application of MSCs in veterinary medicine.

**Myofibroblasts: Origin, Function and Role in Disease**
*Analise Martinez*

In series: *Cell Biology Research Progress*
Softcover: 978-1-63485-743-7. $95.00.
Myofibroblasts play a major role in connective tissue remodeling by synthesizing the extracellular matrix (ECM) and by exerting contraction, both of which depend on complex and specific cell-matrix and cell-cell communications. Integrons are a major family of transmembrane receptors that directly link the intracellular cytoskeleton dynamics to extracellular structures via adhesions in all metazoans. In this book, Chapter One discusses major integrins that have an established role in the formation, function, and turnover of myofibroblasts associated with tissue remodeling. Chapter Two reviews the role of myofibroblasts in normal skin wound healing. Chapter Three summarizes the evidence for the presence and role of myofibroblasts in cancer progression and discusses the similarities of myofibroblasts in cancer and fibrosis. Chapter Four focuses on the role of bone marrow stem cells and bone marrow stem cell derived myofibroblasts in carcinogenesis and cancer development, and ways to inhibit the process of malignization.

**New Developments in Astrocytes Research**
*Leyla Estrada*

In series: *Cell Biology Research Progress*
Softcover: 978-1-63485-561-7. $95.00.
e-book: 978-1-63485-584-6. $95.00.
Astrocytes, the most prevalent type of cell found in the brain, are glial cells that play a critical role in the support and maintenance of homeostatic conditions in the central nervous system (CNS). In addition to regulating synaptic function and neuronal development, astrocytes contribute to CNS immune responses and regulate permeability of the blood-brain barrier. Astrocytes respond to, and become activated by, a variety of molecular events in the CNS including the appearance of abnormal molecules, the disappearance of signaling molecules that are typically present, and changes in extracellular levels of various cytokines and chemokines. Under normal physiological conditions, astrocytic activation can be advantageous, as it can help protect the CNS from pathogens or injury; however, if this activation is sustained for a prolonged period, it can lead to detrimental astrocyte reactivity. This current book provides new developments in astrocyte research. The first chapter reviews pathological roles of astrocytes in brain edema formation. Chapter Two discusses neuroimmune interactions of astrocytes with other CNS cell types. Chapter Three focuses on astrocytes in amyotrophic lateral sclerosis. The final chapter studies astrocyte's response to stress and injury.

**Programmed Cell Death in Plants and Animals**
*Josephine Rice*

In series: *Cell Biology Research Progress*
Hardcover: 978-1-63484-505-2. $110.00.
e-book: 978-1-63484-538-0. $110.00.
Both autophagy and programmed cell death (PCD) are fundamental processes of cellular maintenance that are closely interrelated in plant and animal cells under physiological and stressful conditions. Differentiation, immune response, lack of nutrients, and wide range of abiotic factors induce their development and realization of survival or cell death scenario. Microtubular cytoskeleton is known as one of the principle players in the mediation of PCD/autophagic signals. Chapter One in this book presents an overview of the current knowledge about the role of MTs in PCD- and autophagy-related processes in plants. Chapter Two reviews the mechanisms and consequences of virus interactions with the hotel cell-death machinery, to help understand potentially pathologically relevant consequences that will help in the design of intervention strategies and the development of antiviral therapies. The final chapter discusses the control of the levels of different reactive oxygen species (ROS) and their interaction with hormones and transcriptional factors in relation with programmed cell death in leaves.
DENTISTRY

1000 Multiple Response Questions in Paediatric Dentistry
Morenike Folayan (Obafemi Awolowo University, Nigeria), Omolola Orenuga, Olufunmi Bankole, Elizabeth Oziegbe, Obafunke Denloye and Folakemi Oredugba

In series: Dental Science, Materials and Technology 2016. 213 pp.
Hardcover: 978-1-62618-888-4. $150.00.
Softcover: 978-1-63484-825-1. $89.00.
e-book: 978-1-62808-010-0. $150.00.

This book contains one thousand fixed response questions. It is designed for dental students of paediatric dentistry who want to prepare for a certifying test or similar examination. Most of those tests use fixed response questions. This book can help dental students overcome some of the common problems candidates have with MRQ tests. Even as a well-prepared and successful dental student, you likely will not be able to show how good you are in your first, or even second try at a comprehensive fixed response test. There is a good reason for this. Fixed response questions are a blunt instrument. They deny collaboration, reward speed and punish nuance. Unlike what one has become accustomed to in medical school: mentorship, caution against haste, and reward for insight. Without a lot of experience in fixed response tests, you are like a seasoned footballer who is about to be dropped into a rugby scrum. This book will help you get through it. It can be used for quick revision of various topics namely carries epidemiology, prevention and management; pulp therapy; tooth restoration; dental materials; oral medicine; traumatic dental injury; pain and behaviour management; tooth anatomy and physiology; eruption and eruption disorders; and general dentistry for children.

There are three basic kinds of fixed-response questions in the book: True/False Questions, Multiple Choice Questions and Multiple Response Questions. The introduction section of the book provides readers with 10 quick guides on how to make yourself familiar with the vast material in the book. At the end of the book are the answers to the questions as well as a blank answer sheet which you could use during your personal studies. The book shall be revised every three years to ensure it addresses contemporary issues in paediatric dentistry as well as ensure it contains information on current concepts in paediatric dentistry.

Biomaterials and Designer Functional Applications in Oral Cavity
Victoria Tamara Perchyonok (Biomedical Engineering, School of Engineering, RMIT University, Bundoora Australia; VTPCHEM PTY LTD, Glenhuntly, Victoria, Australia)

In series: Dental Science, Materials and Technology 2016. 301 pp.

Dental biomaterials and natural products represent two growing research fields, revealing that plant-derived compounds may play a role not only as nutraceuticals in affecting oral health but also in improving physicochemical properties of biomaterials used in dentistry. Recently, the role of free radicals in healthcare has attracted tremendous interest in the field of medicine, dentistry and molecular biology. Free radicals can be either harmful or helpful to the human body. When there is an imbalance between input and output of free radicals, a condition called “oxidative stress” develops. To counteract oxidative stress, the body has protective antioxidant mechanisms, which aid in lowering the incidence of various human morbidities and mortalities. The implication of oxidative stress in the etiology of many chronic and degenerative diseases suggests that antioxidant therapy represents a promising avenue for treatment. Thus, various forms of antioxidants have been introduced as an approach to fight dental diseases and improve general gingival health. The implication of oxidative stress in the etiology of chronic and degenerative diseases as well as the body’s protective antioxidant mechanisms and the role dietary antioxidants play, suggests that antioxidant therapy could act as a beneficial treatment. The aim of this book is to present all available data concerning and linking free radicals, antioxidants and bio-active scaffolds in the utilization of vitamins, proteins and extracts rich in bio-active phytochemicals as an avenue for creating innovative dental biomaterials. These materials are capable of promoting genuine tissue/cell interface integration and gaining insight into molecular origin of the mechanism to combat oral diseases in vitro and eventually in vivo.

Implants in Contemporary Orthodontics
Devinder Preet Singh (Senior Lecturer, Dept. of Orthodontics & Dentofacial Orthopedics, Dr. Harvansh Singh Judge Institute of Dental Sciences, Panjab University, Chandigarh, India)

In series: Dental Science, Materials and Technology 2016. 142 pp.
Hardcover: 978-1-63484-302-7. $110.00.

As the glorious first century of organized orthodontics has passed and we have entered the next century, the sheer pace of technological advancement is phenomenal. If the history of all landmarks were to be drawn, the most recent would be the development of the Skeletal Anchorage System (SAS). Skeletal Anchorage System (SAS) involves the use of implants as a source of orthodontic anchorage. The pioneering studies on oral implants were done by Linkow in 1967, who is rightfully called the Father of Oral Implantology. Implants are fast gaining popularity, as their patient compliance expectation use is minimal. Anchorage can be both orthodontic as well as orthopedic. The orthopedic uses include maxillary expansion as well as maxillary protraction while orthodontic include intrusion, space closure and distalization. Now, with the development of newer implants such as the micro-implants, their use has been revolutionized as these implants are small, easily placed as well as removed, and require a minimal healing.
period before loading. The future of implants in orthodontics is promising as product developments in terms of minimal patient discomfort and reduced treatment time are continually occurring. The Editor of this book explores the issues as well as other new developments and challenges in contemporary orthodontics.

MCQ in Implant Dentistry
Mohammed Jasim Al-Juboori (Alameria, Baghdad, Iraq)
In series: Dental Science, Materials and Technology
This guide will walk you through two aspects of implant dentistry: mainly the basic and clinical parts. In the basic chapter, readers deal with basic science that is needed and related to implant dentistry from the anatomy, histology, and biology of this specific field of study. The clinical part will go through the treatment planning, pre-surgical guidelines, surgical techniques, prosthetic procedures and maintenance phase of implant dentistry. This review will help students advance their knowledge and understanding of implant related subject material. At the same time, it presents them with a guide on how and what to read in chronological order. Comprehensive coverage of all subjects related to implant dentistry includes both entrance and advanced levels of knowledge. The questions are composed in a discernible language easy enough to understand. Suggested reading provides sound articles and books that allow suggest further reading. MCQ in Implant Dentistry is an excellent and accessible guide that will appeal to prosthodontists, general dentists, implant surgeons, and dental students. This is the first MCQ book in the field of implant dentistry that gathers the basic and clinical components from several books and updated articles.

Pathophysiology of Oral Diseases
P.C. Anila Namboodiripad and E. Anuradha Sunil (Palisser House, Arimpur, Thrissur District, Kerala State, India)
In series: Dental Science, Materials and Technology
2016. 204 pp.
Hardcover: 978-1-63485-220-3. $190.00.
Teaching a large number of ever-inspiring students for the past few years was the motivation for the author to compile this book. This book would not have seen the light of the day if it were not for them. Knowledge of the pathogenesis of the various diseases affecting the oral cavity offers a great help in understanding its clinical features, its radiographic features, and histological features as well as the treatment for the diseases. These are the reasons for the necessity to compile various pathophysiological causes of the diseases. Some of the diseases are still being explained by their old pathogeneses; however, some others are being attributed to new causes following the advent of new and innovative technologies, which identify genes and new knowledge about stem cell culturing. This book simplifies the subject of Oral Pathology by understanding the underlying causes of the various diseases.

Periodontal Disease: Diagnosis, Management Options and Clinical Features
Elijah Wallace
In series: Dental Science, Materials and Technology
Sofcover: 978-1-63485-750-5. $82.00.
e-book: 978-1-63485-810-6. $82.00.
Periodontal disease (PD), an inflammatory disease of tooth supporting tissues that leads to progressive loss of periodontal ligament and bone, with pocket formation and/or recession of the gums, is widespread among the world adult population and a serious public health issue. In this book, Chapter One reviews the literature about the use of probiotics in periodontal disease, including in vitro, in vivo and clinical studies, in order to improve the understanding of probiotics’ role in periodontal disease and discusses the effectiveness of their use as a therapy for periodontitis. Chapter Two studies the model of periodontitis induction by ligature and presents a protocol for performing it in rats and mice, based on the experience of the authors’ research group, to guide researchers who wish to develop the model. Chapter Three focuses on nutritional and systemic risk factors for periodontitis, focusing on modifiable common risk factors that also impact cardiometabolic disease, which can be targeted through oral and medical health professionals for improving periodontal and cardiometabolic health. Chapter Four discusses the main manifestations of gingivitis, chronic periodontitis, aggressive periodontitis, and periodontal disease resulting from systemic diseases. In addition, the authors discuss the treatment options, highlighting the conventional periodontal therapy, systemic administration of antibiotics, and surgical treatments.

DERMATOLOGY

Beautiful Skin: A Dermatologist's Guide to a Younger Looking You
Keyvan Nouri (Professor of Dermatology, Ophthalmology, and Otolaryngology, University of Miami, Leonard M. Miller School of Medicine, Miami, FL, USA)
In series: Dermatology - Laboratory and Clinical Research
2016.
Sofcover: 978-1-63484-827-5. $75.00.
Although the concept of beauty has evolved through the years, beauty itself transcends all history and cultures to form a universal aspect of human civilization. Consequently, the cosmetic industry is growing in popularity, as people worldwide are seeking care from their board certified dermatologist and/or plastic surgeon to enhance their beauty. Cosmetics encompass a wide array of procedures, including anything from laser and light-based technology to chemical peels, makeup, and hair transplantation. Beautiful Skin: A Dermatologist’s Guide to a Younger Looking You aims to provide accurate and relevant information to the general public, pertaining to the different cosmetic procedures frequently performed. In this digital age, people are often misled by inaccurate and biased information provided by some Internet sources. Therefore, the authors in this book explore the principles and relevant facts underlying every procedure, and work toward providing an educational description to the reader. This book is meant to fill any gap in knowledge for those who have questions that remain unanswered or for those who are simply curious to know more about beauty and the procedures they are undergoing. In doing so, it will assist patients in making informed decisions regarding the cosmetic care they receive and thus, lead to satisfying outcomes for the patient.

Biological and Non-Biological Therapy in Pemphigus: An Updated Therapeutic Guide
Andrés Tirado-Sánchez (Department of Dermatology, Hospital General de Mexico and Instituto Mexicano del Seguro Social, Mexico)
In series: Dermatology - Laboratory and Clinical Research
Hardcover: 978-1-63484-662-2. $190.00.
Inflammation markers, oncogenes, tumor suppressor genes and cell cycle regulators in skin growths represent a series of reports and reviews on skin cancers and precancers, their host immune responses and correlations with medical literature data. We were able to clearly identify an immune response in multiple skin cancers, as well as in cutaneous pre-cancerous conditions. In poorly differentiated tumor areas, some classic immunohistochecmical stains did not stain as frequently described in the literature. Other important phenomena we observed are that many cell cycle regulators, cell cycle checkpoints, oncogenes and tumor suppressor gene markers were not only positive inside the tumors, but also in cells around the tumor. Portions of adjacent skin appendices and in supposedly normal adjacent epidermal and dermal tissue also showed signs of these components. These common findings raised questions concerning marginal definition of cutaneous surgery; that is, many of the immunologic findings could not be correlated on classical hematoxylin and eosin reviews. We also noted that many immunologic cells around skin cancers and/or precancers showed high rates of division defined via markers such as Ki-67; our findings utilizing double color immunohistochemistry also showed that these immune cells are possibly actively duplicating as effector cells. Ki-67 has been cited as a superb proliferation marker in melanoma, but additional review of its utility is warranted given our results. Finally, we also found double staining immunohistochemistry to be of excellent value in detecting melanoma cells metastasizing in blood vessels, lymphatics and/or nerves.

Inflammatory Markers, Oncogenes and Tumor Suppressor Cell Cycle Regulators in Skin Growths, Pre-Skin Tumors and Skin Tumors

Ana Maria Abreu Velez, M.D., Ph.D. (Director of Research, Georgia Dermatopathology Associates, Atlanta, GA, USA)

In series: Dermatology - Laboratory and Clinical Research


Hardcover: 978-1-63484-303-4. $160.00.


Epidermolysis Bullosa (EB): Prevalence, Clinical Manifestations and Management

Hubert Mullins

In series: Dermatology - Laboratory and Clinical Research


Hardcover: 978-1-63484-274-7. $82.00.

e-book: 978-1-63484-275-4. $82.00.

Epidermolysis bullosa (EB) consists of few mechanobullosous diseases of the skin and the mucous membranes, which clinically present with blisters, erosions, scarring and milia formation at the sites of minor trauma. Hereditary forms of EB are observed at birth or early childhood and are related to genetic defects leading to absence or insufficient expression of certain antigen determinants in the region of the basement membrane zone (BMZ). In contrast, the acquired forms of EB appear in adults and the development of the disease is related to autoimmunity towards the same antigen structures. This book examines the prevalence, clinical manifestations and management of EB. The first chapter of the book examines epidermolysis bullosa acquisita. Chapter two studies immunofluorescence mapping for the diagnosis of inherited EB. Chapter three discusses nutrition for children and adolescents with EB. Chapter four provides an overview of wound healing and skin care in inherited EB. The final chapter reviews the main therapies currently under development for recessive dystrophic epidermolysis bullosa (RDEB) and focuses on recent advances in approaches combining gene therapy and tissue engineering for treating RDEB.

Pemphigus Vulgaris: Scientific Basis, Clinical Presentations, Diagnostic Methodology, and Management Strategies

Lawrence S. Chan, MD (Department of Dermatology, University of Illinois College of Medicine, Chicago, IL, USA)

In series: Dermatology - Laboratory and Clinical Research

2016. 94 pp.


This book gathers all up-to-date information regarding the historical perspectives, clinical manifestations, pathomechanism, diagnostic methodology, and therapeutic strategies for a life-threatening, blistering skin disease called pemphigus vulgaris. The medical community has come a long way in discovering its disease mechanism down to the molecular level and found excellent treatment options for patients suffering from this horrific disease. Compared to the pre-corticosteroid era when the mortality rate was greater than 90% to present day mortality, which is extremely rare, we have indeed made great medical progress toward curing this disease. The scientific and clinical advancements notwithstanding, patients affected by this disease still face a mortality rate two to three times higher than the general population, indicating that the research of this disease has not yet been completed. While this book is focused on pemphigus vulgaris, it also includes four clinical variants of pemphigus vulgaris: drug-induced pemphigus, paraneoplastic pemphigus, pemphigus vegetans, and IgA pemphigus. Accompanied with extensive reviews of scientific literature are clinical photos illustrating the various clinical presentations of the disease, as well as histological and immunohistological patterns of this disease that would serve as outstanding references for practical usage in emergency rooms, hospitals, and outpatient clinics. This book is intended for: medical students whom require comprehensive knowledge of a well-classified organ-specific autoimmune disease; dermatology residents solidifying their ability to diagnose and treat this group of patients; practicing physicians whom need to update their skills in managing patients suffering from this disease; emergency physicians in order to properly triage their patients; scientists completing their understanding of the disease pathophysiology; and pharmaceutical industries searching for even better treatment options for these patients.
Practical Manual of Laser Applications in Dermatology
Ashraf Badawi and Fazya Al Ali (National Institute of Laser Enhanced Sciences, Cairo University, Egypt)
In series: Dermatology - Laboratory and Clinical Research
Hardcover: 978-1-63484-675-2. $110.00.
Over the last five decades, dramatic progress in laser technology has yielded new indications for lasers in dermatology. Today, lasers are the central treatment modality to handle many skin diseases. It is remarkable what lasers can do to dermatology patients. Basics of laser science have always been a complicated subject to read and digest. Physics of lasers are a mandatory learning essential, without which inappropriate practice has the potential to take place; with this in mind, most laser practitioners lack such fundamental knowledge. There are countless clinical applications of lasers which need to be simplified and appropriately guided. Many textbooks present comprehensive knowledge of lasers. Unlike others, this manual will allow the reader to enjoy the simplified principles of laser physics like never before. After elucidating the needed concepts, this book indulges the reader into the "reality practice" of lasers that truly matters in the field of dermatology. It explains important tips and provides them as pearls for daily performance. Indeed, this manuscript is a state-of-the-art review of lasers in the treatment of skin diseases. Moreover, the chapters are enriched with numerous tricks to ensure optimal clinical outcome and higher safety, while also considering various skin types. Knowing the basics, the right indication, and the correct technique are the keys a practitioner needs for successful and safe treatment. This manual is carefully prepared to equip readers with those keys, which will furnish their way towards being a knowledgeable and confident laser practitioner.

Psoriasis: Epidemiology, Diagnosis and Management Strategies
Wilma Lambert
In series: Dermatology - Laboratory and Clinical Research
Hardcover: 978-1-63485-649-2. $95.00.
Psoriasis is a common, non-infectious, chronic inflammatory skin disease characterised by distinctive erythematous plaques that multiply and scale over with silvery patches. Psoriasis can affect any cutaneous site and is frequently found on the extensor skin surface of elbows and knees, scalp and sacral regions. Psoriasis is also associated with systemic conditions, including psoriatic arthritis, Crohn's disease and lymphoma. This book discusses the epidemiology, diagnosis and management strategies of psoriasis. Chapter One provides an overview of the challenging medical condition. Chapter Two discusses the possible factors raised by literature as main contributors to sleep disturbances and its correlation to psoriasis. Chapter Three gives an overview of the current results where blood plasma thermal changes have been detected by Differential Scanning Calorimetry (DSC) technique on psoriatic patients with different clinical stages, and monitored patients with no symptoms to patients with serious symptoms. Chapter Four discusses psoriasis treatment that targets the IL-23/Th17 axis. Chapter Five reviews natural health products for managing psoriasis.

DIGESTIVE DISEASES

Acute Pancreatitis: Health Effects, Clinical Aspects and Emerging Therapies
Shane Copeland
In series: Digestive Diseases - Research and Clinical Developments
In series: Endocrinology Research and Clinical Developments
2016. 228 pp.
Hardcover: 978-1-63485-229-6. $160.00.
Acute pancreatitis (AP) is the inflammatory process secondary to damage of the pancreatic acinar cells. AP is one of the most common diseases of the gastrointestinal tract, leading to significant emotional, physical, and financial burden for society. The diagnosis of acute pancreatitis is often established by clinical symptoms and laboratory testing. Chapter One of this book reviews the clinical characteristics of acute pancreatitis in children based on the clinically based diagnostic criteria for childhood pancreatitis, which until recently was not available. Chapter Two presents an update on the current state of walled-off pancreatic necrosis. Chapter Three provides a review of Purtsher's Retinopathy. Chapter Four examines the impact of obesity on the severity of AP. Chapter Five discusses several advances in the management of AP, from classical methods to more advanced options. Chapter Six discusses management of acute biliary pancreatitis. Chapter Seven reviews radiology of AP and the complications associated with it. Chapter Eight studies the use of antibiotics in AP. The final chapter explores the therapeutic effect of Shenmai injection (SMI) on acute experimental pancreatitis and underlying mechanisms.

Disorders of Gastrointestinal Systems and Clinical Manifestations
Senthilkumar Rajagopal, PhD., Sengottuvelan Murugan, PhD. and Saravanan Ramachandran, PhD.
(University of Biotechnology, Rayalseema University, Kurnool, AP, India)
In series: Digestive Diseases - Research and Clinical Developments
The field of gastrointestinal biology has been transformed by an explosion of knowledge for gastrointestinal motility, absorption, and secretion. The chapters in this book summarize the methods of molecular biology and the cell biology of gut enzymes, secreting cells and cells that respond to these enzymes. This book is a valuable reference for students, researchers and faculties of gastrointestinal motility, absorption and secretion. No other single source covers this field so comprehensively. It contains a considerable amount of detail on subjects such as gut hormones, gut malabsorption, alcohol toxicity on the stomach and methods used in physiologic study of the digestive tract. Disease conditions are discussed only to the extent that they illustrate physiologic mechanisms. It is difficult for such a comprehensive work to remain up to date for very long, considering how rapidly our knowledge of life sciences expands. This book, a comprehensive treatise on the causes, diagnosis, and management of gastrointestinal-motility disorders, consists of eighteen chapters with extensive references contained in slightly fewer than 300 pages. It achieves its goal through generally lucid writing and the overlap of information from chapter to chapter commonly observed in multi-authored works. Therefore, the reader is best advised to go through this book in a relaxed manner; this will allow them to finish it in a relatively short amount of time and appreciate the field of
gastrointestinal motility, particularly current practices and research methods for solving its many riddles. All the chapters are clearly written, but the target audience seems to vary from medical students to practicing gastroenterologists. Despite these drawbacks, gastroenterologists, surgeons, and basic scientists wishing to bring their general knowledge of clinical motility disorders up to date will find this book useful.

**Diverticular Disease and Diverticulitis: Symptoms, Treatment Options and Long-Term Health Outcomes**
*Bernadette Dawson*

In series: *Digestive Diseases - Research and Clinical Developments*
Hardcover: 978-1-63484-350-8. $110.00.

Colonic diverticula occur when mucosal and submucosal layers protrude through weak points in the muscle wall. Most patients with diverticular disease are asymptomatic, but some may experience abdominal pain without inflammation. Diverticular disease may develop as diverticulitis, with or without perforation, or diverticular hemorrhage. Episodes of acute diverticulitis present themselves with pain in the left or right lower quadrant, depending on the location of the diverticula. Patients may also exhibit fever or other non-specific symptoms like anorexia or nausea. This book provides a review of the symptoms, treatment options and long-term health outcomes of diverticular disease and diverticulitis. It also examines management strategies for acute complicated diverticulitis, and discusses diverticulitis of the right colon.

**Gastroesophageal Reflux Disease (GERD): Clinical Characteristics, Management and Long-Term Outcomes**
*Larry P. Cornett*

In series: *Digestive Diseases - Research and Clinical Developments*
Hardcover: 978-1-63484-125-2. $110.00.

Gastroesophageal reflux disease (GERD) is a common disorder affecting approximately more than 10% of the population. GERD is highly heterogeneous in terms of varied manifestations, test findings and treatment responsiveness. The invasive treatment options for GERD have now greatly expanded from just the Nissen Fundoplication to various other options such as other minimally invasive options like the Lower Esophageal augmentation with a magnetic device, and multiple endoscopic options like Radiofrequency ablation, Trans-oral incisionless fundoplication (TIF) etc. Treatment options require an understanding of the pathophysiology of GERD, which is discussed in chapter one of this book. Chapter two studies the clinical practices for extra-esophageal reflux and explores the outcomes. Chapter three reviews extraesophageal reflux and sleep microarchitecture disturbance and excessive daytime sleepiness. Chapter four discusses osteopathic manipulative therapy. The final chapter provides updated research on the surgical treatment options for GERD and their long-term outcomes.

**Short Bowel Syndrome (SBS): Symptoms, Surgical Outcomes and Complications**
*Violet Chapman*

In series: *Digestive Diseases - Research and Clinical Developments*
2016. 111 pp.
Softcover: 978-1-63484-944-9. $110.00.

Short bowel syndrome (SBS) is a pathologic condition which is characterized by reduced intestinal length and diminished intestinal absorptive capacity mainly due to extensive surgical resection, congenital defect, or pathological process affecting the small bowel. In recent decades, a better understanding of the underlying pathophysiology, new and modified surgical techniques and improvements in enteral and parenteral nutritional support improved the results of therapy of patients with SBS. This book provides research on the etiology, symptoms, surgical options and outcomes, and complications of SBS.

**ENDOCRINOLOGY**

**Diabetes Mellitus: A Medical History Journey**
*Donald E. Greydanus and Joav Merrick (Dept. of Pediatrics and Adolescent Medicine, Western Michigan University Homer Stryker M.D. School of Medicine, Kalamazoo, Michigan, USA)*

In series: *Public Health: Practices, Methods and Policies*
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
2016.
Softcover: 978-1-53610-094-5. $95.00.
e-book: 978-1-53610-103-4. $95.00.

It is estimated that 86 million adult Americans have prediabetes and with that, a risk of developing T2DM (type 2 diabetes) within one in ten patients. About 29 million people have actual diabetes, most with T2DM. It was estimated in 2012 that about 208,000 people under the age of 20 have diabetes in the United States, but there is little data available on the prevalence of diabetes in the adolescent population. A recent study looking at 12-19 year olds from 2005-2014 found the prevalence of diabetes at 0.8%, with 28.5% undiagnosed and the prevalence of prediabetes 17.7%, more common among boys (22%) than girls (13.2%). With about 9% of the total US population having diabetes, this a public health issue of considerable proportions. In this book, the reader embarks on a journey through the medical history of the discovery and treatment of diabetes mellitus. It is the story of the human mind steadfastly seeking to understand its world — a story worth telling again and again — that has saved millions of lives from a premature death of misery in the 20th and now 21st century.

**Diabetes Mellitus: Childhood and Adolescence**
*Mannmohan K Kamboj, Donald E Greydanus and Joav Merrick (Section of Endocrinology, Nationwide Children’s Hospital at The Ohio State University, Columbus, Ohio)*

In series: *Pediatrics, Child and Adolescent Health*
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
2016.
Softcover: 978-1-53610-095-2. $95.00.
e-book: 978-1-53610-104-1. $95.00.

About 29 million Americans (9.3% of the population) in 2012 had diabetes. Approximately 1.25 million American children and adults have type 1 diabetes, and almost all diabetes in children less than 10 years of age is type 1. About 208,000 people younger than 20 years (0.25 % of this age group) have been diagnosed with diabetes (type 1
or type 2). Diabetes care requires a collaborative approach with multidisciplinary professionals involved from the health, nursing, social and educational fields in order to provide optimal service to the child or adolescent and their family. Early diagnosis, treatment and monitoring can prevent or delay the long-term complications in various organs of the body, and regular care and service to this population is therefore essential. In this book, we provide a short overview of issues involved in diabetes care for children and adolescents.

**GENETICS**

**Advances in Genetics Research. Volume 16**

Kevin V. Urbano

In series: Advances in Genetics Research


Hardcover: 978-1-63484-262-4. $190.00.


“Advances in Genetics Research” presents original research results on the leading edge of genetics discovery. Each article has been carefully selected in an attempt to present substantial research results across a broad spectrum. In this continuing series compilation, the authors present and discuss the most recent Y chromosome progress within the main fields of genetics; male infertility associated with TTTY gene family deletions in the Y chromosome; genetic diversity assessment by random amplified polymorphic DNA; the effect of habitat fragmentation on genetic diversity; the use of HeLa cells as a model for studying DNA damage and repair; the molecular genetics of polycythemia vera; recent advances and molecular background of microRNAs in disease; papaya viral diseases; phylogenetics and phylogeography of large neotropical rodents by means of mitochondrial genes; and omics technologies applied to prokaryotes.

**Alternative Splicing and Disease**

Elias Massey

In series: Genetics - Research and Issues


Hardcover: 978-1-63484-266-2. $110.00.


Alternative splicing (AS) is a fundamental mechanism of gene expression regulation that extremely expands the coding potential of genomes and the cellular transcriptomic and proteomic diversity. This dynamic and finely-tuned machinery is particularly widespread in the nervous system and is critical for both neuronal development and functions. Alternative splicing defects, therefore, frequently underlie neurological disorders. In the first chapter of this book, the authors focus on Parkinson’s disease (PD), the second most common neurodegenerative disorder worldwide. They provide a current overview on the impact of alternative splicing in PD by representing the multiple splicing transcripts produced from the major PD-linked genes and their regulation in PD states; review the studies describing global splicing expression changes revealed by whole-genome transcriptomic approaches; and summarize the current knowledge about the alternative splicing modulation in PD through non-coding RNAs (miRNA and lncRNA) molecules. The following chapter reviews tau alternative splicing in Alzheimer’s disease. Chapter three examines the role of splicing factors in cancer prognosis and treatment. The last chapter studies nonsense-mediated decay and human disease.

**Epigenetics: Mechanisms and Clinical Perspectives**

Yildiz Dincer, Ph.D. (Istanbul University, Cerrahpasa Medical Faculty, Department of Biochemistry, Turkey)

In series: Genetics - Research and Issues


Epigenetics is a relatively new field of science explaining heritable changes that are not caused by alterations in DNA sequences. Epigenetic modifications are acquired throughout life, and depend on environmental clues such as diet, lifestyle and toxin exposure. It is possible to pass down epigenetic modifications to the next generation of offspring if the modifications occur in sperm or egg cells. Additionally, epigenetic regulations are central to many cellular processes such as imprinting, X chromosome inactivation, DNA damage response, cellular reprogramming and senescence. This book provides an overview for the influence of early life nutrition on the genome and the role of epigenetic dysregulations in the pathogenesis of many common diseases.

**Gene-Environment Interactions and Human Diseases**

Lu Qi (HCA Regents Distinguished Chair and Professor, Department of Epidemiology, Tulane University School of Public Health and Tropical Medicine, Director, Tulane University Obesity Research Center, New Orleans, LA, USA)

In series: Genetics - Research and Issues


With tremendous success of genomic research in discovering genetic variations determining human diseases, it is now time to re-evaluate how the environment affects disease risk by taking into consideration these genetic findings. This book addresses a rapidly growing interest in assessing the relations between environmental risk factors (such as diet, lifestyle) and human diseases, by considering the potential roles of genomic make-up. The book brings together a selection of chapters written by specialists with a variety of backgrounds such as epidemiology, nutrition, genetics, epigenetics, microbiome, biostatistics and bioinformatics. These authors are united in their concerns on the same scientific question – how do genomic events modify the effects of traditional, environmental risk factors on disease risk? This book offers an expert overview of the advances in the field of gene-environment interactions on human diseases and the cutting-edge methods used to detect the interactions. The majority of the chapters provide detailed up-to-date descriptions of the major findings of gene-environment interactions on various chronic diseases and risk factors such as obesity, lipids, diabetes, cardiovascular disease, cancer, multiple sclerosis, pancreatitis, Parkinson’s disease, and longevity. The book also covers the potential influence of epigenetic events and microbiome on the relation between environment and diseases. In addition, the book also captures the potential application of the findings from this field in personalized prevention and treatment of human diseases.

**Natural Selection and Genetic Drift**

Joshua Richardson

In series: Genetics - Research and Issues


Hardcover: 978-1-63484-331-7. $110.00.


Natural selection is the process which, being the most important factor of evolution, promotes rising of adaptability and prevents destructive consequences of all other processes. The concept of natural selection is a discordant problem of evolutionary human genetics. Despite popularity of a hypothesis of “neutral evolution”, the majority of scientists consider that selection has played main role in evolution of species and has generated all bio-logical diversity of human populations. This book presents research on natural selection and genetic drift. The author of the first chapter provides an all-embracing macroevolutionary perspective on the processes of the evolution of life and culture on earth. The author investigates a complementary form of
natural selection that diverges from the traditional form in that it is acting independently of the external environment. The next chapter discusses natural selection and diabetes mellitus. The last chapter examines how the genetic drift among native people from South America the Gran Chaco region affects interleukin 1 receptor antagonist variation.

**HEALTH**

**Health Economics and Policy Challenges in Global Emerging Markets**
Mihajlo Jakovljevic (Health Economics & Pharmacoeconomics, The Faculty of Medical Sciences University of Kragujevac, Kragujevac, Serbia)


This book is an attempt to tackle some of the key global health challenges with a focus on the leading, emerging countries and mature free-market economies facing similar issues. It consists of seven chapters written by well-recognized scholars in the field affiliated to academia, pharmaceutical industry and hospital sectors based in Japan, USA, China, Germany, Netherlands, Switzerland, Ireland, Serbia, Bulgaria, Poland and Albania. The contributors have diverse expert profiles in health economics, clinical medicine, public health and population aging. Regional health care issues were processed and referred to the BRICS and N-11 nations, North American region, Far East, Asia, Western and Eastern Europe. Some of the difficulties of contemporary health systems tackled in certain chapters were: population aging, health spending, insurance coverage, health technology assessment, costs of pharmaceutical development, neurological disorder and diabetes economics, public health legislation and caregiver assessment in a traditional Asian setting. All of the aforementioned research might give a dynamic impetus and expand a mental horizon to the professionals dealing with these issues. We believe that this book deserves a broad global audience consisting of health care professionals, policy makers, health economists, clinical physicians and lay persons eager to expand their knowledge in the field. Our attitude is based on the worldwide academic recognition of the listed contributors. The degree of success of these ambitiously targeted efforts will be assessed by our esteemed audience in years to come.

**Occurrences, Structure, Biosynthesis, and Health Benefits Based on Their Evidences of Medicinal Phytochemicals in Vegetables and Fruits. Volume 5**
Noboru Motohashi (Meiji Pharmaceutical University, Tokyo, Japan)

In series: *Food and Beverage Consumption and Health* 2016. 263 pp.
Hardcover: 978-1-63485-273-9, $160.00.

Diverse phytochemical functions on vegetables and fruits are discussed. Each chapter of Volume 5 describes the components and health effects. These include: the nutritional/beneficial compounds of turmeric, followed by the mechanism and exacerbation of neuronal damage after cerebral ischemia on protective effects of a mushroom Ganoderma lucidum mycelia, anti-arthritis medicinal compounds for arthritis and joint ailments, medicinal phytochemicals and health effects in a tropical fruit Garcinia indica (kokum), as well as the metabolomic investigation of Vaccinium myrtillus (bilberry). These chapters will provide more advanced information to researchers studying novel chemotherapeutic development.

**Patient Rights: Ethical Perspectives, Emerging Developments and Global Challenges**
Jenna Pope

Hardcover: 978-1-63482-136-0, $110.00.
Softcover: 978-1-53610-041-9, $79.00.

In the past 50 years, ethical concerns concerning human experimentation have arisen with the advancement of new medical research and technology. While the benefits of human experimentation are well known in the fields of biology, psychology, sociology, and medicine, the conditions of human subject research have been persistently controversial. This book discusses ethical perspectives, emerging developments and global challenges of patient rights. Topics include effective medical informed consent; rights to health and dental care; the ethics of HIV screening targeted to the seriously mentally ill; and problems in ethics for medical publication.

**Succeeding in MRCOG Part 2: A Question Bank of 400 EMQs & SBAs**
Sharmistha Guha, Parijat Bhattacharjee, Nutan Mishra, and Francis Ayim (Consultant Obstetrician & Gynaecologist, West Middlesex University Hospital, Langley, Slough, UK)

Hardcover: 978-1-63485-407-8, $95.00.

The book is targeted at the candidates appearing for the MRCOG Part 2, which is a compulsory examination for postgraduate trainees in the UK who aspire to pursue a career in obstetrics and gynaecology. Apart from the UK postgraduates, MRCOG examination is taken by postgraduates all across the globe to obtain this prestigious degree. The examination is carried out twice a year, and the venues are London, Manchester, Glasgow and Belfast in the UK. The examination also takes place in Bangladesh, Egypt, Hong Kong, India (2 centres), Iraq, Jordan, Malaysia, Pakistan, Saudi Arabia, Sudan, Dubai and Jamaica. At each centre, the number of candidates participating varies between 5 and 200. Apart from the candidates appearing for this examination, this
book would be helpful for the assessment of knowledge in all postgraduate trainees in obstetrics and gynaecology worldwide. Therefore, this book has a wide target group. A unique characteristic of this book is that it produces a comprehensive set of both types of questions covering all the modules of the MRCOG Part 2 syllabus (www.rcog.org.uk). A broad range of reading material has been used to develop the EMQs and SBAs including RCOG Green-top Guidelines, Scientific Impact Papers, Clinical Governance Papers and RCOG Consent Advice. In addition to the RCOG revision material, the authors have included questions from The Obstetrician & Gynaecologist (TOG), NICE Guidelines, StratOG and recommended textbooks. The authors have experience in RCOG examination question writing, and Sharmistha Guha has been a co-lead for the London SBA Writing Group for the RCOG. The questions have been written to the same standard as the RCOG question bank. Mr. Gregory Ward, who is the Head of London Specialty School of Obstetrics and Gynecology, wrote the foreword of the book. He is a senior clinician, a RCOG examiner and member of the RCOG SBA committee. He has provided guidance continually to ensure the quality of the questions is up to the standard of RCOG. It is important to recognize that this book is not a textbook and should not be used as the sole reading material for the examination. However, the questions will be especially useful in gaining valuable examination practice. An explanation has been provided for all of the questions along with references to aid in the preparation. A reading guide has been provided for assistance. The authors hope that this will be a useful tool in preparation for this crucial examination.

HEALTH CARE

Caregivers: Practices, Challenges and Expectations
Adrienne Lloyd
In series: Health Care in Transition
Hardcover: 978-1-63483-909-9, $160.00.
Family caregivers play a crucial role in providing daily assistance to individuals who are unable to care for themselves. Being a family caregiver can create family caregiver burden, which is discussed in the first chapter of this book. It provides a systematic review of the interventions available for family caregivers. Chapter two and three focus on quality of life and caregiver burden among caregivers of chronic life-limiting disease patients, and epileptic patients. Chapter four examines parents’ perceptions of caring for children with learning disabilities, and their psychosocial well-being. Chapter five aims to improve the understanding on disclosure trends, impacts, and factors that may inhibit or motivate children to disclose sexual abuse experiences to their caregivers. Chapter six explores the author's experiences with caregivers of children in HIV-affected Southern African communities. The final chapter studies the accuracy of health information resources on the internet that many caregivers rely on.

Comparative Effectiveness Research (CER): New Methods, Challenges and Health Implications
Francesco Chiappelli (UCLA School of Dentistry, Division of Oral Biology and Medicine, Los Angeles, CA, USA)
In series: Health Care in Transition
Hardcover: 978-1-63484-315-7, $310.00.
Briefly stated, comparative effectiveness research pertains to the direct, succinct and precise comparison of existing healthcare interventions to determine what works best for each individual patient, and which treatment course poses the greatest benefits, costs and harms. The core question of comparative effectiveness research goes beyond establishing what treatment works best, for whom, and under what circumstances: it is a hypothesis-driven endeavor designed to uncover and implement the consensus of the best evidence base for patient-centered, effectiveness-focused and evidence-based health care. Members at the Institute of Medicine and the Patient-Centered Outcomes Research Concup that comparative effectiveness research involves the generation and synthesis of the best available evidence for a treatment intervention by means of a process driven by the PICOTS question/hypothesis, and are directed at comparing and contrasting the benefits, costs and harms of alternative methods to prevent, diagnose, treat, and monitor a clinical conditions with the specified intent of improving the delivery of health care. The purpose of comparative effectiveness research is to assist healthcare providers, patients, allied clinicians, caregivers and other stakeholders to engage together and make informed decisions that will improve healthcare at both the individual and population levels, and in so doing utilize the identified best evidence base in specific clinical settings, a process that the Agency for Healthcare Research and Quality defines as “Translational Effectiveness”. In brief, comparative effectiveness research is the tool and the process necessary for translational effectiveness. In this light, it is critical and timely to facilitate comparative effectiveness research as one of the essential and primary components of patient-centered, effectiveness-focused and evidence-based clinical decision-making in healthcare, as the premier process that results in improved patient outcomes, enhanced research planning, better products, and novel evidence-based policy development. This book is a compilation of the writings of several experts in the field and their collaborators. Each chapter examines specific facets of the process of comparative effectiveness research-based clinical decision-making in the principal domains of healthcare, which are subsumed in this work as dentistry, Western and alternative medicine, nursing, and pharmacology. Taken together, the chapters in this book present a brief, yet comprehensive overview and discussion of the current state of comparative effectiveness in healthcare. They establish the central role of systematic reviews in the process of clinical decision-making in evidence-based health care, and examine in depth the statistical significance and the clinical relevance of actualizing and evaluating clinical decision-making. Additionally, policies in optimizing evidence-based, patient-centered and effectiveness-focused clinical outcomes, stakeholders engagement for raising health literacy in the U.S. and worldwide in this decade of the twenty-first century and beyond are discussed.

Congressional Actions Interfering with the Affordable Care Act
Justin McBride
In series: Health Care in Transition
2016.
Softcover: 978-1-63485-934-9, $95.00.
Congress remains deeply divided over implementation of the Patient Protection and Affordable Care Act (ACA), the health reform law enacted in March 2010. Since the ACA’s enactment, lawmakers opposed to specific provisions in the ACA or the entire law have repeatedly debated its implementation and considered bills to repeal, defund, delay, or otherwise amend the law. This book summarizes legislative actions taken to repeal, defund, delay, or otherwise amend the ACA since it was enacted; the ACA-related language added to annual appropriations legislation by congressional appropriators since the ACA was signed into law; and all the mandatory appropriations and Medicare trust fund transfers in the ACA and provides details on the status of obligation of these funds.

Connected Health Care: A Roadmap for Interoperable Health Information and Technology
Elaine Ramirez
In series: Health Care in Transition
Health Care Costs: Policies, Economics and Outcomes
Brandon Hill

In series: Health Care in Transition
Hardcover: 978-1-63484-619-6. $120.00.
e-book: 978-1-63484-637-0. $120.00.

Rising health care cost is a major concern for health policy makers and decision-makers, leading to better population health. Achieving this goal will only be possible with a strong, flexible health IT ecosystem that can appropriately support transparency and decision-making, reduce redundancies, and improve payment reform, and help to transform care into a model that enhances access and truly addresses health beyond the confines of the health care system. Such an infrastructure will support more efficient and effective systems, scientific advancement, and lead to a continuously improving health system that empowers individuals, customizes treatment, and accelerates cure of disease. This book’s purpose is to better inform decision-making to improve individual health, community health, and population health. It also describes the policy and technical actions needed to realize the vision of a seamless data system.

Health Care Use of Electronically Readable Cards: Prospects and Fraud Prevention Role
Rochelle Briggs

In series: Health Care in Transition
2016.
Softcover: 978-1-53610-116-4. $95.00.
e-book: 978-1-53610-117-1. $95.00.

Proposals have been put forward to replace the current paper Medicare cards, which display beneficiaries’ Social Security numbers, with electronically readable cards, and to issue electronically readable cards to providers as well. Electronically readable cards include cards with magnetic stripes and bar codes and “smart” cards that can process data. Proponents of such cards suggest that their use would bring a number of benefits to the program and Medicare providers, including reducing fraud through the authentication of beneficiary and provider identity at the point of care, furthering electronic health information exchange, and improving provider record keeping and reimbursement processes. This book evaluates the different functions and features of electronically readable cards; examines the potential benefits and limitations associated with the use of electronically readable cards in Medicare; examines the steps CMS and Medicare providers would need to take to implement and use electronically readable cards; and describes the lessons learned from the implementation and use of electronically readable cards in other countries.

Individual Mandate and Premium Tax Credits in the Affordable Care Act: Provisions and IRS Oversight
Susan Bennett

In series: Health Care in Transition
2016. 111 pp.
Hardcover: 978-1-63484-602-8. $120.00.
e-book: 978-1-63484-603-5. $120.00.

Since 2014, the Patient Protection and Affordable Care Act (PPACA) has required most individuals to maintain health insurance coverage or potentially to pay a penalty for noncompliance. Specifically, most individuals are required to maintain minimum essential coverage for themselves and their dependents. Minimum essential coverage is a term defined in the ACA and its implementing regulations and includes most private and public coverage (e.g., employer-sponsored coverage, individual coverage, Medicare, and Medicaid, among others). Some individuals are exempt from the mandate and the penalty, and others may receive financial assistance to help them pay for the cost of health insurance coverage and the costs associated with using health care services. This book describes the individual mandate as established under the Patient Protection and Affordable Care Act. It also discusses the ACA reporting requirements designed, in part, to assist individuals in providing evidence of having met the mandate; describes the eligibility criteria applicable to the premium tax credits and cost-sharing subsidies, and the calculation method for the credit and subsidy amounts; highlights selected issues addressed in the final regulation and guidance on premium credits and indicates the status of implementation, where relevant data is available; examines IRS’s implementation of these PPACA requirements; and IRS efforts to collaborate with key external stakeholders.

Key Issues Facing Medicaid
Jimmy Phillips

In series: Health Care in Transition

Softcover: 978-1-63484-947-0. $120.00.
e-book: 978-1-63484-952-4. $120.00.

The U.S. Department of Health and Human Services (HHS) has a critical responsibility to advance the connectivity of electronic health information and interoperability of health information technology (healthIT). This is consistent with its mission to protect the health of all Americans and provide essential human services, especially for those who are least able to help themselves. This work has become particularly urgent with the need to address the national priority of better and more affordable health care, leading to better population health. Achieving this goal will only be possible with a strong, flexible health IT ecosystem that can appropriately support transparency and decision-making, reduce redundancies, inform payment reform, and help to transform care into a model that enhances access and truly addresses health beyond the confines of the health care system. Such an infrastructure will support more efficient and effective systems, scientific advancement, and lead to a continuously improving health system that empowers individuals, customizes treatment, and accelerates cure of disease. This book’s purpose is to better inform decision-making to improve individual health, community health, and population health. It also describes the policy and technical actions needed to realize the vision of a seamless data system.

Health Care in the United States: Developments and Considerations, Volume 6
Leone Giangiallo

In series: Health Care in the United States: Developments and Considerations
Hardcover: 978-1-63484-601-1. $145.00.

The health care reform debate in the United States raises many complex issues including those of coverage, accessibility, cost, accountability, and quality of health care. Underlying these policy considerations are issues regarding the status of health care as a constitutional or legal right. This book series analyzes the constitutional and legal issues pertaining to the right of health care and the power of Congress to enact and fund health care programs. Other topics discussed in this volume include the consequences of States’ decisions not to expand Medicaid; a discussion on the distribution of expenditures among Medicaid-only enrollees; a description of how the Congressional Budget Office (CBO) estimates the budgetary effects of legislative proposals to reduce fraud in Medicare, Medicaid, and the Children’s Health Insurance Program (CHIP), and how those estimates are used in the Congressional budget process; an overview of Office of Inspector General (OIG) investigations, audits, evaluations, and legal guidance related to Medicare Part D; a background and the federal role in vaccine policy of the measles; prescription cholesterol-lowering medication use in adults aged 40 and over in the United States; and systems for rapidly detecting and treating persons with the Ebola virus.

The Medicaid program marked its 50th anniversary on July 30, 2015. The joint federal-state program has grown to be one of the largest sources of health care coverage and financing for a diverse low-income and medically needy population. Medicaid is undergoing transformative changes, in part due to PPACA, which expanded the program by allowing states to opt to cover low-income adults in addition to individuals in historic categories, such as children, pregnant women, older adults, and individuals with disabilities. This book describes key issues that face the Medicaid program based on this work, and program and other changes with implications for federal oversight.

Managerial Solutions to Hospitals' Challenges
Federica Morandi (Catholic University of Sacred Heart - Altemis)
In series: Health Care in Transition

In the attempt to provide a global vision of the challenges faced by hospitals, this book analyzes the dense network of rules and expectations coming from institutions, patients and professionals in which healthcare organizations are embedded. The numerous changes that have occurred within a large part of the healthcare systems during the last 20 years, have determined important consequences, which have been promptly faced by managers. Uncertainty, rules, and innovations are just some of the main ingredients of the challenges to be tackled, whereas mimicry, legitimacy and diffusion of managerial fashions are some of the core strategies implemented to face them. Hospital survival depends on the ability to intercept on time and to accomplish quickly the external expectations. The role of managers is to create a workplace in which changes are possible. Individual and organizational work value congruence can facilitate it by improving the quality of communication, the degree of trust in hospitals’ missions, and physicians’ and nurses’ knowledge of the processes. Hospital challenges reach up to the single physician, often asking him/her to play new and conflicting roles. The “new” physician needs to balance his/her time to accomplish ambiguous expectations, to fulfill heterogeneous tasks, and to compete for scarce resources in order to embrace the changes. In this vein, physicians’ negotiation skills assume a strategic role for the successful running of hospitals.

Medicaid Managed Care: Expenditures, Screening of Providers, and Utilization Patterns
Geneva Barrett
In series: Health Care in Transition

The importance of managed care in Medicaid—under which states contract with managed care organizations (MCOs) to provide a specific set of services—has increased as states expand eligibility for Medicaid under the Patient Protection and Affordable Care Act (PPACA) and increasingly move populations with complex health needs into managed care. States have flexibility within broad federal parameters to design and implement their Medicaid programs, and therefore play a critical role in overseeing managed care. This book analyzes federal expenditures for Medicaid managed care and the range in selected states’ payments made to MCOs; selected states’ medical loss ratio (MLR) standards and how they compare with federal standards for other sources of health coverage; and selected states’ methods for automatically assigning Medicaid beneficiaries to MCO plans. Furthermore, this book examines states’ and plans’ experiences using federal databases to screen providers; and how states and plans share data about ineligible providers.

Nurse Staffing Within the Veterans Health Administration: Recruitment, Retention and Qualification Issues
Eugene Glover
In series: Nursing - Issues, Problems and Challenges

The United States Government Accountability Office (GAO) and others have highlighted the need for an adequate and qualified nurse workforce to provide quality and timely care to veterans. The Department of Veterans Affairs’ (VA) Veterans Health Administration (VHA) faces challenges such as increased competition for skilled clinicians in hard-to-fill occupations such as nurses. As GAO has previously reported, recruitment and retention is particularly difficult for nurses with advanced professional skills, knowledge, and experience, which is critical given veterans’ needs for more complex specialized services. This book reviews the initiatives VHA has to recruit and retain its nurse workforce and the extent to which VHA oversees its nurse recruitment and retention initiatives. Furthermore, the book reviews the extent to which Department of Veterans Affairs medical centers (VAMC) have implemented VHA’s nurse staffing methodology, and VHA oversees VAMCs’ implementation and ongoing administration of the methodology.

Nursing Home Quality: Analyses of the Five-Star Rating System and Quality Trends
Cecilia Wade
In series: Aging Issues, Health and Financial Alternatives

In 2008, in an effort to provide helpful information to consumers and improve provider quality, the Centers for Medicare & Medicaid Services (CMS) developed and implemented the Five-Star Quality Rating System (Five-Star System). The Five-Star System assigns each nursing home an overall rating and three component ratings—health inspections, staffing, and quality measures—based on the extent to which the nursing home meets CMS’s quality standards and other measures. The rating scale ranges from one to five stars, with more stars indicating higher quality. This book examines how CMS developed and implemented the Five-Star System and what key methodological decisions were made during development; the circumstances under which CMS considers modifying the Five-Star System; and the extent to which CMS has established plans to help ensure it achieves its goals for the Five-Star System.

Private Health Insurance and Essential Health Benefits: Premium and Coverage Variations
Cheryl Bennett
In series: Health Care in Transition

The Patient Protection and Affordable Care Act (PPACA), as of 2014, changed how insurers determine health insurance premiums and how consumers shop for individual market health insurance plans. For example, PPACA prohibited insurers from denying coverage or varying premiums based on consumer health status or gender. At the same time, PPACA required health plans to be marketed based on their metal tiers (bronze, silver, gold, and platinum), which helps consumers
compare the relative value of each plan; it also required the establishment of health insurance exchanges in each state, through which consumers can compare and select from among participating health plans. This book examines the numbers of health plans available to individuals and how they changed from 2014 to 2015; and the range of health insurance premiums in 2014 and 2015, and how they changed for individuals in each state and county for selected consumers. The book discusses premium and coverage variations of private health insurance and essential health benefits.

Transgender Youth: Perceptions, Media Influences and Social Challenges
Shemya Vaughn (Assistant Professor, The College of the Redwoods in Eureka, CA, USA)
In series: Human Sexuality
2016.
Hardcover: 978-1-53610-093-8, $190.00.

According to the Youth Suicide Prevention Program, “more than 50% of transgender youth will have had at least one suicide attempt by their 20th birthday.” This data demonstrates a dire need for caregivers, educators and providers to have a better understanding of youths experiencing gender dysphoria (and gender non-conforming youth, who are often mistaken for transgender youth). Presently, our binary society makes the lives of transgender youth more challenging than they need be. Childhood and adolescence mark the start of our gender identity development, our sexual orientation development, and our racial identity development. Those intersections create enough interpersonal and intrapersonal challenges without the added stress of rejection for belonging to a majority group in one or more of those three developmental areas. These transgender youth are growing into transgender adults who own businesses, become politicians, join the military, and become parents. They are a natural and needed part of our society. This book was created to give a voice to these individuals as they are being silenced by some of their caregivers, school officials, religious leaders, and politicians. Transgender Youth: Perceptions, Media Influences and Social Challenges is about the experience of child development, adolescent development and gender identity development as well as society’s positive and unnecessary negative responses. Transgender youth have some experiences that their 1950s and 1960s counterparts did not encounter or have access to — hormone blockers, celebrity role models, and social media. This book brings readers closer to empathy for transgender youth and transgender young adults with the ultimate goal of improving the quality of life for these exceptional children and adolescents. The book introduces the topic of gender dysphoria and explains various terms important to this conversation regarding gender identity. It describes the challenges transgender adolescents experience to include barriers and obstacles not faced by their cisgender counterparts. Some parents and their transgender Christian children discuss gender dysphoria, gender identity development, their families’ response to their gender expression, and their experiences within their faith communities. We review the literature on transgender youth and the use of sexual activity as commerce. The audience gets to read narratives of individuals who identify as transgender or transsexual. There are discussions about transgender youth within the foster care system, transgender youth athletes, and the issues they face in school-based and intramural sports programs. Readers are offered suggestions to implement and support transgender youth in their schools and communities.

U.S. Health Care Workforce: Supply and Demand Projections and Federal Planning Efforts
Sheldon T. Barrett
In series: Health Care in Transition
Hardcover: 978-1-63485-730-7, $150.00.

This book provides a review on the supply and demand projections and federal planning efforts in the U.S. health care workforce, which includes primary care practitioners; non-primary care specialty and subspecialty clinicians; the nursing workforce; health support occupations; health technologist and technician occupations; pharmacists; occupational therapy and physical therapy; vision occupations; respiratory therapists; chiropractors and podiatrists; dieticians and nutritionists; and psychologists. Furthermore, this book examines the Department of Health and Human Service’s (HHS) planning efforts for ensuring an adequate supply and distribution of the nation’s health care workforce; the extent to which individual HHS health care workforce programs contribute to meeting national needs; and key components of the President’s 2015 Budget which proposes major new investments to build the health care workforce and improve the delivery of health care services, particularly primary care services, across the nation.

IMMUNOLOGY

Peanut Allergies: Symptoms, Management and Prevention
Maria Pele and Carmen Cimpanau (University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania)
In series: Immunology and Immune System Disorders
Hardcover: 978-1-63484-742-1, $110.00.

Food allergies have a considerable impact on modern society. Some of the most severe allergic reactions occur when peanuts and peanut derivatives are consumed. The main causative agents of a peanut allergy are proteins. The total protein content of a peanut is represented by thirty-two different proteins, of which about eighteen (nearly 7-10%) have been identified as capable of binding specific IgE, and so can be considered allergenic. Comprised of six chapters, this book comprehensively covers all topics of peanut allergy. A unique, concise and up-to-date resource, it offers readers an innovative and valuable presentation of the subject. It has been carefully prepared to present the concepts with the help of diagrams and tables. Each chapter is presented in a simple and systematic way to provide a thorough understanding of the core aspects of peanut allergy and the components of peanuts which cause allergic reactions. The basic concepts of clinical aspects, peanut allergens properties, cross reactivity and stability of peanut allergens and the legislation to protect sensitive people are clearly explained. Recent discoveries of peanut allergens are highlighted. From the description of the first peanut allergen called Ara h1 in 1991, so far there have been about thirteen proteins with allergenic action described. The allergenic proteins in a peanut, named Ara h 1—Ara h17 and agglutinin have been identified, largely characterized and accepted by the Allergen Nomenclature Subcommittee of the International Union of Immunological Societies (IUIS). Some of these allergens have established structural features, biochemical and physicochemical properties and their biosynthesis genes encoded. Being proteins, peanut allergens can suffer some modifications during food processing and digestion (acylation, polymerization, nitration, Maillard reaction etc.), and interactions within complex food matrices (both natural and fabricated structures). These modifications can reduce or increase their allergenic properties and are influenced by the food matrix. Peanut allergens have different cross-reactions with other allergens such as, for example, those of soybean, peas, lima beans, green beans, chickpeas, lentils or other beans. Methods commonly used to detect and quantify peanut allergens are mainly immunochromical and molecular methods. However, methods have been developed based on HPLC techniques coupled both with and without mass spectrometry, capillary electrophoresis, circular dichroism, FTIR or NMR. Peanut allergy is high and there is currently
no treatment for it. There is a lethal risk associated with peanut allergy, and in order to protect public health, the regulatory bodies worldwide will issue legislation concerning a requirement to clearly have a warning label of the possible presence of food allergens. The last chapter contains some of the most used preventive actions and elaborated legislation in different countries.

**Staphylococcus aureus: Infections, Treatment and Risk Assessment**

*Maria de Lourdes Ribeiro de Souza da Cunha (Department of Microbiology and Immunology, Botucatu Biosciences Institute, UNESP - Univ Estadual Paulista, Botucatu, São Paulo State, Brazil)*

In series: *Bacteriology Research Developments*

In series: *Immunology and Immune System Disorders*


This book provides an overview of the different topics of staphylococcal research in recent years. Severe infections caused by methicillin-resistant Staphylococcus aureus (MRSA) have become a global health problem in the twenty-first century. Chapter One discusses MRSA as a major cause of healthcare or hospital-associated infections (HA-MRSA) in burn patients, indicated as a high-risk group for invasive staphylococcal infection. Types of MRSA, which have traditionally been targeted as exclusive agents of healthcare-associated infections, are now recognized as the causative agents of severe disease acquired in the community. The second chapter discusses these infections as they occur mainly in “special populations”. For example, we may cite people living with HIV/AIDS, older adults living in long-term care facilities and patients with chronic diseases, notably diabetes mellitus. In Chapter Three, a third epidemiological form of MRSA is discussed, which is known as livestock-associated MRSA (LA-MRSA). Chapter Four emphasizes the current scenario of highly adaptable clonal complexes. Among these strains, LA-MRSA belonging to clonal complex (CC) 398 are particularly important, and nosocomial infections caused by strains of CC398 are frequently reported. Confirmation of the presence of microorganisms in blood cultures is one of the most important roles of clinical microbiology laboratories. Blood culture testing - the gold standard for the diagnosis of sepsis - is able to elucidate the etiology of infection and to establish appropriate antibiotic treatment in order to improve the prognosis of septic patients and, consequently, to reduce morbidity and mortality; this is the subject discussed in Chapter Five. Nosocomial infections manifest more intensely and more frequently in newborns when compared to children or adults. Staphylococcus aureus infections in newborns is discussed in Chapter Six. Staphylococcus spp. are an important cause of periostitis in periosteal dialysis (PD), frequently requiring change of the dialysis technique and causing an important impact on the mortality of PD patients, another matter of great importance which is discussed in Chapter Seven. Finally, the epidemiology and experimental evidence that S. aureus and its products, the superantigens, are directly related to the development or exacerbation of autoimmune diseases, which are discussed in Chapter Eight. This book provides an excellent overview of the different applications of staphylococcal research for clinicians, researchers and students who intend to address these issues, and permits continued high-quality research involving these important pathogens. Target Audience: The book provides an excellent overview in the different applicative fields staphylococcal research for clinicians, researchers and students.

**Medical General**

**Acute Cholecystitis: Diagnosis, Management and Complications**

*Lisa Powell*

In series: *Hepatology Research and Clinical Developments*


Softcover: 978-1-63485-744-4. $95.00.
e-book: 978-1-63485-761-1. $95.00.

Acute cholecystitis is a pathological entity of inflammatory origin, with a high prevalence worldwide. The term cholecystitis defines an inflammation of the gallbladder. Although most people with gallstones do not have symptoms and will not go on to develop cholecystitis, cholecystitis occurs most commonly due to blockage of the cystic duct with gallstones (cholelithiasis). In this book, Chapter One provides a contemporary review of acute cholecystitis (AC), Chapter Two examines the diagnosis and treatment options for AC. Chapter Three focuses on the diagnostic work-up of patients with AC. Chapter Four discusses early and delayed cholecystectomy as a treatment for AC. Chapter Five examines the current literature as it pertains to the management of patients who present with Grade II (moderate) acute cholecystitis, specifically looking at the timing of operation and the appropriateness of drainage procedures. Chapter Six reviews cholecystitis in systemic lupus erythematosus.

**Advances in Arterial Stiffness Research**

*Becky Chavez*

In series: *New Developments in Medical Research*


Hardcover: 978-1-63485-838-0. $160.00.

This book provides current research advances on arterial stiffness. Chapter One addresses the pulmonary vascular resistance (PVR) and total pulmonary vascular capacitance (CP) product of the pulmonary circulation as a global estimate of right ventricular (RV) afterload, the assessment of the local arterial stiffness indices and its relationship with PVR and CP, and finally, reviews the cause-effect relationships between large/conduit stiffening and distal/resistive vascular disease. Chapter Two discusses local and regional arterial stiffness measurement in clinical practice. Chapter Three reviews the processes involved in the pathogenesis of arterial stiffness in COPD, and the possible role of COPD therapy in vascular alterations. Chapter Four reviews links between bone turnover, vascular calcifications and arterial stiffness. Chapter Five examines ambulatory arterial stiffness index during pregnancy in Type 1 diabetes mellitus. Chapter Six provides a review on the pulse wave velocity and cardiovascular morbidity and mortality in patients on renal replacement therapy. Chapter Seven focuses on the higher arterial stiffness related to blood pressure overresponse to arm and leg resistance exercises in elderly individuals.

**Aesthetic Laser Therapy: Principles, Medical Applications, and Long-Term Effectiveness**

*Javad A. Sajan, M.D. (Allure Esthetic, Seattle, WA, USA)*

In series: *New Developments in Medical Research*

2016. 345 pp.


Since the invention of the ruby laser in the late 20th century, scientists and physicists have been keen on identifying its usage to cure and treat various dermatological and cosmetic skin conditions. Continuous work and experiments have led to the improvement of the various laser systems which are now able to treat many imperfections of the skin and...
certain skin ailments, along with scarring that might result from an injury or disease. Aesthetic Laser Therapy: Principles, Medical Applications, and Long-Term Effectiveness brings forth a wealth of information regarding the history of development of laser technology and how its uses have also been developed through trial and error. Aesthetic Laser Therapy: Principles, Medical Applications, and Long-Term Effectiveness familiarizes the reader with the various techniques that have been developed over time. These include ablative and non-ablative skin resurfacing and fractional and non-fractional methods. An abundance of relative figures and charts help the reader in comprehending the theoretical information as well. Each chapter of the book has been carefully designed and elaborates upon the different skin conditions that can be treated with each of the methods, what the outcomes might be, what precautions must be observed and information regarding careful patient selection. You will also find a chapter that has been specifically designed to familiarize the reader with the necessary safety procedures that are necessary to carry out laser procedures. Laser treatment methods are commonly preferred for permanent hair removal, tattoo removal, skin pigmentation disorders and of course to decrease or diminish the signs of photoaging. The physiology and treatment of each of these conditions is discussed. Liposuction is another field of cosmetic surgery that has benefited by the invention of lasers. With laser treatment methods, the downtime has been reduced with improving results. A review of traditional suction assisted liposuction and liposuction with the use of energy devices is discussed. As the demand laser treatment grows, so does the number of laser treatment providers. Aesthetic Laser Therapy: Principles, Medical Applications, and Long-Term Effectiveness ology is valuable in providing the necessary information to develop a complete understanding regarding the anatomy of the skin, the science behind the laser technology and how both of these interact with each other.

Alcohol and the Liver
Gerond Lake-Bakaar, M.D., Ph.D. (Associate Professor of Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, Director, Liver Tumor Center, Boston, MA, USA)
In series: Hepatology Research and Clinical Developments
Hardcover: 978-1-63484-400-0. $110.00.
The topic of alcohol and the liver is one that has been of interest to the medical community for many years. The overuse of alcohol has been linked to various diseases of the liver, including alcoholic liver disease, fatty liver disease, and alcoholic hepatitis. These conditions are associated with a multitude of clinical and pathological aspects of the disease. Clinical assessment of nutrition and vitamin supplementation is addressed as well. The book concludes with how the highly topical and controversial aspect of liver transplantation in patients with alcoholic liver disease.

Amenorrhea
Oliver C. Ezechi (Division of Clinical Sciences, Nigerian Institute of Medical Research, Lagos, Nigeria)
In series: Obstetrics and Gynecology Advances
Hardcover: 978-1-63484-778-0. $190.00.
As the knowledge required for efficient delivery of quality women’s healthcare continues to grow, disease-specific textbooks are required to specifically address all aspects of a condition. A general textbook may not be able to address this need due to space constraints. This book is written to fill this gap as it relates to amenorrhea, a common challenge for women within the reproductive age. The reader is offered a comprehensive knowledge of amenorrhea, its burden, causes, presentation and management in one book. The book covers all aspect of amenorrhea, which ordinarily is not covered by general textbooks of gynaecology. This compilation addresses various causes of amenorrhea, from common causes such as hyperprolactinaemia to rare causes like Kallmann’s syndrome and female athlete triad. The chapters are arranged in a logical and easy-to-follow style from general to specific issues making the book a daily guide as well as a reference text on amenorrhea. The book’s multi-author design is deliberate to ensure not only depth and breadth, but diversity as well. It also ensures that the experience and expertise of over twenty authors is brought to bear conditioning the content. In addition, the authors utilise the available evidence moderated by their experience to produce a simple and straightforward guide for the practising gynaecologist, resident, general medical practitioner and others interested in providing quality reproductive health care to women in low, middle and high-income countries. Experienced gynaecologists and trainers will also find this book a very useful companion and guide.

Amyloidosis: Risk Factors, Treatment Options and Clinical Aspects
Raquel Watts
In series: New Developments in Medical Research
2016.
Softcover: 978-1-63485-884-7. $95.00.
e-book: 978-1-63485-899-1. $95.00.
Amyloidosis is a result of the abnormal deposition of 'amyloid' resulting in the disruption of organ and tissue function, which can be localized or systemic, with the kidney being most frequently affected. This book discusses the risk factors, treatment options and clinical aspects of amyloidosis. Chapter One explores amyloid cardiomyopathy. Chapter Two summarizes current investigations utilizing RNAi and immunotherapy to target the amyloid protein itself. Chapter Three reviews genetic counseling as an important component of the treatment algorithm for amyloidosis. Chapter Four discusses tissue examination in a diagnostic procedure. Chapter Five reviews protein studies in light-chain amyloidosis.

Anti-Müllerian Hormone: Biology, Role in Ovarian Function and Clinical Significance
David B. Seifer and Reshef Tal (Division of Reproductive Endocrinology and Infertility, Department of Obstetrics and Gynecology, Geisel School of Medicine at Dartmouth, Hanover, NH, USA, and Yale University, CT, USA)
In series: Obstetrics and Gynecology Advances
e-book: 978-1-63484-017-0. $210.00.
This is the first book published that discusses state of the art research regarding AMH in human reproduction and medicine. This unique and vital protein impacts a variety of fundamental processes within the ovaries and testes. Since its discovery in 1947, every medical student has learned about the role AMH plays in embryonic sexual differentiation. However, the last fifteen years have witnessed AMH emerge from the bench to the bedside, from a scientific curiosity to a useful diagnostic tool with clinical utility and therapeutic applications. In female reproduction, AMH has undergone a virtual renaissance after it was discovered in the human ovarian follicle and later to reflect ovarian reserve. Since that time, much has been learned regarding the role of AMH in female reproductive aging and a number of other gynecological conditions. This is reflected by a number of peer-reviewed publications on AMH in human adult females, which has increased exponentially over the past three decades. It is only in the last decade that AMH has become an important marker of ovarian response, guiding clinical decision making in assisted reproductive technology (ART) as well as a useful aid in the diagnosis of polycystic ovarian syndrome (PCOS). In male reproduction, AMH has become a diagnostic tool in the complex evaluation of infants with intersex conditions, including ambiguous genitalia and cryptorchidism. The chapters of this book bring together experienced investigators with a variety of research interests in different aspects of AMH. Each contributor has conducted clinical, translational and/or basic research in the field of AMH. Each has an appreciation of what is known and an aspiration for solving what remains to be discovered. A better understanding of AMH pathophysiology may lead to the development of pharmacological treatments using AMH agonists and/or antagonists for a host of reproductive challenges. These include: the possible retardation of ovarian aging and menopause; a chemoprotectant for fertility preservation prior to chemotherapy; a tool to better control ovarian response to ART and/or to mitigate the deleterious effects of polycystic ovary syndrome; and a treatment for endometriosis, adenomyosis and/or endometrial and ovarian cancers. This book enables the reader to review the past, understand the present and consider the future of this multifaceted protein in the fields of reproductive medicine and gynecology.

Aspects: Aetiology, Symptoms and Treatment

Eleanor Figueroa

In series: New Developments in Medical Research

Softcover: 978-1-63485-459-7. $95.00.
e-book: 978-1-63485-479-5. $95.00.

Ascites can result from malignant and non-malignant diseases. The most common cause of non-malignant ascites is related to hepatic cirrhosis. Malignant ascites is associated with a variety of primary tumors and account for 10% of all causes of ascites. This book provides research on the aetiology, symptoms and treatment of ascites. Chapter One summarizes the immune response mechanisms involved in the pathogenesis of human liver cirrhosis at the cellular and molecular levels. Chapter Two summarizes the new findings about the immune response mechanisms and the consequent inflammatory status involved in the pathogenesis of human liver cirrhosis, related with the aetiology, at the cellular and molecular levels. Chapter Three addresses the mechanism of malignant ascites production and covers all clinical aspects of tunneled catheters and tunneled ports including indication, contraindication, device design, technical procedure considerations and, complication. Chapter Four reports information about the management of malignant ascites in ovarian cancer and discusses the involvement of malignant ascites in dissemination, angiogenesis, migration, invasion and apoptosis of ovarian cancer cells.

Biology in Rheumatology: New Developments, Clinical Uses and Health Implication

Coozi Ciurtin and David Isenberg (Consultant Rheumatologist, University College London, Department of Rheumatology, London, UK)

In series: New Developments in Medical Research

Hardcover: 978-1-63485-274-6. $270.00.

Significant progress has been acquired in the treatment of rheumatic conditions with the introduction of biologic therapies, which has enabled better control of disease activity and improved patients’ long-term outcome. Apart from several biologic treatments already licensed for use in autoimmune rheumatic conditions, numerous other agents are currently under investigation. This rapid expansion of the therapeutic armamentarium requires a critical analysis of individual biologic options and their clinical indications, in order to facilitate the optimal use of these new therapies. The authors felt that a comprehensive book revisiting all the evidence available regarding the efficacy, cost-effectiveness and health implications of the use of biologics in rheumatology was needed in order to integrate the clinical, ethical and socio-economic aspects related to their use. This book is aimed at specialist doctors, trainees, nurses and health professionals working in the field of rheumatology. It critically appraises the level of evidence behind the use of biologic agents in diverse autoimmune diseases, comprising separate chapters which focus on rheumatoid arthritis, systemic lupus erythematosus, myositis, systemic sclerosis, Sjogren’s syndrome, seronegative spondyloarthropathies, psoriatic arthritis and psoriasis, small, medium and large vessel vasculitis, osteoporosis, and interstitial lung disease associated with rheumatic conditions. In addition, the book explores aspects related to the use of biologic agents, such as ethical considerations of consenting patients to take part in clinical trials with biologics, and adolescent and adult rheumatology nurse perspectives related to patients’ benefits of biologic therapies. Particular interest is given to the use of biologics during pregnancy and assessment of their infectious risks. A separate chapter explores the off-target benefits associated with the use of anti-TNF therapies. Several chapters include data about cost-effectiveness, and national and international guidelines for the use of biologic agents in different rheumatic conditions.

Blood Donations: Attitudes, Safety and Future Directions

Antoinette Luna

In series: New Developments in Medical Research

Hardcover: 978-1-63485-457-3. $95.00.

This book discusses the global attitudes regarding blood donations, its safety and future directions. Chapter One provides a brief overview of the ethics of blood donations. Chapter Two focuses on the epidemiological aspects of the hepatitis C virus infection among seekers of serological tests in blood banks in Pará, Brazilian Amazon. Chapter Three discusses statistical control of the production of blood components using variables and attributes charts, and capacity indexes. Chapter Four demonstrates the use of cluster analysis and item-response theory for the assessment of transfusion-related knowledge of nurses. Chapter Five reviews a quantitative/qualitative approach to better understand motivations of apheresis donors in Quebec, Canada.

Clinical Manifestations, Pathophysiology, Diagnostic Methods, Imaging and Intervention in Sarcoidosis

Ali Nawaz Khan (Consultant Radiologist, Professor Honorary, North Manchester General Hospital, UK)

In series: New Developments in Medical Research
Curcumin: Clinical Uses, Health Effects and Potential Complications
Valeria Martin
In series: New Developments in Medical Research
2016. 132 pp.
Hardcover: 978-1-63484-272-3. $110.00.
e-book: 978-1-63484-273-0. $110.00.
Curcumin is a natural product with polyphenolic structure. It is used in therapeutic remedies alone or in combination with other natural substances. Many researchers are investigating it because of its biological activities such as: anti-inflammatory, anti-cancer, anti-protozoal, anti-viral, anti-bacterial and has been found to be effective for treatment of Alzheimer, depression, headaches, fibromyalgia, leprosy, fever, menstrual problems, water retention, worms and kidney problems etc. It is an active ingredient in dietary spice, turmeric. It has reactive functional groups: a diketone moiety and two phenolic groups. Despite its unique biological activities, it suffers from some shortcomings which include: gastrointestinal problems, poor bioavailability due to its poor absorption, short half-life, poor solubility in aqueous solutions, rapid systemic elimination and antithrombotic activity which can interfere with blood clotting. The first chapter of this book reviews the different delivery systems used for incorporation of curcumin and its derivatives, release kinetics and up to date in vivo results. Chapter two discusses curcumin nano and microencapsulation and its implications on clinical uses. Chapter three studies the epigenetic changes induced by curcumin and its congeners and the potential of utilizing these changes in the treatment of different diseases. The last two chapters examine the effects of curcumin in human nasal epithelial cells; and differential absorption of curcuminoids between free and liposomal curcumin formulations.

Degenerative, Traumatic and Infectious Lumbar Spinal Pathology: Diagnosis and Treatment (2 Volume Set)
Alessandro Landi, Vincenza Maiola and Fabrizio Gregori (University of Rome “Sapienza”, Department of Neurology and Psychiatry, Rome, Italy)
In series: Orthopedic Research and Therapy
2016.
This book is the result of the need to provide a comprehensive description of the degenerative, traumatic and oncological disease of the lumbar spine, addressing conservative and surgical treatment to...
cater to both experts and young surgeons with less experience in this field. The aim of this book is to give an overview on the state of the art, the actuality and the future perspectives of the diagnosis and treatment of lumbar spinal pathologies, highlighting the fundamental role of multidisciplinary management. In this field, neurosurgeons and orthopedics function two different ways; in fact, there are some spine pathologies that are actually described exclusively for orthopedics, such as congenital and developed scoliosis, while others are specifically for neurosurgeons, such as intra-extradural pathologies. In light of this, it may be extremely useful to report neurosurgical and orthopedic experience in the field of lumbar spine. Moreover, the contribution of other specialists, such as infectiologist, cardiologists, and neuroradiologists should be mentioned. This book is written by a group of highly trained, multidisciplinary specialists from all over the world, who present the requirements for the most advanced therapies on the aged, adult and pediatric thoracolumbar spine. The chapters report the diagnostic and therapeutic management of the thoracolumbar pathology while presenting a step by step presentation of the most advanced procedures. New technologies such as spinal neuronavigation, transfacet fixation devices and minimally invasive techniques are extensively described. Considering the growing incidence of spinal disease, the authors aim to provide an expert overview of lumbar spine treatment to assist the medical community with treating this increasingly common pathology. This book aims to provide a message: Surgery must not become a trend, but a weapon in the surgeon’s hands; and as with every weapon, it is extremely dangerous in the wrong hands. The spinal surgeon is the only one who can decide when to use it and must know in detail the effects of this weapon to use it correctly.

Eating Disorders: Prevalence, Risk Factors and Treatment Options
Nina Morton
In series: Eating Disorders in the 21st Century
Body image is a subjective multidimensional construction that has an early and continuous influence on one’s emotions, thoughts, and behaviors. Throughout the lifespan, the body image suffers several influences and changes, as it is a complex and contextualized construct. Body image distortion may lead to the development of an eating disorder. Eating disorders are characterized by a persistent disturbance of eating or eating-related behavior that results in altered consumptions or absorptions of food and that can significantly impair physical health or psychological functioning. This book provides an in-depth review of the prevalence of eating disorders. It also discusses several risk factors, and available treatment options for those suffering from eating disorders.

Endocrine Disrupting Chemicals: Occurrence, Exposures and Health Risks
Sabrina Johnston
In series: Endocrinology Research and Clinical Developments
Wide variety of pesticides and other synthetic chemicals may disrupt the normal function of the endocrine system, cause alteration and also attack the immune system of humans and wildlife at very low concentration levels. Chapter One of this book provides an overview of analytical methods, including sample preparation steps, chromatographic separation and detection of endocrine disrupting pesticides in a variety of food, environmental and biological matrices. Chapter Two studies endocrine disrupting compound (EDC) exposure from recycled wastewater compared to other water related risks in developed and developing nations. Chapter Three summarizes the role of EDCs on pregnancy and birth outcomes, included but not limited to fertility problems, premature birth, low birth weight, and miscarriage along with in-vitro, animal, and epidemiological studies. In the last chapter, the worst EDCs will be revealed and their related potential hazardous health risks to humans are discussed. Furthermore, suggestions to help the reader avoid such toxic chemicals are presented.

Food Allergies: Epidemiology, Symptoms and Therapeutic Approaches
Dean Cunningham
In series: Allergies and Infectious Diseases
  Hardcover: 978-1-63484-502-1. $110.00.
Food allergy is an inappropriate immune response to certain food components. Although its increasing prevalence over the past two decades and potentially fatal consequences have made food allergy a formidable public health issue, there has been no effective therapy to treat food allergy, and patients are compelled to resort to the strict avoidance of allergenic foods and must have rapid access to emergency care in the event of accidental exposure. Chapter One of this book examines food allergy and vaccinations. Chapter Two describes an effective and safe oral immunotherapy using IFN-γ for food allergies with advanced concepts in comparison to the current worldwide approach to oral immunotherapy. Chapter Three evaluates the epidemiological studies in tropical regions done on food allergies and compares them with studies done in the United States and Europe. Chapter Four examines the contribution psychology has made to our understanding of how people live with food allergies, examines the evidence for psychological therapies that may help improve patients’ and parents’ lives and highlights avenues for future research.

Fostering Creativity in Rehabilitation
Matthew J. Taylor (Matthew J. Taylor Institute, Scottsdale, AZ)
In series: Physical Medicine and Rehabilitation
2016. 301 pp.
  Hardcover: 978-1-63463-259-1. $185.00.
  Softcover: 978-1-63465-118-3. $89.00.
The rehabilitation professions are under pressure to innovate in order to deliver services to a growing market of increasingly savvy consumers. These consumers are no longer limited to their conventional care needs and have access to quality online resources for many of their needs. Rehabilitation professionals’ pressures are compounded by increased productivity demands, technical information overload, and increasing risks for professional burnout. In short, rehabilitation is in need of rehabilitation in order to transition into the next generation of health care delivery. Unfortunately innovation and creativity have not been, nor are they now, in the curriculums of these professions. The schools continue to churn out graduates doing what has been done before, and current providers are admonished by their professional organizations to practice only what has high level research evidence to support the practice. Meanwhile, veteran professionals as both employees and owners find themselves faced with the acute need to innovate in order to survive and flourish. This book fills the critical void in knowledge and application of how to best transform both the individual and the organizations that are responsible for professional practice, education, and policy. The book begins by examining the emerging science behind individual and organizational creativity, along the way dispelling many myths such as that of the lone genius. Grounded in that context, creativity is described in its role as the hallmark of both clinical mastery and patient values within a practice of evidence-based medicine. A candid description of why rehabilitation professions have been slow to innovate further supports how both
individuals and organizations (schools, state, and national organizations, etc.) can begin the necessary transformations. Such transformations would not only solve acute situational stressors, but the book also shares how such changes are critical for developing systemic sustainability for everyone from the one-person professional practice to the largest organizations. Challenges specific to each rehabilitation profession are then described within case reports from most of the rehabilitation professions. The reports demonstrate how a colleague of that profession has overcome those challenges in a manner that offers real world examples for applying the relevant principles. The book closes with a workbook-like breakout of chapters on taking action to create both personal and organizational novel expressions of our respective vocational call to ease the suffering of others. Working through these practical exercises will allow for the emergence of our patients’, our personal, and our professions’ best possible futures.

Gallstones: Recent Advances in Epidemiology, Pathogenesis, Diagnosis and Management
David Q.H. Wang and Piero Portincasa (Saint Louis University School of Medicine, Division of Gastroenterology and Hepatology, Department of Internal Medicine, St. Louis, MO, USA)
In series: Hepatology Research and Clinical Developments
2016.
Hardcover: 978-1-63485-999-8, $310.00.
Gallstone disease is one of the most prevalent digestive diseases, resulting in a considerable amount of financial and social burden in the USA. Approximately 20 million Americans have gallstones. Because gallstone disease is a common clinical problem, basic and clinical studies on this disease continue to advance at a rapid pace, and a book focusing on basic science, current diagnosis and management of gallstones will greatly help practicing gastroenterologists, gastroenterological endoscopists, physicians and surgeons to understand the etiology of this disease and the availability of effective medical therapies. In this book, recognized medical experts discuss recent advances in the epidemiology, pathophysiology, pathogenesis, genetics and diagnosis, as well as endoscopic, medical and surgical therapies of gallstone disease. This compilation on gallstone disease was written by fifty authors from eight countries (Canada, China, Germany, Italy, Japan, the Netherlands, the United Kingdom, and the USA). There are thirty chapters in this book. Chapters One and Two discuss the epidemiology and natural history of cholesterol and pigment gallstone disease. Chapters Three through Six summarize recent progress in the pathogenesis of gallstone disease from a physical-chemical and pathophysiologic perspective. Chapter Seven elucidates the roles of the immune system and the microbiome on the pathogenesis of cholesterol gallstones. Chapters Eight and Nine review the roles of nuclear receptors and the enterobacterial circulation of bile acids in cholesterol gallstone diseases. Chapters Ten through Twelve discuss the discovery of Lith genes and more fundamental knowledge concerning the genetic determinants and the molecular mechanisms underlying the critical role of Lith genes in gallstone formation in mice and humans. Chapter Thirteen discusses gallstones in pregnancy and explains why gallstone prevalence is higher in women than in men. Chapters Fourteen through Eighteen discuss the effects of diet, insulin resistance, obesity, diabetes, and nonalcoholic fatty liver disease on the formation of cholesterol gallstones. Chapter Nineteen provides diagnostic flow charts for biliary lithiasis. In Chapter Twenty, important non-invasive imaging findings of common gallbladder pathology are reviewed, and current strategies for the optimal use of imaging in the evaluation of patients with suspected gallbladder disease is discussed. Chapter Twenty-One evaluates current pharmacological therapy in cholesterol gallstones. Chapter Twenty-Two describes laparoscopic cholecystectomy. Chapters Twenty-Three through Twenty-Six discuss surgical treatment and endoscopic management of common bile duct stones and hepatolithiasis. Chapter Twenty-Seven reviews recent progress on the endoscopic treatment of bile duct stones with endoscopic papillar large balloon dilation. Chapter Twenty-Eight addresses surgical treatment of gallstones and their complications. Chapter Twenty-Nine discusses treatment of intrahepatic duct stones from a Western perspective. Chapter Thirty describes the history and incidence rate of Mirizzi syndrome, and summarizes recent progress in its classification, diagnosis, and management. The articles in this book provide a state-of-the-art review of the current knowledge on the lithogenesis and the management of gallstone disease, as well as promote future epidemiological investigation, basic and translational research, and clinical studies on this prevalent biliary disorder worldwide.

Geriatric Orthoptics and Non-Paretic Diplopia in Adults
Elfriede Stangler-Zuschrott (Professor of the University Eye-Clinic Vienna Emeritus, Austrian Academy of Ophthalmology and Optometry, Vienna, Austria)
In series: Eye and Vision Research Developments
2016.
Softcover: 978-1-63485-244-9, $95.00.
e-book: 978-1-63485-571-6, $95.00.
Elderly patients are often afflicted with the onset of a convergent strabismus as a sign of aging, without any other neurologic disorder. Unfortunately, physicians and even ophthalmologists are generally unaware of this fact. Consequently, such patients fail to find timely help for their double vision. In addition, there are other geriatric alterations (such as cataracts, glaucoma and age-related maculopathy), which are connected with binocularity disorders but do not always result in double vision. These masked diploia are only perceptible as the closing of one eye and the patient’s complaint of seeing clouds. Erroneous diagnoses have a dramatic outcome for many elderly people whose ability to read is vitally important for their quality of life. Studies on this topic and suggestions for improving the patients’ situation are contained in this book. The book also covers intractable diplopia, or “horror fusionis”, which is particularly difficult to understand. Examinations of the micromotility of the eyes could explain some of the puzzling observations. Although eye muscle palsies are generally outside the scope of this book’s focus, connections between neuro-ophtalmology (e.g. in Parkinson’s disease) and reading problems due to convergence insufficiency are discussed. Finally, this book examines what happens in adulthood to the numerous patients whose squints were operated on during childhood. Many of these patients later suffer problems such as double vision, which may be misinterpreted as eye muscle palsy. This book is not a textbook of orthoptics. It seeks to provide advanced training for ophthalmologists based on the author’s personal experiences collected over fifty years of practice as an ophthalmologist and specialist for strabismology at the Medical University of Vienna’s eye clinic and in her own office. As far as the author is aware, it is the first book to be published exclusively on this topic. The previously unpublished research and experiences it contains should provoke the interest of colleagues and orthoptists whose elderly patients present with binocularity, a condition which sadly remains underestimated.

Handbook of Benign Paroxysmal Positional Vertigo: Diagnosis and Treatment
Eleni Zoe Gkoritsa (ENT Surgeon, MD, PhD, University of Athens, Greece)
In series: Vestibular Disorders and Treatment
2016.
Softcover: 978-1-63485-690-4, $95.00.
e-book: 978-1-63485-708-6, $95.00.
Degenerative disc disease is a significant component of spine disorders and is the most frequent vestibular syndrome, with a lifetime prevalence of 10% by the age of 80. The clinician who deals with vertiginous patients ought to be familiar with this disorder. The general practitioner should be able to suspect BPPV from the history of the patient in order to refer the patient correctly and save unnecessary time as well as costs for the patient. This book is a relatively brief, but accurate approach to the diagnosis and treatment of BPPV. It is accompanied by high quality color figures of the most principal diagnostic and therapeutic maneuvers, so that they can be understood by clinicians and physiotherapists of both advanced and basic levels of knowledge for the topic. Figures of the maneuvers are accompanied by 3D and 2D (where appropriate) illustrations of the labyrinth with semicircular canals and otoconia placement in the lumen of the affected canal; through this way, pathophysiology becomes evident to the reader. A brief, but comprehensive report of treatment maneuvers is introduced by the most recent and reliable researchers is provided. Chapter Six is focused on the most principal evidence based data. Special care has been given to the chapter on differential diagnosis of BPPV, because clinical entities that can manifest with symptoms mimicking BPPV can also be associated with true BPPV. Clinical occurrences are also discussed, based on abundant literature references. This is a truly unique effort to offer the reader a detailed approach to these delicate clinical matters, which are not routinely reported with such clarity, accuracy and detail. Another practical issue of premium importance is failure of treatment and further measures. Up-to-date information is also provided in this last chapter. This book has been an effort to offer specialized knowledge — both at a basic and advanced level — in a clear, structured and pleasant-to-read presentation.

Incisional and Congenital Diaphragmatic Hernia (CDH): Risk Factors, Management and Outcomes

**Roosevelt Collins**

In series: *New Developments in Medical Research*


Hardcover: 978-1-63484-504-5. $190.00.

Incisional hernia (IH) represents a postoperative abnormal orifice or weakness in the abdominal wall through which normally contained viscera protrude beneath the skin. This book examines the risk factors, prevention methods, and management options for incisional hernias. It also provides a biomolecular basis of IH; discusses the loss of abdominal domain; examines preoperative techniques for the management of giant hernias; studies intraabdominal pressure modification in "component separation" techniques for the repair of incisional hernias; reviews the incidence, and repair of IH after abdominal organ transplantation; and finally, provides an overview of the diagnostic, prognostic and therapeutic implications of right sided congenital diaphragmatic hernias (CDH).

Intervertebral Disc Degeneration: Prevalence, Risk Factors and Treatments

**Allen Ho and Atman Desai** (Stanford University School of Medicine, Stanford, CA, USA)

In series: *Rheumatism and Musculoskeletal Disorders*

2016.

Hardcover: 978-1-63485-829-8. $190.00.

Degenerative disc disease is a significant component of spine disorders and lower back pain that now afflicts nearly one third of the adult population. This represents a significant morbidity and cost burden — nearly a tenth of all health-care spending — that is only increasing in prevalence as the elderly population continues to grow. While current treatment modalities, ranging from conservative approaches to surgical interventions, are continually evolving, new therapies for intervertebral disc disease are also in development. Increased research on the cellular mechanisms underlying DDD have led to novel cell-based treatments which aim to delay rates of degeneration. Intervertebral Disc Degeneration: Prevalence, Risk Factors and Treatments is a comprehensive text on all facets of the disease process that covers the pathophysiology, biomechanics, as well as the location specific pathology and treatment options for degenerative disc disease. Written by nationally renowned experts in neurosurgery and orthopedic surgery of the spine, each chapter is a thorough, cogent discussion of an essential topic related to intervertebral disc degeneration that includes many original, easy to understand figures and illustrations. Also included are overviews of the most cutting-edge and emerging surgical and biologic management options of disc disease at all levels of the spine.

Knee Injuries and Repair: Diagnoses, Management and Outcomes

**Jenna Goodwin**

In series: *Orthopedic Research and Therapy*


Hardcover: 978-1-63484-583-0. $110.00.
e-book: 978-1-63484-596-0. $110.00.

Injury to the anterior cruciate ligament (ACL) is common and typically affects young individuals; in particular, girls have higher rates of sustaining non-contact ACL injuries than boys when they engage in sports that involve jumping, pivoting, and changing direction. Multiple intrinsic and extrinsic risk factors for ACL injury have been identified, including anatomic variations, neuromuscular dysfunctions, hormonal status and other related factors. Despite a lack of scientifically validated and published guidelines to help clinicians decide between conservative and surgical treatment, patient-specific criteria, such as age, pain, recurrent joint instability, desired level of activity, occupation and presence of potential concomitant injuries, should be considered. Neuromuscular training can reduce the risk of ACL injury, especially when combined with other strength training exercises. Chapter One in this book outlines the current state of knowledge regarding the risk factors, treatment and prevention of ACL injuries. Chapter Two provides a better understanding of what associated factors are identified following ACL tear and explore the current understanding of the impact these have on treatment and subsequent outcome. The final chapter discusses surgical and rehabilitation concepts of matrix-induced autologous chondrocyte implantation in the treatment of knee articular cartilage defects.

Knee Osteoarthritis: Diagnoses, Management and Health Effects

**Scott Medina**

In series: *Orthopedic Research and Therapy*

2016. 113 pp.

Softcover: 978-1-63485-609-6. $95.00.
e-book: 978-1-63485-627-0. $95.00.

Osteoarthritis, the most common joint disease, causes appreciable disability in a high percentage of older adults. Commonly attributed to progressive disruption of the articular cartilage and underlying bone structures constituting the joint, the condition can be extremely debilitating due to its widespread aversive consequences. Knee osteoarthritis (OA) is the most frequent localization of the arthrosis disease and the most common arthropathy of the knee, affecting over 37% of the population aged over 60 years and representing the main cause of pain and disability. In this book, Chapter One describes the most common less well documented psychological complications that can prevail in knee osteoarthritis, their implications, and possible solutions for reducing the extent and severity of this disabling condition. Chapter Two reviews biological pathways in knee osteoarthritis. Chapter Three discusses ozone therapy for management of OA.
Ligamentous Injuries of the Knee
Randy Mascarenhas, Sanjeev Bhatia and Walter R. Lowe (Assistant Professor of Orthopaedic Surgery, University of Texas-Houston, Houston, TX, USA)


Cruciate and collateral ligament injuries of the knee are a common occurrence in athletics, and high velocity trauma and treatment can range from non-operative to complex surgical reconstruction. It is imperative that medical professionals who are involved in the treatment of these patients remain up-to-date on the most current concepts in treatment, as management algorithms and surgical techniques have evolved significantly over time as arthroscopic tools, biological treatments, and understanding of these complex injuries have improved. This book serves as a guide to the evaluation and management of knee ligament injuries, ranging from non-operative treatment of isolated MCL injuries to complex multi-ligament reconstruction. Experts in knee surgery cover everything with the latest surgical techniques from patient positioning to postoperative care. In addition to discussing the management of cruciate and collateral ligament injuries, the book explores other emerging complementary topics from authorities with world-renowned expertise. These include the management of pediatric knee injuries, ACL repair, revision ligament surgery, the role osteotomy for chronic ligament deficient knees, the use of orthobiologics in knee ligament reconstruction and rehabilitation following knee ligament injuries and surgery. Ligamentous Injuries of the Knee aims to serve a broad audience, ranging from practicing orthopaedic sports medicine surgeons and allied health professionals to medical/allied health students who wish to gain exposure to the latest treatment algorithms and advanced surgical procedures.

Liver Disease: Diagnosis, Treatment and Management
Regina Nelson

e-book: 978-1-63485-719-2, $95.00.

This book discusses the diagnosis, treatment and management of liver disease. Chapter One reviews hepatic hydatidosis. Chapter Two explores the diagnosis, natural history, and management for patients with chronic hepatitis C (CHC). Chapter Three discusses scientific evidence that explains the relationship between metabolic syndrome, non-alcoholic fatty liver disease (NAFLD) and poriasis and the treatment strategy for this co-morbid condition. Chapter Four examines the pathophysiology and treatment of liver cirrhosis. Chapter Five reviews surgical strategies to push up resection limits in liver disease and liver failure after surgery.

Lysosomal Storage Diseases: Pathobiology and Therapeutic Considerations
Gregory M. Pastores (Consultant, Adult Metabolic Service, Dept. of Medicine/National Centre for Inherited Metabolic Disorders, Dept. of Medicine, Yale Univ. School of Medicine, New Haven, CT, USA)


This monograph presents an overview of the lysosome and its different roles in the maintenance of cellular homeostasis. It also provides a description of the various pathophysiologic changes associated with the lysosomal storage disorders. Therapeutic considerations and aspects relating to genetic counselling are covered in the final section. Several diagrams are provided to facilitate greater understanding of relevant themes. Additionally, contextual material is given at the end of each chapter, which elaborates on some of the entries brought up in the discussions. The book is written by an expert in the field who has been engaged in basic and clinical research. It offers a broad perspective and should appeal to both novices and experts in the field who seek a single resource that provides a comprehensive examination of the relevant topics. Issues covered should appeal to both the basic scientist and the clinician.

Myelodysplastic Syndromes (MDS): Risk Factors, Treatment and Prognosis
Deanna Rodgers


Myelodysplastic syndrome (MDS) is a family of clonal haematopoietic stem cells disorders characterized by dysplasia, ineffective hematopoiesis and susceptibility to transformation to Acute Myeloblastic Leukaemia (AML) that are shown to be strikingly refractory to current therapeutic modalities. The first chapter of this book provides a detailed review of the risk factors, treatment options and prognosis of MDS. Chapter two studies the inflammatory and autoimmune nature of MDS. Chapter three discusses the pathogenesis of 5q-syndrome. Chapter four examines the genetic mutations identified in MDS and their significance. Chapter five reviews different prognostic factors and stratifications of risk in Argentinean patients with MDS. Chapter six discusses epigenetics and epigenetic therapy. Chapter seven introduces mild oral chemotherapy treatments for elderly patients with a higher-risk myelodysplastic syndrome. Chapter eight discusses lenalidomide treatment in lower risk myelodysplastic syndromes. Chapter nine analyzes the old and new-integrating prognostic models and mutational advances with epigenetic and cellular therapies for MDS. The last chapter studies the entropy evaluation of bone marrow biopsies in MDS.

Nonalcoholic Fatty Liver Disease: New Insights
Ramón Anibal Rodrigo Salinas (Molecular and Clinical Pharmacology Program, Institute of Biomedical Sciences, Faculty of Medicine, University of Chile, Chile)


Non-alcoholic fatty liver disease, or NAFLD, represents a spectrum of pathologic liver histologic findings ranging from the simple accumulation of fat, known as steatosis, to nonalcoholic steatohepatitis and cirrhosis. It is estimated that NAFLD in all of its forms would have a 20% prevalence worldwide, but the evidence suggests a higher rate for developed countries, exceeding 30% for the US general population. Major risk factors for NAFLD, such as ageing, obesity and insulin resistance, are projected to increase in the following decades, causing the prevalence and relevance of NAFLD to rise in the future. In obese populations and type 2 diabetes patients, the prevalence of this disease exceeds 70%. NAFLD has been called the “silent epidemic” for its lack of symptoms, relatively complex diagnosis and its deleterious effects. The association between NAFLD with cardiovascular diseases, energy metabolism disorders and polycystic ovarian syndrome has promoted
the inclusion of this liver pathology within the metabolic syndrome. From a biochemical point of view, current evidence suggests the existence of a bidirectional causal relationship between NAFLD and oxidative stress, where various alterations energy metabolism and important inflammatory components are involved. An abnormal glucose and fatty acid metabolism lead to glucoxotoxicity and lipotoxicity, respectively, which promote oxidative stress through different pathways. Oxidative stress induces the expression of pro-inflammatory mediators, including transcription factors and cytokines, which trigger an immune activation, a key step in the transition from simple steatosis to steatohepatitis. An early diagnosis and optimal therapy are essential for NAFLD treatment. First-line treatment of NAFLD focuses on lifestyle changes. Weight reduction through an increase in physical activity and/or nutritional management is considered safe and effective, but pharmacological management of common comorbidities such as hyperglycemia, dyslipidemias and hypertension are also essential. The key role of oxidative stress in NAFLD pathophysiology suggests that antioxidant interventions based in natural substances such as polyphenols would be effective. Recently, it was shown that the antioxidant properties of these compounds are beyond their free radical scavenging. This book presents an update of research advances contributing to a better understanding of relevant clinical models of NAFLD, particularly, the disorder in energy metabolism and the role of oxidative stress. It also highlights the clinical and pathophysiological association between NAFLD and the metabolic syndrome, and presents an overview of current diagnosis and treatment and the future avenues for the management of this disease.

Osteoporosis: Assessment, Prevalence and Current Treatment Options
Elliott Burke
In series: Rheumatism and Musculoskeletal Disorders
Hardcover: 978-1-63485-509-9. $190.00.
Osteoporosis is a skeletal disorder characterized by low bone mass and the microdeterioration of bony tissue. In this book, Chapter One reviews the role and function of HDACs of different classes in different kinds of bone cells including osteoblasts and osteoclasts. Chapter Two evaluates the current state of research on mastocytosis-induced osteoporosis, and offers an overview of state of the art therapeutic measures. Chapter Three examines osteoporosis and the stomatognathic system. Chapter Four summarizes and critically appraises today’s knowledge on osteoporosis from a dental perspective, and suggests directions for future research. Chapter Five discusses dental treatment of a patient with osteoporosis. Chapter Six reviews the treatment of osteoporotic fractures.

Pituitary Adenoma: Pathophysiology, Diagnosis and Treatment Options
Dimitrios N. Kanakis (Department of Pathology, Medical Faculty, Democritus University of Thrace, Greece)
In series: Endocrinology Research and Clinical Developments
Pituitary adenomas are benign neoplasms that are associated with a variety of endocrinological disorders, which in turn cause substantial difficulties not only in the physical health of the affected individuals, but also in their psychosocial state. Consequently, the imperative need for a prompt and accurate diagnosis of this tumor mobilizes investigators to concentrate and carry out their basic research in this particular area. Moreover, the wish to develop and try new therapeutic methods in daily practice brings together physicians from different medical disciplines; all of them cooperate harmonically to achieve the best for their patients. It is the intention of Pituitary Adenoma: Pathophysiology, Diagnosis and Treatment Options to illustrate the current scientific results regarding the pathogenesis and progression of this neoplasm and also to explain in every detail the diverse diagnostic and therapeutic modalities used nowadays. In order to accomplish this aim, leading specialists were invited to participate with certain topics in the book, according to their field of expertise. In brief, this completed work fulfills the initial expectations of the editor, the authors and the publisher, which are indeed glad to present this book to its wide intended audience. All of them are convinced that the content of its chapters will be a useful guide not only for medical professionals and students, but also for other neuroscientists exploring the secrets of pituitary adenoma’s pathogenesis.

Polycystic Ovary Syndrome (PCOS): Clinical Aspects, Potential Complications and Dietary Management
Bruce Cobbs
In series: Endocrinology Research and Clinical Developments
In series: Obstetrics and Gynecology Advances
2016.
Softcover: 978-1-63485-924-0. $95.00.
e-book: 978-1-63485-955-4. $95.00.
Polycystic Ovary Syndrome (PCOS) is known as a common gynaecological and endocrinology disease with multiple short and long-term consequences. It is one of the most common causes for hyperandrogenism and anovulation (therefore hirsutism, acne, menstrual dysfunction and infertility); increases the risk for metabolic syndrome, Type 2 diabetes and, still debated, cardiovascular disease. It represents a substantial psychological, social and economic burden for women’s reproductive life span. In this book, Chapter One reviews the aetiology and pathogenesis of the Polycystic Ovary Syndrome, with the objective to set the ground for future research that could help elucidate which patients have risk of developing the disorder and what triggers this risk, so strategies to prevent it could be found. Chapter Two focuses on the most recent studies about PCOS and the current models of its genetic pathogenesis. In addition, it emphasizes the significance of genetic factors and the possibility of developing plausible candidate gene families for diagnosis and to improve therapeutic approaches for PCOS treatment. Chapter Three evaluates the available therapeutic strategies for the treatment of women with PCOS also focusing on diet in order to assess the possible impact on the clinical effects associated with it. Chapter Four reviews the most recent data regarding useful and promising adjuvant therapies in PCOS and its mechanisms of action, in order to expand its use on those patients who do not respond to conventional management. Chapter Five focuses on current existing markers of Insulin resistance (IR).

Progress in PET Radiopharmaceuticals (Quality Control and Theranostics)
Sushil K. Sharma (Saint James School of Medicine, Kalendijk, Bonaire, Dutch Caribbean, The Netherlands)
In series: New Developments in Medical Research
Hardcover: 978-1-63485-134-3. $310.00.
This book describes classical and potential PET radiopharmaceuticals (PET-RPs) which can provide high-resolution 3D images in-vivo to simultaneously diagnose and treat the patient. This novel (theranostic) approach avoids futile therapies, unnecessary radiation exposure, and saves a lot of time, money, and energy. The most significant challenge is to properly build Cyclotron & PET RPs labs. Existing books offer insufficient knowledge to accomplish the full potential of these highly
specialized, expansive, and sophisticated labs, demanding in-depth knowledge, confidence, cooperation, a mutual understanding, adjustment, time management, team effort, patience, resilience, and dedication. A systematic approach is provided to integrate Cyclotron and PET-RPS labs, run the cyclotron properly, resolve technical problems efficiently, and maintain quality control (QC) without being exposed to an unnecessary radiation hazard due to repetitive run failure, innocence, ignorance, negligence, misconception, misunderstanding, and/or overconfidence. Described QC experiments can be globally reproduced in other labs. The contents provided are thought-provoking and motivate cyclotron engineers, basic scientists, radiopharmaceutical scientists, radiopharmacists, and physicians to develop novel PET-RPs in this challenging the era of Nanotheranostics. The most recent knowledge of potential PET-RPs in the early theranostics of cancer, cardiovascular diseases, neurodegenerative diseases, drug addiction, obesity, neurobehavioral disorders, rheumatoid arthritis, and chronic inflammatory illnesses is provided with currently limited treatment options. This unique, informative, and timely released book will act as a helpful guide; it is an applied textbook for basic biomedical students, scientists, researchers, teachers, doctors, administrators, and affiliated staff involved in current and future development of novel PET-RPs to accomplish personalized theranostics.

**Superbugs - Clostridium difficile and Klebsiella pneumoniae: Recognition, Prevention and Treatment**

* Candice Shelton*

In series: *Allergies and Infectious Diseases*


Hardcover: 978-1-63484-412-3. $110.00.


This book presents results of current research conducted in the I. Beritashvili Center of Experimental Biomedicine (former I. Beritashvili Institute of Physiology, Tbilisi, Georgia) and is devoted to the experimental investigation of systemic, cellular and molecular mechanisms of physiological functions and their disorders in pathology. More precisely, the results of the following studies are described and discussed: The new, original theory of the fourth main state of an organism’s vitality; memory impairments following excitotoxic lesions; biologically positive behavioral indices of the transition state, caused by informational stress and their pharmacological regulation; functioning of mechanisms responsible for perception constancy; peculiarities of EEG characteristics in individuals with attention deficit hyperactivity disorder; neuroanatomy and neurochemistry of the basic mechanisms for neocortical and hippocampal arousal; changes in learning ability and induction of aggressive behavior caused by manganese loading and ionizing radiation; hippocampal activity during learning in different behavioral paradigms; molecular mechanism of PARP-1 action; significance of the diencephalic GABAergic neurons in normal and pathological activity of the brain; cellular mechanisms of antinociceptive tolerance; thermal stability of model globular protein; kinetic features of transport ATPases; antiseizure drugs and EEG in epileptic patients; effect of depak in EEG epileptiform elements; how six domains form one enzyme; therapeutic potential of extracellular ubiquitin; effect of tolenuen chronic exposure on hippocampal structure; and the mechanisms of local hyperthermia caused by morphological changes in cerebral tissue.


* Ian McDonald (Fellow, Royal Australsian College of Physicians)*

In series: *New Developments in Medical Research*


Hardcover: 978-1-63484-256-3. $270.00.

e-book: 978-1-63484-257-0. $270.00.

This book is an account of criticism and controversy surrounding modern medicine. Chapter One provides an overview of the contents. Chapter Four explains the contribution of the concept of 'paradigm' to the analysis provided. The argument is that, for all its fine accomplishments in medicine, the science has also damaged the art. This view is an echo of views expressed by eminent physicians early in the last Century, including William Osler and Francis Peabody. Concrete evidence of an ailing doctor-patient relationship is manifest in the form of some serious clinical problems. These include patient dissatisfaction, failure to take prescribed medication, failure of a doctor's reassurance of normality to allay anxiety, resort to alternative medicine, use of patient advocates and 'defection' to alternative medicine. These we see as, not only damaging to treatment and health outcome, and very expensive, but indicators of a basic lack of trust. To compound the problem, the clinical process is essentially hermeneutic; an interpretive exercise. Hence it cannot be studied without interview and qualitative data analysis. Such methods are also indispensable for the understanding of the doctor's management decisions, particularly the social context. The science of medicine is well served by biomedical research and education which has recently been reinforced by the rise of clinical epidemiology and evidence-based medicine. Of great concern is that the skills of sociology and the humanities have been spurned, even denigrated as 'journalistic' or 'unscientific'. Not only has this prevented physicians from fully understanding the patient's medical views and social predicament, but has robbed us of the 'humanistic' research methods needed to research the problems. These problems cannot be explained simply as side-effects of the impact of science. Rather there are much deeper currents. In Thomas Kuhn’s terms, medicine shifted paradigm from superstition to rationality in Ancient Greece, and again to scientific modern medicine at the time of the French Revolution. Medicine, it seems, is on the cusp of a further paradigm shift to a postmodern paradigm. The goal is that
this brings the necessary balance between the already revitalized science and the ancient art of medicine. To achieve this, the establishment of ‘centres for the study of clinical practice’ to train ‘reflective physicians’, who will lead ‘clinical practice research’, with multidisciplinary studies of the process of clinical care is needed. This will mean applying research methods of empirical science, clinical epidemiology, biostatistics and evidence-based medicine, already in progress and, in cooperation with relevant academics hosted by the centre, interview techniques involving qualitative analysis or any other appropriate methods. An important function is to act as a catalyst to inject social science and humanities into the current modern medical curriculum.

The Origin of Diseases
Yun-Chul Hong (Daehakno, Chongno-Gu, Seoul, South Korea)
In series: Pain and its Origins, Diagnosis and Treatments
Softcover: 978-1-63485-781-9. $89.00.
While covering human history, civilization, and diseases to reveal why humans are sick with many ailments, this book provides the answers to the questions: “When, why, and how did humans contract all kinds of infectious and chronic diseases?” The increasing occurrence of chronic diseases such as obesity, diabetes mellitus, asthma and cancer does not simply denote increment in the incidence of diseases, but a pathological phenomenon that reflects the condition of humanity’s current environment. With humanity’s graduation from the era of hunter-gatherers, infectious diseases and nutritional disorders started to appear at the beginning of the agricultural revolution. Humanity then shifted to an age of chronic diseases such as obesity, diabetes mellitus, asthma, and cancer, as they entered the era of affluence in the wake of the industrial revolution. Moreover, the disease pattern characterized by such chronic diseases is expected to change again soon to a new trend characterized by neurodegenerative diseases such as Alzheimer’s disease and Parkinson’s disease. When contemplating the path of disease development and transition, we should simultaneously consider two aspects of humanity: as a biological being who adapts to his or her surrounding environment, and as a cultural creator who transforms and recreates the environment, because the changes in human behavior have as much impact on the direction of disease transition as our genes and environment do. Therefore, only after we appropriately understand the history, environment, and disease development of humanity will we be able to establish an adequate strategy for coping with diseases. We would have the upper hand if we have a better understanding of the origin of diseases. In five sections, this book shows how to understand such diseases through the intertwined process within the wide framework of human history.

The Psychological Context of Labour Pain
Jaroslava Raudenska and Alena Javurkova (2nd Faculty of Medicine, Charles University and Department of Clinical Psychology, Motol University Hospital, Prague, Czech Republic)
In series: Pain and its Origins, Diagnosis and Treatments
In series: Obstetrics and Gynecology Advances
Softcover: 978-1-63483-825-2. $82.00.
e-book: 978-1-63484-397-3. $82.00.
This book, written by Jaroslava Raudenska and Alena Javurkova, is a clear example of how to fill a gap existing in medical literature in a way simple and understandable for everybody. It reveals information about labour, starting from the origin of the “psychoprophilaxis” methods, the different stages through which the delivery has been transformed from a natural, tribal and primordial event (similar to any of the mammals species), to a human experience, in which the sentimental, social, educational and cultural experiences play a pivotal role. It helps to summarise the evolution of humankind. Someone used to say that humankind has evolved much more from the late 1950s to the present than any other period in history. This also applies to the approach to labour and delivery. This is also the main reason why there has been such a tremendous reduction in perinatal mortality in the last six decades. The two authors have been excellent in focusing not only on the evolution of the approach to delivery, but also the pros and cons of different proposals that have come out to reduce pain, fear, and any other stressors surrounding the idea of delivering a baby. Their psychological approach is extremely well treated, but they do not forget also to focus on all the other aspects important to the wellbeing of pregnant women and their children. The main message, at least from the first chapters, is clear. Women must experience one of the most important moments of their lives in the best possible way. This is the main possibility to give them a positive background for their relationship with their children, especially in a chaotic society that is losing more and more values of the past. One of those values is the joy to experience a natural vaginal delivery that has been replaced, especially in some countries, by the increasing desire to have a caesarean delivery. For this topic, the authors have dedicated a lot of energy, focusing not only on the social causes for such a mistaken attitude, but also with a clear analysis of how to escape from such a trap. The hedonistic aspects of the topic is well focused on and is clearly directed toward a deep thought on how this can negatively influence the relationship between mother and child. This book is a precious tool for any of professionals involved in studying childbearing in health care systems.

Tinnitus: Epidemiology, Causes and Emerging Therapeutic Treatments
Joël Watson
In series: Otolaryngology Research Advances
Hardcover: 978-1-63484-154-2. $110.00.
Tinnitus is not a disease, but rather a symptom or condition characterized by a conscious perception of an unreal sound in the absence of external auditory stimulus. This ontological condition can modify everyday life in different ways: causing distress and annoyance, sleep disruption, anxiety and depression. The World Health Organization (WHO) describes tinnitus as a symptom of hearing disorder characterized by the sensation of buzzing, ringing, clicking, pulsations, grinding, hissing, roaring or other noises in the ear. This book provides current research on the epidemiology, causes and emerging treatments for tinnitus. The chapters include topics on the etiology of tinnitus; the role of temporomandibular disorders in the genesis of tinnitus; the hyperacusis, stapled reflex and recruitment phenomenon; tinnitus pathophysiology; pharmacological treatments; and transcranial magnetic stimulation therapy.

Uveitic Glaucoma
Stephen D. Anesi, Jamie Lynne Metzninger, Olga Cerón and C. Stephen Foster (Massachusetts Eye Research & Surgery Institution, Ocular Immunology & Uveitis Foundation, Harvard Medical School, Boston, MA, USA)
In series: Eye and Vision Research Developments
Hardcover: 978-1-63484-614-1. $160.00.
Uveitic Glaucoma provides an overview of the disease, as well as the pathophysiology, diagnosis, management, and an examination of the disease in specific populations. The term “uveitic glaucoma” is used to describe glaucoma associated with uveitis or ocular inflammation. It is an important, yet underappreciated condition, as uveitis and glaucoma separately account for a substantial proportion of cases of blindness worldwide. Their co-occurrence, however, provides an additional layer of complexity for patients and their treating ophthalmologists. In this publication, we emphasize a “hands-on” medical and surgical approach aimed at educating patients and practitioners with topic sections crafted in a concise, manageable way. Basic science concepts and disease pathophysiology, including chapters focused on aqueous humor dynamics, disease classification, and normotensive uveitic glaucoma, are thoroughly reviewed. A comprehensive discussion of diagnosis, clinical management, and treatment is also included. The step-ladder approach in treating the underlying disease, uveitis, is explained. Other topics of clinical interest, including pediatric uveitic glaucoma, uveitic glaucoma and pregnancy, and off-label medication use provide treatment and management guidance for special patient populations. This textbook is essential for both comprehensive ophthalmologists and specialists looking for more guidance in dealing with this complicated disease.

**Visually Impaired: Assistive Technologies, Challenges and Coping Strategies**

**Judy Estrada**

Hardcover: 978-1-63484-356-0. $110.00.
e-book: 978-1-63484-372-0. $110.00.

It is well-known that the most common and largely used assistive technology among the visually impaired community is the white cane. Many technologies have been proposed as alternative assistive devices to improve the autonomous mobility of people affected by visual diseases. Nevertheless, whatever is the physical quantity used by these active assistive technologies - mainly ultrasonic or optical sensors - they present many limitations and none of them adequately meets the international guidelines defined for the electronic travel aids and the specific requests coming from the visually impaired community. The first chapter of this book aims to provide an overview of the existing travel aids for people affected by visual diseases, discussing pros and cons of available technologies. The aim of the next chapter is to convince the reader that solutions based on mobile visual aid systems will answer a critical societal challenge. Chapter Three explores the use of electromagnetic technology in support of visually impaired athletes and runners. Chapter Four describes the present state of mobile technologies development taking into consideration the point of view of visually impaired people. Finally, the goal of the concluding chapter is to relate how the audio-description has been produced as a communication accessibility resource.

**Voice Disorders: Epidemiology, Treatment Approaches and Long-Term Outcomes**

**Derrick Welch**

In series: *Otolaryngology Research Advances* 2016. 130 pp.
Hardcover: 978-1-63484-413-0. $110.00.

This book focuses on the epidemiology, treatment and long-term outcomes of voice disorders. The first chapter proposes evidence based therapy for glottal incompetence, which reflects the dysfunction of the vocal folds on voice and swallowing. Chapter Two presents an overview of the epidemiology, diagnosis, management, extraction techniques, adjuvant medical therapy and prevention of laryngeal papillomatosis in children. Chapter Three presents the latest investigation results related to Speech and Language Pathology intervention in childhood dysphonia, and presents assessment protocols and therapeutic approaches commonly used in voice disorders within the pediatric population. Chapter Four provides a voice analysis of primary school pedagogues in the Czech region of Ostrava.

Nabajyoti Choudhury and Zarin Soli Bharucha
(Additional Director and H.O.D., Fortis Memorial Research Institute, Haryana, India)

In series: New Developments in Medical Research
Hardcover: 978-1-63484-978-4. $270.00.

There have been very rapid advances in scientific, technical, clinical, and administrative areas of transfusion medicine since the beginning of this millennium, which need to be propagated among the workers in the field. This book is a vital tool for managerial, technical, and clinical staff in understanding the specific issues in the subject, which provide information regarding the particular aspects in the three volumes of the book. This publication was intended to provide a helpful resource to many workers in the technical and clinical fields as well as trainees and academia in the subject of transfusion medicine. The authors from developed and developing countries have contributed their knowledge in current technology, clinical support, and managerial issues. Editors have applied special attention to select authors who have practical experience on working the ground level of their specialties, especially in developing countries. A total of eighty authors across the globe have contributed fifty chapters in this three-volume textbook. Translating scientific advances to the patient creates an exciting environment for training. The textbooks in transfusion medicine are expensive for graduate students in transfusion medicine, or from allied specialties. The chapters in all three volumes are concise and thorough in regards to the subject for the administrative, laboratory, and clinical practices. The editors and authors have endeavored much to provide practical and instructive chapters on the use of the volume textbook. Translating scientific advances to the patient creates an exciting environment for training. This book is divided into three volumes: Organization and Management, Basics of Blood Bank Practices, and Good Clinical Transfusion Practices. It is thus possible to procure/buy the volume required for a specific purpose from an interested person, either from transfusion medicine or from allied specialties. The chapters in all three volumes are concise and thorough in regards to the subject for the administrative, laboratory, and clinical practices. The editors and authors have endeavored much to provide practical and instructive chapters from which readers will be able to find useful and detailed information on the subject. The editors have taken care to incorporate the necessary topics by inviting authors experienced in those subjects to write chapters providing up-to-date information. Due care is taken in editing those chapters by the editors and their associates besides the language editor. All three volumes are easily readable and full of stimulating and enlightening informative material described by these experienced authors. This book will provide a helpful resource for supporting and improving technical skills of all those who work in the field of transfusion medicine. It will keep them abreast with latest developments for the management of transfusion medicine departments and laboratories as well as assuring quality, reliability, and safety in their workplaces. This compilation will serve as a textbook for graduate and post-graduate students in transfusion medicine, hematology (and transplantations), laboratory technology, biotechnology, clinical nursing, anesthesiology, internist, and management students in healthcare services. This textbook will also serve as a reference book for practitioners from the above specialties.

Acupuncture: Methods, Health Benefits and Effectiveness
Cynthia Hughes

In series: Alternative Medicine, Health and Wellness
Hardcover: 978-1-63485-599-0. $160.00.

Acupuncture is a traditional Chinese practice which heals disturbed energy flow throughout meridians with the use of acupuncture needles. It has gained growing popularity as an alternative and complementary therapeutic intervention in Western societies. This book reviews different methods, health benefits and the effectiveness of acupuncture based on current studies. Chapter One examines the use of acupuncture in oral medicine, while Chapter Two discusses its use in the treatment of variety of neuromusculoskeletal pain syndromes. Chapter Three introduces a novel approach for quantitative assessment of acupuncture based on surface electromyographs (sEMG) decomposition. The final chapter uses student-run medical clinics to provide a mutually beneficial acupuncture model for medical students and the chronically displaced populations.

Advances in Medicine and Biology. Volume 93
Leon V. Berhardt
In series: Advances in Medicine and Biology


The chapters in this volume of "Advances in Medicine and Biology," present the latest research in medical research. The book begins with a study on the effect artificial sweeteners have on inflammatory bowel diseases. The following chapter discusses the efficacy of thalidomide in the treatment of pulmonary disease. Chapter three focuses on human metabolic activation of thalidomide and analogs. Chapter four reviews the automatic control of brain temperature by surface cooling. Chapter five studies swimming anomalies in animals with cerebellar lesions. Chapter six demonstrates the effectiveness of a nuclear factor-kappa B (NF-kB) decoy oligodeoxynucleotide (ODN) for preventing restenosis after the coronary stent implantation using experimental studies and clinical trials. Chapter seven evaluates the impact of anosognosia on the short-term functional rehabilitation goals achievement in the acute ischemic stroke patients. Chapter eight studies evidence about electro-acupuncture's effectiveness, as well as its potential mechanism, on lower urinary tract (LUT) dysfunction. Chapter nine discusses periorbital necrotizing fasciitis. Chapter ten studies the etiopathogenesis of rotator cuff tears, while the final chapter provides rehabilitation approaches for rotator cuff injuries.

Advances in Medicine and Biology. Volume 94
Leon V. Berhardt

In series: Advances in Medicine and Biology
Hardcover: 978-1-63484-185-6. $190.00.

The chapters in this volume of "Advances in Medicine and Biology," present the latest research in medical research. The book begins with a review of the role of remifentanil in obstetric analgesia. The following chapter examines ocularmotor palsy after obstetric anesthesia. Chapter three discusses contemporary diagnostic procedures and the differentiation between benign and malignant ovarian cysts. Chapter four provides a comprehensive overview of available information on dog ovarian cysts. Chapter five examines papain-based various tissue samples. Chapter six and seven summarize the current understanding of the pathophysiology of pruritus associated with jaundice and the currently available treatment options for the condition, and discuss the rare causes of obstructive jaundice. Chapter eight highlights all aspects that have been studied by various workers affecting the stability of saccharamide, particularly, in pharmaceutical systems. Chapter nine examines post-traumatic inflammation of the white matter. Chapter ten reviews the role of dexamethasone before, during and after the surgery, using in vivo and clinical studies. Chapter 11 discusses the 0.7-mg dexamethasone intravitreal implant for the treatment of posterior noninfectious uveitis. The last chapter provides research on the advances and challenges in the structural analysis of milk biomolecules using modern mass spectrometry techniques.

Advances in Medicine and Biology. Volume 95
Leon V. Berhardt

In series: Advances in Medicine and Biology
Hardcover: 978-1-63484-348-5. $190.00.

The chapters in this volume of "Advances in Medicine and Biology," present the latest research in medical research. The first chapter provides a review on the isolation of mitotic chromosomes from HeLa and other cells. Chapter Two discusses many new hormonal and non-hormonal contraceptive approaches for men. Chapter Three studies the risk factors associated with smoking during pregnancy. Chapter Four presents implications of Bovine Viral Diarrhoea Virus (BVDV) in cell cultures and bioproducts for human and animal health. Chapter Five reviews the different mechanisms associated with BVDV infection, by which BVDV triggers an impairment of the immune response, with special emphasis on its implication in the development of bovine respiratory disease complex (BRD). Chapters Six and Seven examine the the diagnosis, prognosis, management and emerging treatments for Polycythemia vera (PV). The last chapter reviews evidence from experimental and clinical studies to show the potential effect of tea polyphenols on the prevention of cardiovascular disease (CVD).

Advances in Medicine and Biology. Volume 96
Leon V. Berhardt

In series: Advances in Medicine and Biology

The chapters in this volume of "Advances in Medicine and Biology," present the latest research in medical research. The first chapter provides recent findings from animal studies and human intervention studies are reviewed and evaluated with respect to the preventive/protective effects of cranberries against metabolic syndrome, type-2 diabetes, and cardiovascular disease. Chapter Two discusses the use of the North American cranberry to decrease matrix metalloproteinase activity in aortic smooth muscle cells in vitro, which occurs via modulation of key cellular signaling activities. Chapter Three examines how dietary whole cranberry modulates plasma cholesterol profiles and prevents liver toxicity in response to cholesterol-feeding in the JCR. Chapter Four discusses the known characteristics and functions of macrovascular pericytes and describes the role of these cells in the development of atherosclerotic lesions. Chapter Five reviews the putative role of pericytes in thyroid gland and rare/orphan thyroid tumors. Chapter Six discusses the synthesis, regulation and physiological effects of the luteinizing and follicle-stimulation hormones in women. Chapter Seven presents the epidemiology of legionellosis as well as clinical features and control strategies of the microorganism. Chapter Eight provides insights on neuronal vulnerability and astrocytic abnormalities during stroke. Chapter Nine provides an overall perspective of Chronic Kidney Disease (CKD) and the potential role of the Scientist in the Community. Chapter Ten describes the active regulatory process that maintains corneal avascularity, describes the pathogenesis of the neovascular process, provides an overview of the most common aetiologies of corneal neovascularization (CoNV), as well as current and future treatments available. Chapter Eleven describes the clinical, histological, and molecular changes occurring in the skin after ultraviolet radiation (UVR) exposure, and reviews the specific cellular and biochemical mechanisms contributing to the clinical phenotype of photoaged skin. The last chapter studies medication error reduction at transitions of care through a better multiclinical intervention.

Advances in Medicine and Biology. Volume 97
Leon V. Berhardt

In series: Advances in Medicine and Biology
Hardcover: 978-1-63484-710-0. $190.00.

The chapters in this volume of "Advances in Medicine and Biology," present the latest research in medical research. Chapter One provides an overview of molecular biology approaches for Dengue diagnosis and research in Brazil. Chapter Two identifies host factor predictors and clinical determinants associated with Dengue Fever versus Dengue Hemorrhagic Fever in an adult population. Chapter Three summarizes the symptoms, risk factors, diagnostic approaches, and treatment of gastro esophageal reflux disease (GERD) in children, from a pulmonary perspective. Chapter Four provides a brief overview on the role of some potential dietary natural products in the prevention of GERD and treatment with particular reference to the findings of the latest preclinical investigations or clinical trials. Chapter Five investigates the mechanism of onset of syringomyelia, a disease that produces fluid-containing cavities in the parenchyma of the spinal cord, and proposes strategies for its prevention and treatment. Chapter Six examines the role of bioactive compounds in the modulation of the gut microbiome and the potential implications for the treatment of inflammatory bowel diseases. Chapter Seven discusses the emerging role of stem cells in regenerative medicine, with a focus on their potential applications in the treatment of chronic diseases. Chapter Eight reviews the latest advances in the understanding of the molecular basis of Parkinson's disease, with a particular emphasis on the role of protein aggregation and neuroinflammation in disease progression. Chapter Nine provides an overview of the latest developments in the field of cancer immunotherapy, including the use of checkpoint inhibitors and adoptive T-cell therapy. Chapter Ten examines the potential role of immunomodulatory drugs in the treatment of autoimmune diseases, such as multiple sclerosis and rheumatoid arthritis. Finally, Chapter Eleven discusses the ethical and societal implications of advances in regenerative medicine, with a focus on the challenges of scaling-up stem cell therapies for widespread use. Overall, "Advances in Medicine and Biology. Volume 97" offers a comprehensive overview of the latest research in medical research across a wide range of disease areas, providing important insights for researchers, clinicians, and policymakers alike.
cord, using an adhesive spinal arachnoiditis model created by injection of kaolin into the subarachnoid space. Chapter Six outlines the approach to syringomyelia that starts with a functionally oriented classification based on the underlying cause of the syrinx and its accompanying specific cavitary pattern, and it also elucidates the main pathophysiological mechanisms involved and suggested in the formation and propagation of the cavitation. Chapter Seven summarizes the prevalence and virulence characteristics of L. pneumophila in aquatic environments including natural and artificially-controlled water environments such as hot springs in Japan. Chapter Eight discusses the basic biomechanical characteristics and forces acting on the ankle under static conditions and their influences on artificial total ankle replacement designs. The authors of Chapter Nine suggest that the adverse tissue reaction to aseptic loosening of arthroplasty can serve as a reliable clinical model, which has a considerable prevalence and adequately represents the toxicity of nanomaterials in the human body. They also discuss how to better make use of previous and ongoing models for nanotoxicology study. Chapter Ten describes the nasal deformities associated with congenital clefting and outlines the timing and techniques used to correct these deformities. Chapter Eleven presents the technique and results of augmentation rhinoplasty with silicone implant in Asians. Chapter Twelve discusses surgical treatment of resectable, borderline resectable and locally advanced unresectable pancreate. They also present a practically oriented overview of principal problems of diagnostic and therapeutic pitfalls in pulmonary embolism (PE) affecting elderly patients from the point of view of a geriatrician. The final chapter examines the negative side effects of Zolpidem, a medication often used for insomnia.

Advances in Medicine and Biology. Volume 98
Leon V. Berhardt

In series: Advances in Medicine and Biology
2016. 192 pp.
Hardcover: 978-1-63484-939-5. $190.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One provides a detailed overview of the epidemiology, pathogenesis, clinical manifestations, diagnosis, and treatment of mucormycetes as causative pathogens of osteomyelitis. Chapter Three describes the bilateral estimation between muscle activation and joint movement with muscle synergy extraction via non-negative matrix factorization. Chapter Five examines lupus anticoagulant and lupus nephritis. Chapter Six discusses multi-systemic effects of the thyroid hormone. Chapter Eight examines the ultrasonic findings of the 'tulip sign' in a fetus with Chiari II malformation. Chapter Nine examines pterygium surgery. Chapter Ten discusses cAMP-Me2+DNA complex on gene induction and signaling for coupling the environment stimulus to produce variety and its impact on evolution. The final chapter, Chapter Eleven, addresses the importance of hand-washing and the requirements that should be adopted in relation to this procedure in the field of food handling to prevent foodborne diseases.

Advances in Medicine and Biology. Volume 99
Leon V. Berhardt

In series: Advances in Medicine and Biology
2016. 182 pp.
Hardcover: 978-1-63485-080-3. $190.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One highlights the potential and limitations of the zebrafish model for studying lipopolysaccharide (LPS)-induced inflammation and endotoxin tolerance (ET). Chapter Two evaluates the health benefits and risks of shellfish consumption. Chapter Three provides an overview of Chiari malformations (CMI), discusses the diagnosis and surgical treatment options, and shares the authors' institutional experience with the treatments of CMI. Chapter Four provides an overview of the current state-of-the-art on the effects of PolyChlorinated Biphenyls (PCBs) exposure during embryonic development and the potential long term effects associated with PCB exposure. Chapter Five examines the tissue reaction to acellular implants in acute spinal cord injury. Chapter Six reviews plantar fibromatosis. The last chapter discusses the optimal breathing technique for relaxation.

Advances in Medicine and Biology. Volume 100
Leon V. Berhardt

In series: Advances in Medicine and Biology
Hardcover: 978-1-63485-304-0. $250.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One reviews the medicinal uses of Astragalus, clinical trials, its effects on human health, and the potential side-effects resulting from its use as complementary and alternative medicine. Chapter Two, links between pharmacological activities and structural traits (including aglycone type, substitution types, positions and levels) are statistically highlighted by means of comparison between active and non-evaluated saponins. Chapter Three explores the underlying pleura anatomy and physiology, pathogenesis and etiology of pleurisy, including identification, assessment and management of the condition. Chapter Four discusses the potential effects on result offspring. Chapter Five presents the latest developments in medicine and biology. Chapter Six reviews general ethical aspects of neonatal cardiopulmonary resuscitation (CPR), including cultural and contextual factors of importance for CPR performance. Chapter Seven examines the main pathological complications in new-onset diabetes mellitus after kidney transplantation. The final chapter discusses the point of care critical ultrasound in emergency care medicine.
noise-resistant device for driving the location of targeted molecules inside the cell.

**Advances in Medicine and Biology. Volume 102**
*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*


Hardcover: 978-1-63485-662-1. $250.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One reviews epigallocatechin-3-gallate in autoimmunity. Chapter Two discusses the detection of hepatic and breast cancer stem cells through concurrent monitoring of multiple markers using an acousto-optical tunable filter (AOTF) and quantum dots. Chapter Three examines differential roles of the α4β2- and α7 nicotinic acetylcholine receptor subtypes. Chapter Four focuses on thermodynamic and chemicometric descriptions of molecular interactions over hydrogen bonds in micelles of bile acid anions. Chapter Five studies interactions between organic molecules on silicon surface by means of the rate theory and an in situ measurement using a quartz crystal microbalance (QCM). Chapter Six discusses sleep in Lewy body diseases. Chapter Seven addresses the issue of artificial skin in wound healing and reconstruction of damaged organs. Chapter Eight reviews the current immunosuppression and immunosuppressive monitoring for better understanding and guiding physicians in clinical practice of kidney transplantation.

**Advances in Medicine and Biology. Volume 103**
*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*


Hardcover: 978-1-63485-652-2. $250.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One summarizes the recent knowledge on the effects of carnitine on hyperammonemia in patients with liver cirrhosis and non-alcoholic steatohepatitis (NASH). Chapter Two discusses the role of Acyl/Free carnitine ratio on uremic cardiomyopathy in chronic hemodialysis patients. Chapter Three investigates the possible application of lactic acid bacteria (LAB) during milk fermentation in relation to ACE-I inhibitory peptides. Chapter Four focuses on black tea and the effect of the addition of milk on the antioxidant activity of black tea. Chapter Five clarifies the current status of aortic valve stenosis therapeutics and defines its main advantages and problems related to the current option of treatment to better understand how to deal with patients at intermediate risk for conventional surgery. Chapter Six reviews clinical signs, diagnosis and topical therapy of dermatophyte infections. Chapter Seven focuses on species, subtypes, differences in pathogenicity and clinical manifestations, and mathematical methods for DNA sequence analysis of human cryptosporidiosis. Chapter Eight reviews global health security for the control of emerging infectious disease outbreaks.

**Advances in Medicine and Biology. Volume 104**
*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*

2016.

Hardcover: 978-1-63485-785-7. $250.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One provides an overview of the evolution, development and production of aquaculture vaccines. Chapter Two discusses chronic fungal rhinosinusitis. Chapter Three focuses on congenital disorders that cause ophthalmoplegia. Chapter Four discusses the roles of the inflammation amplifier and gateway reflexes in chronic inflammation. Chapter Five examines the clinical features, occurrence and treatment options of pyogenic granulomas. Chapter Six focuses on the biological aspects, that is the effects of sex steroids and sex steroid-related changes, on biological responses to social stress. Chapter Seven reviews male and female diet compositions of elasmobranch species. Chapter Eight provides a review of the prevention and treatment of morbid obesity. Chapter Nine explores the mechanistic underpinnings of recently-identified centrosome functions and the consequences of their disruption in human disorders such as microcephaly, cancer, ciliopathies, inflammation, diabetes and obesity. Chapter Ten investigates the migration behavior of functional melanocytes (MCs) in extracellular matrix proteins after Nd:YAG laser irradiation, and demonstrates the relevant mechanisms involved in repigmentation.

**Advances in Medicine and Biology. Volume 105**
*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*

2016.

Hardcover: 978-1-63485-929-5. $190.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One reviews creatinine in obstetrics. Chapter Two studies urinary creatinine analysis by liquid chromatography tandem mass spectrometry. Chapter Three discusses hormonal and metabolic disorders as links between obesity and cancer risk in men and women. Chapter Four presents and discusses a review of intraocular pressure (IOP) fluctuations in diverse animal models and humans in the context of aqueous humor dynamics and glaucoma. Chapter Five discusses physicochemical and pharmacological properties of Scabiosa L. genus. Chapter Six discusses new candidate biomarkers, their role in pathogenesis and describes future directions in developing algorithms that will improve the ability to predict the development of clinically relevant graft versus host disease (GVHD). Chapter Seven presents a short review of the current situation of ecological-genetic research with the use of environmental DNA. Chapter Eight reviews the literature that informs our understanding on how trypanosomes monitor and respond to nutrients in their environment, with a focus on a key metabolite, glucose. The goal of this chapter is to address the mechanisms that enable the parasites to respond to differences in availability of this critical nutrient in the suite of niches they occupy. Finally, Chapter Nine discusses bovine trypanosomosis prevalence and its vectors density in the major cattle rearing regions of Cameroon.

**Advances in Medicine and Biology. Volume 106**
*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*

2016.

Hardcover: 978-1-63485-960-8. $190.00.

The chapters in this volume present the latest developments in medicine and biology. Chapter One provides an overview of various important sweat gland tumors. Chapter Two discusses different benign and malignant lesions of the sweat glands, their diagnosis and management along with the pertinent review of literature to guide the readers about this rare group of disorders. Chapter Three reviews strength exercise and cardiometabolic health. Chapter Four discusses the importance of muscle function and the role of exercise training in muscle performance. Chapter Five reviews results reported in different clinical studies and animal models to provide a comprehensive picture of the role of physical exercise in Parkinson's disease. Chapter Six provides updates on anticancer activity of triterpenoids, their activities in health benefit, as well as the current situation of the triterpenoids synthesis. Chapter Seven focuses on the improvement of defective cellular glucose uptake by the upregulation of estrogen signaling. Chapter Eight evaluates the effect of Cervical Intraepithelial Neoplasia (CIN) lesion excision to non-clinically treated 25 years old diagnosed with CIN-2. Chapter Nine discusses current and future directions for the risk factors of pregnancy-associated severe sepsis. Chapter Ten examines species-specific detection of adulterant in milk.
which will ultimately help in value addition to milk as well as milk products.

Advances in Medicine and Biology. Volume 107
Leon V. Berhardt
In series: Advances in Medicine and Biology 2016.
Hardcover: 978-1-53610-056-3, $190.00.
e-book: 978-1-53610-074-7, $190.00.
The chapters in this volume present the latest developments in medicine and biology. Chapter One reviews the antitumor effects of lithium carbonate. Chapter Two analyses the current evidence on the role of epigenetic mechanisms involved in the progression of various types of cancer and their clinical relevance. Chapter Three examines pregnancy and hemodialysis. Chapter Four focuses on the pharmacokinetics, efficacy and safety of levonorgestrel. Chapter Five discusses challenges and management of childhood obesity in the United Kingdom. Chapter Six reviews dynamic and integrated synaptic processing in sex-steroid sensitive median amygdala of female rats. Chapter Seven studies the characterization of anti-coxsackie virus B3 constituents of Scabiosa arenaria Forsk by reversed phase-high-performance liquid chromatography. Chapter Eight provides a review of risk factors, diagnosis and management of congenital upper limb anomalies. Chapter Nine summarizes the current knowledge on genetics, environmental factors, clinical characteristics, medical, laser and surgical treatment options of exfoliation syndrome and exfoliative glaucoma.

Alternative Medicine: Perceptions, Uses and Benefits and Clinical Implications
Evan Paul Cherniack, and Tass Holmes (Department of Medicine - Division of Gerontology and Geriatric Medicine, and School of Social and Political Sciences, The University of Melbourne, Australia)
Hardcover: 978-1-63484-826-8, $160.00.
Complementary and Alternative Medicine (CAM) today attracts significant attention through online health and consumer forums, professional CAM-practitioner associations and conferences, the recent growth in integrative biomedicine, and through the influence of advertisements and documentary presentations in mass media. A majority or large minority of consumers in developed countries regularly resort to professional CAM for supportive treatment for sickness in the form of chiropractic, osteopathic, prescribed dietary changes, acupuncture, massage, homeopathy, naturopathy and herbal medicine, and also use numerous associated lifestyle practices such as vegetarianism, nutritional supplementation, yoga and tai chi for self-treatment and to maintain general wellbeing. Many leading health insurance funds now provide generous rebates against out-of-pocket fees paid by consumers for private-sector CAM consultations. Furthermore, populations of developing countries continue to depend heavily on traditional herbal medicine and psycho-spiritual practices for their healing, on account of pharmaceutical treatments being often unaffordable or unavailable to them. Chapters of this book include literature reviews (such as study findings about the benefits of CAM for elderly persons and of laughter therapy, from the USA, and herbal treatments for pain, in Mauritius), and original studies (poor CAM consumers in Australia, the location of naturalists’ practice in Canada, and the use of mindfulness meditation among nursing students in Scotland). Study findings presented here are enjoyable in their diversity, and add to contemporary literature both by presenting common perceptions about CAM, by engaging in discussion of its prevalence and popularity in diverse contexts, and the contentious topic of placebo effect and the questions that arise as to how to prove effectiveness for alternative healing methods, while reviewing some potential clinical benefits.

Alternative Medicine Research Yearbook 2015
Joav Merrick, M.D. (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
In series: Health and Human Development
In this yearbook we have many interesting chapters and topics. We start out with chapters on psychocutaneous disorders from different points of view. Then we move to the newborn period with chapters on evaluation and screening of the newborn, prematurity, circumcision and environment. Then we move into specific health issues in the new born period and end up with several chapters on cost-benefit, sleep disorders, immunizations and more. It is our hope that you will find the content of interest.

Autoimmune Hemolytic Anemia (AIHA): Symptoms, Diagnosis and Treatment
Jean Harmon
In series: Recent Advances in Hematology Research 2016. 92 pp.
Softcover: 978-1-63484-838-1, $82.00.
e-book: 978-1-63484-856-5, $82.00.
Hemolytic anemia is a clinical condition where red blood cell (RBC) destruction exceeds the ability of the body to supply new ones. In immunohemolytic anemia, the causes of the destruction are antibodies against RBC antigens. These antibodies may be either alloantibodies (isooantibodies), transfused or transferred across the placenta (e.g., in hemolytic anemia of the newborn), or autoantibodies (in AIHA). Once formed, these antibodies bind to the surface of RBCs, marking them for destruction in the blood vessels (intravascular hemolysis) and/or for elimination by phagocytosis by macrophages in the reticulo-endothelial system (extravascular hemolysis). This book presents current research on the symptoms, diagnosis and treatment of AIHA. Chapter One examines oxidative stress in AIHA. Chapter Two discusses AIHA in primary immunodeficiency disorders, while Chapter Three studies AIHA in cancer disorders. Chapter Four reviews AIHA post solid organ transplants. The final chapter reviews the incidence, possible pathophysiology, clinical presentations, management strategies and challenges and outcome after an allogeneic hematopoietic stem cell transplant.

Forensic Medicine: Fundamentals, Clinical Perspectives and Challenges
Edith J. Hammond
In series: New Developments in Medical Research 2016. 115 pp.
Softcover: 978-1-63485-283-8, $82.00.
This book provides current research on the fundamentals, clinical perspectives and challenges of forensic medicine. Chapter One reviews recent literature about the technologies that can be used to predict Externally Visible Characteristics through Forensic DNA Phenotyping (FDP). Chapter Two examines energy dispersive X-ray fluorescent spectrometry (EDX) for multi-element analysis. Chapter Three reviews the legal doctrine of informed consent in Italy. Chapter Four describes
the Italian situation about the evaluation of dental damage, focusing attention on the renewals of treatment and the cases worthy of compensation. An original position about the quantification of permanent biological damage of the teeth used as prosthetic abutments is also presented.

Nonemergency Medical Transportation: Program Features and Issues
Trevor Davis
In series: New Developments in Medical Research
Medicare and Medicaid provide nonemergency medical transportation (NEMT) services to eligible beneficiaries who need transportation to scheduled nonemergency care. The Centers for Medicare & Medicaid Services (CMS) administers Medicare NEMT benefits and is responsible for overseeing Medicaid at the federal level. Spending on NEMT under these programs was $2.7 billion in 2013—$1.2 billion for Medicare and $1.5 billion for Medicaid. Increased demand for NEMT because of increased Medicaid enrollment has led states to seek ways to more efficiently operate NEMT. This book examines key features of NEMT services under Medicare and Medicaid and how these services are delivered; steps CMS has taken to oversee NEMT under Medicare as well as Medicaid; and the challenges that exist in providing NEMT under Medicaid and steps that selected state Medicaid agencies have taken to address those challenges.

Recent Advances in Eye Research
Adelle Hogarth
In series: Eye and Vision Research Developments
Retinitis pigmentosa (RP) is a human disease characterized by loss of photoreceptor cells, especially rods, leading to visual disturbance and eventually blindness. Effective treatments for controlling RP remain unavailable. Infectious keratitis is a visual threatening eye condition of the cornea that can cause severe visual loss if not appropriately managed in a timely manner. Only 50% of the eyes will enjoy good visual recovery if antibiotic treatment is delayed. Causative pathogens include bacteria, virus, fungus, protozoa and parasites. A number of risk factors have been identified for microbial keratitis, including contact lens wear, recent ocular surgery or ocular trauma, ocular surface disease, dry eyes, eyelid deformities, corneal sensation impairment, chronic use of topical steroids and immunocompromised states. This book discusses the prevalence, symptoms and treatment options of eye disorders.

Sickle Cell Anemia: Modern Trends in Treatment
Intsar S. Waked and Amal A. Alotaibi (Associate Professor of Physical Therapy, Assistant Professor of Medical Genetics, College of Applied Medical Sciences, Almajmaah University, Kingdom of Saudi Arabia)
In series: Recent Advances in Hematology Research
In series: Physical Medicine and Rehabilitation
Sickle cell disease (SCD), an inherited hemolytic anemia, is associated with multiple acute and chronic complications such as painful vasoocclusive events, cerebral vasculopathy, priapism, and renal or lung disease. These complications are variable and unpredictable, and can be associated with significant morbidity and poor quality of life.

This book covers several areas regarding pathology, diagnosis, complications, signs, symptoms and medical treatments. There are few studies in literature on the role of physiotherapy as a resource to prevent and treat locomotor system disorders, respiratory problems and painful crises in SCD individuals. This book highlights the role of physiotherapy in sickle cell anemia. A comprehensive and authoritative monograph, this book will be equally interesting to both established researchers and to graduate students interested in both genetics and the physical therapy field.

The Family Doctors: Images and Metaphors of the Family Doctor to Learn Family Medicine
José Luis Turabian and Benjamin Perez-Franco (Medico de Familia, Tutor de Residentes, Centro de Salud Poligono Industrial, SESCAM, Toledo, Spain)
In series: Professions - Training. Education and Demographics
Medicine is often learned through a mechanistic metaphor of biology and a military metaphor of war. However, the conceptual elements and skills that promote the mastery of family medicine, such as contextual knowledge, continuity of care, the clinical interview, comprehensiveness, coordination, and so on, are often difficult to explain and to understand. Furthermore, these fundamental concepts of family medicine have nothing to do with the metaphor of the machine or the metaphor of war. In this book, these concepts are explained through metaphors that are more explanatory, nicer, sweeter, and more playful. Thinking based on metaphors and comparisons is a way of making a concept so suggestive, interesting and surprising that it reaches people more easily. The value of family medicine lies in its distinctiveness from academic medicine; it is a unique discipline that defines itself in terms of relationships, especially those between the doctor and patient. Family physicians tend to think in terms of individual patients rather than of abstractions and generalizations, and family medicine is based more on the metaphor of an organism rather than that of mechanistic biology. Family medicine is unique in the medical arena in that it transcends the duality of body and mind. Thus, the family doctor should be encouraged to use a non-conventional form when thinking about the problems that are presented in the consultation (for example, thinking on the basis of metaphors).

TOXICOLOGY: The Past, Present, and Future of Basic, Clinical and Forensic Medicine. Volume 1
Rajat Sethi, Chandra Kollri and Delvar Hussain (California Health Sciences University, Clovis, California, USA)
In series: New Developments in Medical Research
This book offers readers an overview of the field of toxicology while incorporating historical context with present day advances. The chapters, written in a style that facilitates the reader’s connection of past developments with the present state-of-the-art practices in specific fields of toxicology, provide a detailed coverage of diverse areas in toxicology. The areas of chapters chosen for detailed discussion are characteristic of the overall field and helps to reinforce the basic principles of toxicology. As such, this book will be a valuable resource not only for those scientists in the field of toxicology, but also for those in related fields (e.g., pharmacology, physiology, microbiology, biochemistry, immunology and others). Additionally, this book will be a valuable resource for teaching graduate students in not only toxicology, but also in the related fields above. While this book is not
NEUROLOGICAL DISORDERS

Considering Consciousness Clinically
Gerry Leisman, and Joav Merrick (Director, The National Institute for Brain and Rehabilitation Sciences, Biomechanics Laboratory, Dept. of Mechanical Engineering, ORT-Braude College of Engineering, Karmiel, Israel)

In series: Functional Neurology
Hardcover: 978-1-63484-260-0. $190.00.

Disorders of consciousness (DOC) represent one of the most complex and crucial challenges for neuroscientists. A precise and reliable assessment of the arousal and awareness of consciousness in patients with severe brain damage would allow for a comprehensible classification of DOC. Intensive care has led to an increase in the number of patients who survive after severe acute brain damage. Most comatose patients who survive begin to awaken and recover gradually within 2–4 weeks. Although some of these individuals gradually experience complete brain function loss which leads to brain death (BD), oftentimes this state is treated as synonymous with the death of the individual. Nonetheless, other individuals progress to “wakeful unawareness”, which is defined as a vegetative state (VS). DOC terminology may be useful clinically, but does little to explain the nature of consciousness. While it is not known which portions of the brain are responsible for cognition and consciousness, what little is known points to substantial interconnections among the brainstem, subcortical structures and the neocortex. Thus, the “higher brain” may well exist only as a metaphorical concept and not in reality.

Dyslexia: Perspectives, Challenges and Treatment Options
Marilyn Frazier

In series: Neurodevelopmental Diseases - Laboratory and Clinical Research
2016. 269 pp.
Hardcover: 978-1-63485-328-6. $160.00.

Dyslexia is a reading disability in which speed and accuracy in word decoding is impaired. It is usually accompanied by spelling and/or arithmetic difficulties. This book discusses the perspectives, challenges and treatment options available for dyslexia. Chapter One reviews dyslexia from its definition and neurobiological basis to the neurophysiology and central auditory processes. Chapter Two examines how dyslexia affects perception of academic performance in elementary school pupils and how it affects their sociometric position in the classroom. Chapter Three reviews dyslexia from an educological perspective. Chapter Four investigates the views of parents of pupils with dyslexia concerning their collaboration with teachers. Chapter Five describes and compares the responses of parents and teachers of Brazilian and Italian Dyslexic’s students about learning skills. Chapter Six outlines the key findings from the Dyslexia and Multilingualism project (Mortimore et al, 2012) focusing on the challenges and lessons learnt from a research project on a literacy intervention for vulnerable learners with English as an additional language in English primary schools. It also focuses on issues relating to screening processes and assessments used for identifying SpLD/dyslexia within complex multilingual schools. Chapter Seven investigates whether Brazilian students with developmental dyslexia could be classified according with subtypes. Chapter Eight discusses new assessment trends and challenges for the future of dyslexia. Chapter Nine examines complexities and challenges of selecting participants for dyslexia studies. Chapter Ten discusses the use of children’s literature as a resource tool to help such children address their psychosocial-emotional needs. Chapter Eleven discusses diagnostic interventions by operationalizing the definition of dyslexia. Chapter Twelve describes the development of the neuropsychological rehabilitation program in executive functions for students with dyslexia. Chapter Thirteen examines the integration of proprioceptive signals, postural control and dyslexia. Chapter Fourteen provides a few remarks on magnocellular responses and brief stimuli. The final chapter provides a synthesis of research concerning the socio-emotional dimension of Dyslexia in adulthood.

Facial Paralysis: Clinical Features, Management and Outcomes
Keith Aguilar

In series: Neurology - Laboratory and Clinical Research Developments
2016. 182 pp.
Hardcover: 978-1-63484-786-5. $110.00.

The facial nerve is arguably one of the most important cranial nerves as its injury may result in not only the inability to produce voluntary facial expressions but also the loss of protective eyelid closure and glandular secretions. Facial nerve injuries present a multitude of serious problems for patients that may hugely impact their quality of life and general health including: difficulties with eating or drinking, loss of articulate speech, ocular injury and significant psychosocial morbidity. This book examines clinical features, management and outcomes of facial paralysis. Chapters One and Two discusses the anatomy of the facial nerve, the possible causes of facial nerve palsy, how to assess and diagnose facial palsy, and reviews management options of facial paralysis. Chapter Three studies facial palsy in otitis media. Chapter Four discusses the association between the different techniques for achieving symmetry recovery in facial palsy patients. Chapter Five reviews the surgical management of static and dynamic rehabilitation of facial paralysis. Chapter Six assesses the clinical results of hemihypoglossal-facial nerve anastomosis (HHFA).

Food and Parkinson’s Disease
M. Mohamed Essa, T. Manivasagam, A. Justin Thenmozi, and Mohammed A.S. Khan (Dept. of Food Science and Nutrition, College of Agricultural and Marine Sciences, Sultan Qaboos University, Sultan Qaboos University)

In series: Nutrition and Diet Research Progress
In series: Neurology - Laboratory and Clinical Research Developments
2016.

Food and Parkinson’s Disease focuses on the alternative therapeutic approach for managing Parkinson’s disease. This manuscript analyzes the curative properties of natural ingredients and bioactive compounds — known as “nutraceuticals”— from natural foods, herbs, spices and plant extracts. Scientific revelations supported by conducted research
concerning these remedies are presented. For example, consuming foods from natural sources that are rich in amino acids, antioxidants, vitamins and alkaloids may reduce the chances of onset of Parkinson’s disease, and suggests that nutrition and diet have an impact on disease management. In addition, epigenetic modifications in conjunction with Parkinson’s disease are also discussed in this book.

Multiple Sclerosis: Perspectives, Clinical Aspects and Cognitive Challenges
Theodore Sutton
In series: Neurology - Laboratory and Clinical Research Developments

Multiple sclerosis (MS) is an autoimmune inflammatory demyelinating disease of the central nervous system (CNS) and one of the leading causes of disability in young adults. This book discusses perspectives, clinical aspects and cognitive challenges of MS. Chapter One focuses on the analysis of the data on immunogenetic markers, cytokines, chemokines, adhesion molecules and autoantibodies known to play a role in disease progression and the associated cognitive dysfunction. Chapter Two presents an update of the existing literature on the subject of comorbid psychiatric disorders in MS. Chapter Three examines MS patients’ awareness of the disease and compliance with pharmacological treatments.

Neurological Perspectives of Autonomic Dysfunctions
Peter Freeman
In series: Neurology - Laboratory and Clinical Research Developments
2016. 120 pp.
Softcover: 978-1-63485-082-7. $110.00.

The autonomic nervous system (ANS) plays a crucial role in the maintenance of homeostasis. From this aspect, a thorough knowledge of the ANS is important for understanding studying the most visceral functions control. ANS helps to control cardiovascular parameters – blood pressure and heart rate, baroreflex function, respiratory functioning, gastrointestinal motility, gastrointestinal secretion, sweating, urinary bladder emptying, body temperature, stress reactions, and many other activities, some of which are controlled almost entirely and some only partially by the autonomic nervous system. This book discusses neurological perspectives on autonomic dysfunctions. The first chapter begins with a review of the ANS, from non-invasive testing to clinical perspectives. The following chapters examine diabetic gastroparesis and maternal and fetal heart rate variability in pre-eclamptic patients.

Neuroplasticity in Learning and Rehabilitation
Gerry Leisman and Joav Merrick (Director, The Nat'l Institute for Brain and Rehabilitation Sciences, Biomechanics Laboratory, Dept. Of Mechanical Engineering, ORT-Braude College of Engineering, Karmiel, Israel)
In series: Functional Neurology
Hardcover: 978-1-63484-305-8. $190.00.

We possess as a cognitively aware species a high degree of function localization, but we still subscribe to the notion consistent with the model that dysfunction or damage to specific regions of the brain and nervous system may result in specific damage and deficits in behavior and function of individuals. Unfortunately, that is not enough to explain the capacity for plasticity, regeneration, spontaneous recovery, and optimization in neurological terms, and certainly not in its translation in clinical rehabilitation. Among the difficulties we face in the application of rehabilitation science in practice, the need to understand how the nervous system functions is less than understanding how it recovers from dysfunction, how we can effectively evaluate function, dysfunction and recovery, and how to provide a rational basis for making economic decisions about which method or methodology to invest. A neuroanatomical conceptualization is a not an option for rehabilitation practice. It is important to understand that what we are really attempting to achieve both in rehabilitation as well as in understanding the neurological basis of cognitive and motor improvement after trauma or stroke is not which brain area controls a given cognitive function, but how efficiently brain regions cooperate with each other and how novel connectivities may develop.

Primary Central Nervous System Lymphoma (PCNSL): Incidence, Management and Outcomes
Ruyya Yamanaka (Laboratory of Molecular Target Therapy for Cancer, Dept. of Medical Science, Kyoto Prefectural University of Medicine, Kamigyoku, Kyoto, Japan)
In series: Neurology - Laboratory and Clinical Research Developments
2016. 308 pp.
Hardcover: 978-1-63485-322-4. $190.00.

Primary central nervous system lymphoma (PCNSL) is an extranodal form of non-Hodgkin’s lymphoma (NHL) occurring in the craniospinal axis that accounts for 1–3% of all central nervous system malignancies. The majority of PCNSLs are high-grade B-cell lymphomas that differ from systemic B-cell NHLs in their less favorable prognosis. PCNSL appears to be increasing in incidence, reaching its peak in the fifth to seventh decades of life in immunocompetent patients. This book aims to provide up-to-date knowledge on the biology, diagnosis and treatment strategies associated with PCNSL. Separate chapters are specifically devoted to the biology, pathology, diagnosis, radiation therapy, chemotherapy regimens, emerging new agents, specific subtypes, and outcome associated with PCNSL. The authors are scientists and practicing physicians at university hospitals in Japan and South Korea. The book is written for postgraduate students, residents, basic scientists and physicians, as well as all medical professionals. The material covered in this book will serve as a foundation for the readers to keep up with current and future developments in this specific field of research and clinical practice.

Progressive Cognitive Impairment and its Neuropathologic Correlates
Gediminas Peter Gliebus (Drexel Neurosciences Institute, Drexel University College of Medicine, Philadelphia, PA, USA)
In series: Neurodevelopmental Diseases - Laboratory and Clinical Research
Hardcover: 978-1-63485-221-0. $210.00.

The field of cognitive and behavioral neurology is rapidly changing. Almost daily discoveries deepen our understanding of various conditions affecting our cognitive function. Cognitive and behavioral neurology is becoming a very important integral part of the neurosciences. The amount of already available and newly discovered information is growing, and the management of it might sometimes seem overwhelming to healthcare providers and to those in training. It is paramount to gain solid knowledge in order to critically navigate
through new discoveries. This book begins with an introduction to neuropathology of the most commonly encountered neurodegenerative conditions. The following chapter describes imaging biological marker studies of conditions such as Alzheimer’s disease and Lewy body spectrum disorders. Further chapters describe the function and dysfunction of different cognitive domains. This book provides guidance to clinicians on how to approach progressive conditions in the clinic by evaluating cognitive domains affected, and understand which underlying pathology is more likely to cause it. That is the way practicing physicians approach it daily. Neurology and psychiatry residents, fellows, medical students and already practicing healthcare providers should find this book useful as an introduction to this exciting field of neurology. Target Audience: Neurologists and Psychiatrists involved in a care of patients with behavioral and cognitive disorders, behavioral neurology and neuropsychiatry fellows, neurology and psychiatry residents, medical students and all allied health care providers who are caring for these patients.

Spinal Cord Stimulation: Principles and Practice
Antonios Mammis (Assistant Professor, Neurological Surgery, Rutgers New Jersey Medical School, NJ, USA)
In series: Neurology - Laboratory and Clinical Research Developments
Spinal cord stimulation is a neuromodulation therapy for the treatment of chronic, intractable, neuropathic pain. It involves the implantation of electrodes over the dorsal columns of the spinal cord, in order to activate the dorsal column-medial lemniscal sensory system, thus closing the gate on pain transmission. This therapy is used in patients with neuropathic pain conditions such as post-laminectomy syndrome, spinal arachnoiditis, lumbar radiculitis, and complex regional pain syndrome. Spinal Cord Stimulation: Principles and Practice is written by experts in the field, with a multidisciplinary approach to the chronic pain patient in mind. There are chapters describing the history of this therapy, and the fundamentals of indications and patient selection. The psychological considerations of spinal cord stimulation are described, and there are chapters describing various trialing/implanting techniques, with an emphasis on patient outcomes and complication avoidance. Finally, chapters on spinal cord stimulator programming and emerging indications round out the volume. Spinal Cord Stimulation: Principles and Practice is a valuable resource for clinicians to help direct decision-making when treating patients with chronic pain. Patients and their caretakers will also find value in this book as a guide through the spinal cord stimulation candidacy and implantation process. The authors hope this book serves to improve the care of chronic pain patients while providing a beacon of hope to patients, their caretakers, and medical providers.

Aluminum Neurotoxicity: From Subtle Molecular Lesions to Neurological Diseases
Ankica Jelenković (Institute for Biological Research "Siniša Stunković," Bulevar despotu Stefana, Belgrade, Republic of Serbia)
In series: Neurology - Laboratory and Clinical Research Developments
Hardcover: 978-1-63484-739-1. $160.00.
Aluminum is the third most abundant element in the Earth’s crust. In many of the previous experimental, epidemiological, pathohistological, biochemical and other research studies, aluminum, accumulated from the environment has been recognized as a very harmful substance to the human body. Aluminum intake usually happens unintentionally due to the fact that people know little about its prevalence in water, factory-processed foods, medicines, cosmetics, etc. When accumulated in...
human organs, it can cause severe damage, and even lead to chronic neurodegenerative diseases. Both oxidative and nitrosative stress can be the leading cause or contribute to its toxic effects in humans and animals. All of this is supported by the fact that mitochondrial dysfunction is the earliest stage of aluminum neurotoxicity. When oxidative damage occurs under the effects of free radicals, together with the decreased antioxidant protection — due to the decreased production of the chemical energy molecule (adenosine triphosphate) and the reduction of equivalents (both in and out of mitochondria) — then the conditions for the occurrence of a vicious circle in aluminum neurotoxicity are created. Aluminum also significantly interferes with the main steps of the synaptic neurotransmission, which may lead to the progression of neuropathies. The glutamate-glutamine pathway and numerous neurotransmitter transports are affected as well. Oxidative stress and the disruption of neurotransmission do not only exist when adult individuals are exposed to this neurotoxin, but also in individuals prenatally exposed to it as well, and these are expressed after birth. Numerous research studies, both in animals and humans, ex vivo and in vitro, quite clearly showed that aluminum can be associated with chronic neurodegenerative diseases. Additionally, there is a positive correlation between the exposure to aluminum and the pathophysiology of Alzheimer's, Parkinson's, Huntington's disease, amyotrophic lateral sclerosis, and so on. One of the possible mechanisms for the generation/development of these diseases could be the disturbed homeostasis of essential metals and the appearance of unfolded or misfolded proteins that are mostly specific for a particular disease. In those research studies, the influence of aluminum on the generation of beta-amyloid, alpha synuclein, etc. was satisfactorily examined. It is very difficult, however, to suppress aluminum neurotoxicity, as well as development and progression of the diseases caused by or associated with aluminum, as it is the result of some complex mechanisms through which aluminum causes its deleterious effects, and which are also responsible for the existence of multiple targets for aluminum. It is, therefore, necessary to know how these mechanisms induce the damage, in order to be able to prevent or treat the damage once it occurs. A large number of substances, including active components in traditional medicine, medical drugs and substances which are used only experimentally, have been examined so far. The results of studies conducted so far are inconclusive and they require further research. According to all the aforementioned findings, it may be concluded that well-planned, prospective and randomized clinical trials are necessary in order to use any of these substances in humans.

Arachnoid Cysts: Epidemiology, Treatment and Clinical Outcomes

Katherine Nguyen

In series: Neuroscience Research Progress

2016. 90 pp.

Softcover: 978-1-63484-991-3. $82.00.

e-book: 978-1-63485-019-3. $82.00.

Arachnoid cysts are benign developmental anomalies of the central nervous system and arise in virtually all locations where arachnoid membrane exists. It is reported that they account for approximately 1% of intracranial lesions and are caused by the splitting of the arachnoid membrane. This book provides current research on the epidemiology, the treatments available, and clinical outcomes of arachnoid cysts.

Brain and Spinal Cord Plasticity: An Interdisciplinary and Integrative Approach for Behavior, Cognition and Health

Amy Jo Marcano-Reik (Baldwin Wallace University, Department of Psychology, Neuroscience Program, Berea, Ohio, USA)

In series: Neuroscience Research Progress

2016. 98 pp.

Softcover: 978-1-63484-927-2. $82.00.

e-book: 978-1-63484-959-3. $82.00.

The brain exhibits extraordinarily complex activity and undergoes very rapid change during early development. The ways in which the brain undergoes change during development and interacts with other elements — such as genetics and the environment — can influence behavioral organization. This process of change and the ability to be molded (which is known as plasticity) is important for development, organization, and recovery of function after injury or damage. Through processes involving mechanisms of plasticity, both behavior and cognition can be influenced in many ways important to neurological and psychological function and health. The confluence of brain plasticity, behavior, cognition, and health is complex and requires an interdisciplinary and integrative examination to fully appreciate the biological and psychological implications. The author utilizes this unique approach to review evidence important for behavior and cognition, while addressing important implications for physical and mental health and wellness.

Current Management of Central Nervous System Meningiomas

Steven D. Chang, and Anand Veeravagu (Dept. of Neurosurgery, Stanford University Medical Center, California, USA)

In series: Neuroscience Research Progress


Meningiomas account for greater than one-third of all primary central nervous system tumors. Though in many cases they are pathologically benign, the presence and growth of such tumors in eloquent central nerve system locations may confer significant risk, potentially resulting in severe morbidity and mortality. Treatment of these tumors varies with tumor location and WHO classification. Rigorous clinical observation, surgical resection and radiation therapy are all appropriate in treating meningiomas. Given the diversity of tumor locations and pathology, it is critical for medical professionals to possess comprehensive knowledge of the diverse management of meningiomas. This formal reference is critical in understanding the surgical approaches and treatment of meningiomas. Medical practitioners including but not limited to neurosurgeons, radiation oncologists, medical oncologists, neurologists, and other medical practitioners as well as nurses and physician assistants alike can all benefit from this resource. This text will facilitate the understanding of meningiomas, foster learning of the most current surgical approaches, and comprehensively equip medical providers to deliver comprehensive care to patients with meningiomas. This text provides a comprehensive and up-to-date resource for the surgical and radiosurgical management of meningiomas. It contains references to the latest peer-reviewed literature in the field and is distinctive in its focus on patient management and outcomes. With extensive clinical experience in the treatment of meningiomas, Dr. Steven Chang and Dr. Anand Veeravagu present a unique perspective and fluency in the treatment of this brain tumor.

Horizons in Neuroscience Research. Volume 24

Andres Costa and Eugenio Villalba

In series: Horizons in Neuroscience Research


Hardcover: 978-1-63484-325-6. $190.00.


This book provides readers with the latest developments in neuroscience research. Topics covered include multiple effects of electroacupuncture on the synaptic efficacy of neurons. It is the first book to examine the effects of electroacupuncture on the spinal cord of experimental animal models of neuropathic pain and their neuromodulation by neuuropeptide hormones and cytokines; electrical stimulation for pressure ulcer prevention and treatment of...
spinal cord injury; the structure and function on the entorhinal cortex with special reference to neurodegenerative disease; recent advances in the understanding of the effects of different ginsenosides on CNS targets and how ginsenosides can contribute to cures for some of the most devastating neurological disorders and neurodegenerative diseases; neuroplasticity and neurogenesis; neuroplastic changes in subjects with deaf-blindness using the topographic distribution maps of the somatosensory evoked potential by stimulation of the median nerve (SEP-N20) pre-CI versus post-CI; vascular functions of dexamethasone, a synthetic GC with a focus on dexamethasone action on the blood-brain-barrier (BBB); the relationship between the effects of GCs on neurosteroid biosynthesis and on cognitive behaviors and hippocampal neural activity; a review of the real case of a patient with subacute combined spinal cord degeneration and pancytopenia secondary to severe and sustained vitamin B12 deficiency; and the role of sex-steroid hormones in anxiety, affective, eating and psychotic disorders.

**Horizons in Neuroscience Research, Volume 25**

*Andres Costa and Eugenio Villalba*


This book provides readers with the latest developments in neuroscience research. Chapter One discusses clinical exploration and manipulation of the neural networks and structural lesions of the human brain. Chapter Two studies the role of theta and gamma oscillations in working memory capacity. Chapter Three examines the potential usage of plastic clips in cerebrovascular neurosurgery. Chapter Four reviews avulsion-induced motoneuron death and discusses different strategies to facilitate survival of motoneurons following spinal root avulsion. Chapter Five discusses spatial patterns of phosphorylated TDP-43-immunoreactive cellular inclusions in familial and sporadic frontotemporal labor degeneration with TDP-43 proteinopathy. Chapter Six reviews neuropathological aspects of acute disseminated encephalomyelitis. Chapter Seven identifies the frequency, clinical symptoms, urodynamic findings, putative underlying pathology, and management of meningitis-retention syndrome (MRS). Chapter Eight provides an update on clinical features, lesion topography, and prognosis of pure motor monoparesis (PMM) due to ischemic stroke. The final chapter discusses strokes associated with nephrotic syndrome.

**Human Brain Theory: Information-Commutation Device of the Brain and Principles of its Work and Modeling**

*Andrey S. Bryukhovetskiy (Federal Research Center for Specialized Types of Medical Assistance and Medical Technologies of FMBA of Russia, Moscow, Russia)*

Hardcover: 978-1-63484-741-4. $190.00.

The book was written as an attempt to find the solution to one of the most complex and unsolved issues of the human anatomy: the understanding of the human brain and the principles according to which it operates. Currently, it is important to look at the challenge in an alternatively non-standard, yet still systemic way, paying less attention to details and outlining the ways out of this crisis of neuroscience. The purpose of this monograph is to describe the author’s theory about the brain’s architecture and operation to the medical and scientific community. Accompanied with extensive clinical, research and training experience, the author’s theoretical concepts of the brain synthesized with scientific evidence brought about the conclusion that low efficiency in neurologic therapy and mental diseases; the inability to work out mathematical models and simulations that could compete with the human brain; an academic dead end in the development of artificial intelligence; as well as high energy consumption of the computing innovations were conditioned by the inaccurate methodology and outdated anatomical and physiological views of the neurologists and neuroscientists on information processing in the brain, registration of memories and basic functions of the key morphological structures of the brain. The morphological structure and physiological functions of all known anatomical formations of the brain were defined in the late nineteenth century. Since then, these functions have been accepted as dogmatic. The book shows that present day multi-level neuroresearch relies on the foundation of systemic, morphofunctional and neuroatomic knowledge about the brain structure. It looks for correlations between genome and post-genome data of molecular research in the brain tissue, as well as with neuropsychological and cognitive data; that is, the book intends to integrate the non-integrable into unified information space. The systemic approach in neuroresearch has become outdated by now and interferes with scientific development. The information approach in the author’s research of the genome, transcriptome, proteome in health and in disease permitted the analysis of the inductivity and magnetization of the nervous tissue. It also provided the explanation for targeted movement of the data in the module of the nervous tissue. The author came to the conclusion that gene, protein and neural networks “confused and chained” the pathways of scientific thought. Neural networks are only logistic constructions to provide data transfer in the brain between different modules of the nervous tissue. The author presumes that the funds invested in the development of brain simulations and artificial intelligence will hardly result in the expected advantages. If we are unable to step over the stereotypes of systemic, morphofunctional research of the previous century, no progress shall come about. The author’s theoretical survey resulted in the unique information-commutation theory of the brain and formulation of the key principles of brain operation. As a clinician and professor of neurology, the author underpins his theory with clinical examples. This book presents the framework of the ideas that require experimental research and proof.

**Learning and Memory: Processes, Influences and Performance**

*Eula Townsend*

This book discusses the processes, influences and performance of learning and memory. Chapter One reviews the growing evidences indicating the importance of iron overload onto learning and memory behavior of the brain. Chapter Two explains the issue of what adult age of acquisition (AoA) estimates really measure. Chapter Three describes the various forms of structural and functional neuronal plasticity that occur in the hippocampus and their role in hippocampal-dependent learning and memory.

**Motor Control in Humans: A System-Theoretical Approach**

Waclaw Petryński (Katowice School of Economics, Assistant Professor, Dean of Extramural Tourism Faculty in Bielsko-Biała, Poland)

In series: *Neuroscience Research Progress* 2016.

Hardcover: 978-1-63485-036-0. $310.00.


Through time, an organism gains the ability to actively control purpose and then transforms into inventiveness. With this transformation, the psyche is born. It is practically incomprehensible to direct experimental research and mathematical description. Hence, to transform rough knowledge into highly processed science, it seems reasonable to follow in the footsteps of evolution and to apply the systemic way of description of biological phenomena and processes. One might deduce that evolution has already made all the essential errors, so this path of scientific thinking is relatively free from “intellectual minds”. The only observable manifestation of any psychical activity of the human mind is movement, which is the subject of interest of the scientific discipline termed “motor control”. So, without psychology, motor control is mindless; yet, without motor control, psychology is also blind. Nevertheless, it seems that motor control may make a “window”, enabling a view – with intellectual and not experimental methodology – into the human mind. Even the physical part of reality is too complex to be described in full. To understand this intricate idea somehow, it is necessary to create the simplified representations of reality, or “theories”. As a result, science is not able to determine how reality is; it may only produce more or less useful descriptions of reality. This book makes an attempt at the creation of such a system-theoretical description of issues concerning the motor behavior of living beings, including humans. It suggests the very nature of essential processes underlying this essential biological process.

**Neuroimmunity and the Brain-Gut Connection**

Aristo Vojdani (Immunosciences Lab Inc, Los Angeles, CA, United States of America)


Hardcover: 978-1-63483-969-3. $190.00.


Bi-directional communication between the central nervous system (CNS) and the enteric nervous system (ENS) occurs both in health and disease. Various CNS- and gut-directed stressors stimulate the brain-gut axis. Processes modulating responsiveness to stressors along the brain-gut axis involve neural pathways, the immunological, and endocrinological mechanisms. Disturbances at every level of neural control of the gastrointestinal tract can affect modulation of gastrointestinal motility, secretion, and immune functions as well as perception and emotional response to visceral events. ENS function, central processing, and autonomic regulation play an important role in the brain-gut dialogue. Stress and emotions may trigger neuroimmune and neuroendocrine reactions via the brain-gut axis. Nutritional strategies may impact on the integrity and the expression of neurophysiological systems, and neuroimmunological interventions through diet and toxin reduction may provide potential support to address the growing concerns of environmentally induced brain disease and neurological autoimmune disorders. In this book, you will find an in-depth review of the brain-gut connection.

**New Developments in Dopamine Research**

Glen Hopkins


Hardcover: 978-1-63484-789-6. $110.00.


Dopamine is an important neurotransmitter in human brain, and it is involved in many activities under physiological and pathological conditions of humans and mammals, especially in sports regulation, learning and memory, as well as drug addiction. Lack of dopamine can lead to a number of diseases such as schizophrenia, depression, and Parkinson’s Disease. Thus, the studies of dopamine are of great importance in many disciplines such as neurophysiology, clinical medicine, and the pharmaceutical sciences. In recent years, more and more researchers have focused on the detection of dopamine and many different types of testing methods have emerged. Chapter One in this book reviews different kinds of electrodes used in the detection of dopamine and the stability, selectivity, sensitivity of those electrodes. Chapter Two presents a discussion about the modulation of the dopamine synthesis and release in the retina by light, clock genes and melatonin. Chapter Three summarizes the most recent findings on the role of central D2, D3 and D4 receptors on erectile function and sexual behavior.

**Research Progress in Alzheimer’s Disease and Dementia. Volume 6**

Miao-Kun Sun (Blanchette Rockefeller Neurosciences Institute, Rockville, MD, USA)


Memory impairment due to aging and various memory disorders represent a great medical challenge to our society. Since the publication of the fifth volume of this collection, the rapid progress in the research fields of Alzheimer’s disease (AD) and other types of dementias continues through the intense efforts of research scientists worldwide. This sixth volume contains eight chapters, bringing together a presentation of scientific frontiers in current AD/dementia research. The topics include a discussion on impairments in dementias, memory binding in AD, therapeutic targeting of BACE1 and neprilysin, Tau Immunotherapy, targeting 5-lipoxygenase targets for tauopathy, potential therapeutics for frontotemporal dementia, potential therapeutics for Down’s syndrome, and cognitive rehabilitation in multiple sclerosis. Research advances in these areas are presented and discussed in great detail in the chapters. The book will be highly valuable to students and scientists worldwide who are interested in the scientific research and progress in AD and memory disorders.

**Research Trends in Behavior and Executive Function**

Miao-Kun Sun (Blanchette Rockefeller Neurosciences Institute, Rockville, MD, USA)


Hardcover: 978-1-63485-461-0. $190.00.


This book brings together interdisciplinary research in cognitive psychology, cognitive impairment and abnormalities, cognitive networks and neurofeedback, and neurophysiology. Covered are the...
latest developments, pinpointing directions for future research on cognitive sciences and theory. Essential reading for those working directly in the cognitive sciences or in related specialist areas. “Research Trends in Behavior and Executive Function” provides an instant overview of current thinking for both experts and newcomers to cognitive sciences.

**Spatial, Long-and Short-Term Memory: Functions, Differences and Effects of Injury**

**Edward A. Thayer**

In series: *Neuroscience Research Progress*


Hardcover: 978-1-63484-148-1. $190.00.


Memory is one of the earliest cognitive functions to show decline during aging and some neurodegenerative diseases and this decline has a social and economic impact on individuals, families, the health care system, and society as a whole. This book examines spatial, long-and short term memory loss. The aim of the first chapter is to discuss and detail several well-established spacial-memory behavioral tests, focusing specially on the MWM, describing the principal advantages or disadvantages of these memory tasks. Chapter two examines the importance of the AMPAr and its specific subunits in LTP processes as well as the formation and utilization of spatial memory representations. Chapter three studies grizzly bears and examines their spatial and visual memory. Chapter four introduces a study to show that difficulty encoding relational information between spatial locations presented in random positions simultaneously is responsible for impaired visuospatial working memory. Chapter five describes short and long term memory functions in children with idiopathic epilepsy and assesses a novel cognitive behavioral group intervention aiming to improve memory deficits in this population whose deficits are specified and their background capacities are preserved. Chapter six studies the emergence of self-reference effect in episodic memory during early childhood. Chapter seven analyzes an optical memory model of the human brain. Chapter eight studies an fNIRS study on adaptive memory. The final chapter identifies the synaptic and structural mechanisms that drive plasticity, as well as describes the purported processes responsible for short- and long-term memory.

**The Cerebrospinal Fluid Shunts**

**Dimitris Kombogiorgas (Metropolitan Hospital, Athens, Greece)**

In series: *Neuroscience Research Progress*


This book acts as a unique insight into the "cerebrospinal fluid shunts world" and provides both a broad review and detailed information of cerebrospinal fluid and its shunts. It starts with the history of hydrocephalus and then explores in depth the physiology and pathology of cerebrospinal fluid, the cerebrospinal fluid flow dynamics, the types, components, function and modern technology of cerebrospinal fluid shunts, the neurosurgical approach regarding selection and insertion of the cerebrospinal fluid shunts and their imaging, limitations, complications and future. This landmark text is written by leading authorities in research and treatment of patients with hydrocephalus and cerebrospinal fluid disorders based on clinical trials, major clinical series and authors’ outstanding experiences and knowledge. Also, it provides information from a technological point of view. It contains many detailed illustrations, which help the reader to understand this new knowledge easily. The Cerebrospinal Fluid Shunts is useful to both medical specialists such as neurosurgeons, neurologist, paediatricians, and radiologists, as well as all those who want to be updated in an integrated way about the current knowledge concerning cerebrospinal fluid shunts. Medical students, nurses, residents and young researchers who are interested in hydrocephalus, cerebrospinal fluid disorders and cerebrospinal fluid shunts will also find this book useful. This book aims to enrich the knowledge of readers of medical literature by providing an integrative, comprehensive and practical approach to cerebrospinal fluid. It is written by scientists who work as forerunners in their respective fields.

**The Discovery of Rapid Eye Movement (REM) Sleep**


**Claude Gottesmann (Previous Director of the Department of Life Sciences, Faculty of Science, University of Nice-Sophia Antipolis, Nice, France)**

In series: *Neuroscience Research Progress*


Hardcover: 978-1-63485-693-5. $190.00.


Last century’s research on sleep may be divided into two different time periods. The first half of the century was dominated by the work of Henri Piéron and Nathaniel Kleitman, and was devoted to sleep experiments of a classical nature that were performed on animals and humans (Gottesmann, Nova 2013). At the beginning of the second half of the century, a major discovery identified a sleep phase during which eye movements can be recorded and dreaming occurs. William C. Dement and Michel Jouvet, dominated the next fifty years independently with their discovery of nearly all the properties concerning “rapid eye movement (REM) sleep”, also called “paradoxical sleep”. This book analyses the first major findings that were made possible by all the available methods (behavioral observations, electrophysiology, surgical interventions, pharmacology) used by both authors to characterize this sleep stage. All the successive papers by Dement and Jouvet are analyzed in turn for the period from 1955 to 1970. The results that came of the authors’ research environment are taken into account, and all the data available in the past and present are discussed and integrated into those findings.

**Transcranial Direct Current Stimulation (tDCS): Emerging Uses, Safety and Neurobiological Effects**

**Lionel Rogers**

In series: *Neuroscience Research Progress*


Hardcover: 978-1-63484-355-3. $110.00.


Transcranial brain stimulation has received an increased interest among the scientific community due its capability to modulate cortical excitability, which in turn modifies brain functions resulting in neuroplastic changes. In particular, transcranial direct current stimulation (tDCS) has been widely explored for its clinical efficacy, safety, painlessness, portability, ease of application, low cost, well-tolerated among patients, and positive clinical results seen within a few weeks. This noninvasive brain therapy has been used as an adjuvant tool for treating neurological and psychiatric diseases such as chronic pain, depression, obesity, memory and others. The basic principle of tDCS is modulating cerebral functions through applying a weak and direct electric current over the target cortical area. The first chapter of this book provides current research on tDCS and neuroplasticity. Chapter Two provides definitions of dosimetry from both safety and efficacy viewpoints and proposes 14 guidelines for safe and effective application of tDCS. Chapter Three examines the use of tDCS and other rehabilitation techniques for patients to improve upper limb motor function after suffering from a stroke. The final chapter studies the effects of cathodal transcranial direct stimulation on epileptic patients.
Traumatic Brain Injury: Diagnosis, Management and Long-Term Outcomes
Doris Delgado
In series: Neuroscience Research Progress 2016.
Hardcover: 978-1-53610-096-9, $160.00.
Traumatic brain injury (TBI) is a significant health problem worldwide. In industrialized societies such as the United States, 500 cases are noted per 100,000 population each year. In fact, TBI is the leading cause of trauma-related death and disability. The number of people who survive TBI has increased in recent years due to advancements in emergency medical care. Surviving patients may show maladaptive behaviors in both the acute and chronic phase. As a result, the management of maladaptive behaviors is increasingly important, utilizing significant resources and contributing to the burden of care. In this book, Chapter One presents a review of the literature on the cognitive and behavioral sequelae of TBI in late childhood and adolescence. Chapter Two explores the management of agitation during acute and sub-acute hospitalization for TBI. Chapter Three provides a comprehensive review of the factors associated with favorable outcomes in patients undergoing decompressive craniectomy and cranioplasty with emphasis on technique, timing, and other aspects of neurosurgical care and intervention for patients with traumatic brain injury. Chapter Four examines the phenomenology, neurobiology and pharmacotherapy of psychiatric syndromes following TBI. Chapter Five provides an overview of Civilian and Veteran TBI Clubhouses; how the Clubhouse model may assist in community integration and return-to-work initiatives for BI and Veteran populations; and a look at innovative collaborations, partnerships, and resources from national and international projects.

NUTRITION

Alleviating Food Insecurity with SNAP: Overview and Impacts of the Supplemental Nutrition Assistance Program
Elaine Morton
Softcover: 978-1-63484-810-7, $62.00.
The Supplemental Nutrition Assistance Program (SNAP), formerly called the Food Stamp Program, is designed primarily to increase the food purchasing power of eligible low-income households to help them buy a nutritionally adequate low-cost diet. This book describes the rules related to eligibility for SNAP benefits as well as the rules for benefits and their redemption. It also provides an overview of the problem of food insecurity in the United States and the important role that SNAP plays in addressing it.

Jeanne Hansen
Hardcover: 978-1-63484-684-4, $110.00.
e-book: 978-1-63484-685-1, $110.00.
This book presents research on the nutritional properties, post-harvest management and potential health benefits of apricots and peaches. Chapter One provides a brief description of the production area of wild apricot in India, the nutritional properties and health benefits of wild apricot, and the useful products made from the fruit. Chapter Two summarizes the current knowledge on Japanese apricot, including its correlation with oral diseases for preventive medicine. Chapter Three discusses properties, deficit irrigation strategies and post-harvest management of peaches and nectarines. Chapter Four reviews the impact of different industrial processing techniques of sterilization and associated storage conditions on nutritional and functional characteristics of the processed peach, and establishes their role on the nutritional and functional quality of fruit. Chapter Five examines the physico-chemical and sensory characterization of Sicilian white flesh peaches.

Blueberries: Harvesting Methods, Antioxidant Properties and Health Effects
Malcolm Marsh
Softcover: 978-1-63484-885-5, $110.00.
According to Food and Agriculture Organization (FAO) statistics, from 1970 to 2011 the world production of blueberries increased approximately 7 times (FAOSTAT, 2012). According to the National Agricultural Statistics Service (NASS) of the United States Department of Agriculture (USDA), the United States is the world leading producer of blueberries, being the second most produced and commercialized small fruit in the country after strawberry. There are three main groups of blueberries commercialized and produced in the world: the lowbush, the highbush and the Rabbiteye (RASEIRA e ANTUNES, 2004). The high amount of bioactive compounds present in both the pulp and in the peel of the blueberries, makes it a fresh fruit rich in natural antioxidants. This book discusses the harvesting methods, antioxidant properties and health effects of blueberries.

Broccoli: Cultivation, Nutritional Properties and Effects on Health
Bernhard H.J. Juurlink, Ph.D. (Professor emeritus, College of Medicine, University of Saskatchewan, Saskatchewan, Canada)
Hardcover: 978-1-63484-313-3, $230.00.
This book is a must read for anyone interested in Hippocrates’ dictum: “Let food be your medicine and medicine your food”. This book focuses on the therapeutic effects of broccoli phytochemicals, in particular certain glucosinolate metabolites and flavonoids. This book is organized in such a manner that people with only a basic background in the biological sciences would profit greatly. Anyone interested in any area of nutrigenomics would profit from reading this book as well. This would include horticulturists interested in how phytochemicals may be therapeutic, as well as nutritionists and other health professionals who wish to better understand how diet may influence gene expression and thereby health. Persons engaged in the food-processing industry will also find this book profitable. This book will be of especial interest to graduate students as well as health profession students. The book starts out with a chapter outlining the role of Professor Paul Talalay of Johns Hopkins University and his colleagues, whom initially identified activators of the Nrf2 signalling pathway as playing a central role in the anti-cancer properties of certain phytochemicals and then went on to greatly develop this area of nutrigenomic research, most recently with human clinical trials. Since many of the therapeutic effects of broccoli consumption can be attributed to specific glucosinolates, two chapters deal with glucosinolates in general (Chapter Two) and glucosinolate distribution in different broccoli cultivars specifically (Chapter Three). Nrf2 activators will influence xenobiotic metabolism in a number of ways; hence, Chapter Four gives an overview of xenobiotic metabolism. Chronic diseases, a major target of nutraceuticals, are a major health
Concern and place a huge burden on the health care system. Chronic diseases are driven by oxidative stress and generalized inflammation. To understand the medicinal effects of plant bioactive compounds requires an understanding of the mechanisms of oxidant production and scavenging, how oxidative stress affects signalling pathways, and the roles of certain phytochemicals in countering oxidative stress and inflammation. This is the topic of Chapter Five. Chapter Six outlines the Nr2 signalling pathway and its role in regaining redox and metabolic homeostasis. Broccoli also contains bioactive flavonoids that influence xenobiotic metabolism and Nr2 signalling. Chapter Seven deals with flavonoids with a focus on the major flavonoids found in broccoli, quercetin and kaempferol. Chapters Eight through Eleven outline some of the basic research examining the effects of sulforaphane on x-irradiation-mediated damage, UV-mediated skin damage and perinatal ischemic insults. Chapters Twelve and Three give an overview of some of the clinical trials that involve intake of sulforaphane/broccoli sprouts. The last four chapters deal with the agronomic aspects of broccoli, including cultivation, post-harvest processing and how various cooking methods affect the bioactive components in broccoli.

Coffee: Production, Consumption and Health Benefits
John L. Massey
In series: Food and Beverage Consumption and Health
Hardcover: 978-1-63484-714-8. $190.00.
Coffee is among the most widely consumed beverages worldwide. Traditionally, high consumption of coffee has been considered to have negative health consequences due to the stimulant effects of caffeine. However, there is substantial evidence that coffee contains a range of bioactive compounds and antioxidants with potentially beneficial effects on human health. Chapter One presents a review of the works of research that have been developed in order to establish the functional potential of coffee, either raw or roasted and its byproducts. Chapter Two studies the extraction of bioactive compounds and antioxidant activities of coffee brews. Chapter Three focuses on two factors, aroma and geographic provenance, namely the geographic origin and the roasting procedure, and aims at providing a systematic assessment of the chemical compounds that are mainly responsible for the quality of coffee samples. Chapter Four focuses on the properties of spend coffee ground (SCG), based on its composition and structural organization, and the complex enzyme necessary for its conversion, highlighting its impact on biotechnology and bioenergy process. Chapter Five examines an optimal range of extraction conditions for extraction of polyphenols from espresso SCG by using response surface methodology and to investigate in vitro effects of obtained polyphenol-rich extracts on platelets activation and their aggregation with monocytes and neutrophiles. Chapter Six evaluates sensory acceptance and the effect of the expectations caused by information and the packaging characteristics of instant coffee. Chapter Seven overviews emerging evidence for the protective effects of coffee and its bioactive compounds on ocular health. Chapter Eight discusses coffee contaminated with Ochratoxin and genotoxicity. Chapter Nine studies health and health risks of the substances found in coffee.

Diet and Diseases: Causes and Prevention
Wenbiao Wu (College of Food Science, Southwest University, Tian Sheng Qiao, Beibei, Chongqing, PRC)
In series: Nutrition and Diet Research Progress
The improvement of life expectancy and quality is a primary goal of modern societies in both developed and developing countries. However, according to the World Health Organization, the global burden of diseases were estimated to be more than 2.74 billion DALYs with about 56.00 million global total deaths in 2012. In 2030, the projected global burden of diseases and global total deaths are similar to or even higher than that in 2012. What are the causes of DALYs and deaths? What proportion do the causes contribute to global DALYs and deaths? Are global DALYs and deaths preventable? Are daily diets associated with global DALYs or deaths? What is the significance of diets contributing to global DALYs or deaths? Answers to these questions should be vital for the prevention and reduction of global DALYs and deaths. More than 90% of causes contributing to the global total DALYs or deaths are modifiable or causal by daily diets. Therefore, understanding the association of diets with diseases is very necessary for us to reduce the global total DALYs or deaths in the future. Because of vast information about diets and diseases in literature, it is very difficult to fully encompass this data in a single manuscript. This book opts to collect a selected overview of association of diets with some important diseases. This book includes ten chapters. In Chapter One, it is well-researched and subsequently concluded by the authors that diets should be critical factors that can modify or even cause diseases, which significantly contribute to the global burden of diseases or deaths. In Chapter Two, their research, production, applications, regulations and future developments are discussed in detail. In Chapter Three, the evidence from experimental and clinical studies to show the potential effect of polyphenols from tea, coffee and cacao on the prevention of cardiovascular diseases are reviewed. In Chapter Four, the dietary causes of kidney diseases and their prevention by proper diet management are described. In Chapter Five, the dietary risk factors and prevention by proper diets are fully summarized. In Chapter Six, the liver disease risk factors existing in human diets are analyzed. In Chapter Seven, the authors discuss how diets can play significant roles in the management or development of liver diseases. In Chapter Eight, the theories related to bone problems with respect to the hypo and hyper conditions of nutrients in relation to bone related problems and proper diet management to prevent them are examined in detail. In Chapter Nine, the association of arthritis and their various forms, causes and symptoms with improper diets and its prevention by diet management are introduced. Finally, in Chapter Ten, the association of diet with overweight individuals, obesity and its prevention by proper diet management are extensively discussed.

Fish Oil: Uses, Properties and Role in Human Health
Frankie Burton
In series: Nutrition and Diet Research Progress
Hardcover: 978-1-63485-024-7. $110.00.
Fish plays a useful role in a healthy and balanced diet. Polyunsaturated fatty acids (PUFA), more specifically omega-3 fatty acids, exert a positive effect on the cardiovascular and nervous system. They also play a key role on the development of the neonates’ brain and their visual development. Due to these beneficial characteristics, the demand of PUFA concentrates has recently increased and, consequently, the industrial interest on the production methods. Fish oil has traditionally been used as the main source of PUFA. This book provides a comparison among physical and enzymatic techniques for getting omega-3 concentrates from fish oil. It also aims to resume the proximate composition (i.e. lipid, protein, humidity and ash content) of the main discarded species in the Mediterranean Sea; examines the role of fish oil and omega-3 fatty acids in the mitigation and treatment of traumatic brain injuries; and discusses the long-term cardiovascular effects and safety of fish oil among women with diabetes and their infants.

Grape Seeds: Nutrient Content, Antioxidant Properties and Health Benefits
José Manuel Lorenzo Rodríguez, and Daniel Franco Ruiz (Meat Technology Centre of Galicia, Spain)
In series: *Nutrition and Diet Research Progress*
Hardcover: 978-1-63484-578-6, $210.00.
This book reviews the role of bioactive compounds in grape seed and their beneficial effects. Among the 11 chapters, the authors also discuss the composition, biological activity, and potential applications of grape seeds in the food industry and the health effects of grape seed extracts. As in other matrices, the presence of bioactive molecules in grape seed is related to several factors like grape varieties, climatic and soil conditions, vinification processes, winemaking procedures, extraction techniques and finally evaluation protocols. Chapter 1 addresses the extraction methodologies to obtain molecules of interest from grape seed, from the conventional to the most innovative. Chapter 2 discusses the most important and used methods to evaluate the antioxidant capacity of grape seed. Chapter 3 is focused on how flavonoids could modulate the body homeostasis acting directly on the gastrointestinal tract, explaining their effects on obesity-related pathologies. Chapter 4, using liquid chromatographic and mass detection techniques, centers on flavonols, one of the most important of polyphenols occurring in grape seed. Chapter 5 complements Chapter 2 in evaluating total antioxidant capacity considering that antioxidant activity is usually due to different antioxidants present in grape seed. Chapter 6 studies the effects of polyphenolic extracts in arterial hypertension and oxidative stress via glutathione-peroxidase. Chapter 7 revises the antioxidant properties of grape seed in the conservation of different meat products and dose effect to increasing the shelf life of these products. Chapter 8 shows the potential application of developing new products with healthier characteristics to garner greater consumer acceptance using grape seed in their formulations. Chapter 9 provides a review of the composition and nutritional value of the majority compounds (fatty acid, amino acid and mineral profile), showing the potential application of the use of grape seed as a food supplement to improve the human diet. Chapter 10 indicates the potent antimicrobial activity of grape seed extract against many different microorganisms due to the presence of flavan-3-ols, inhibiting their growth, and potential applications in the food or pharmaceutical industries or even in the medical field. Chapter 11 is focused on the potential use of bioactive compounds in grape seed extract as a remedy against lipid oxidation of meat products.

**Handbook for Nutritional Assessment through Life Cycle**

Ghazi Daradkeh, M. Mohamed Essa and Nejib Guizani (Department of Food Science and Nutrition, College of Agricultural and Marine Sciences, Sultan Qaboos University, Muscat, Sultanate of Oman)

In series: *Nutrition and Diet Research Progress*
Hardcover: 978-1-63482-768-3, $160.00.
Nutritional assessment has been considered as a cornerstone of nutritional diagnosis, management, intervention and dietary planning. Specific criteria, methods and procedures should be used for different age groups through a person’s life cycle based on the requirements of each age group. Use of precise and accurate nutritional assessment tools and procedure to detect those who are malnourished or at risk of malnutrition will help dietitians to create an accurate dietary plan and intervention, which may help in quality of life improvement. This handbook includes the details of each assessment method for different age groups, from pregnancy to old age. It will be used as a quick, practical guide and reference for clinical dietitians. It includes dietary, anthropometric, biochemical and clinical assessments.

**Peppers: Harvesting Methods, Antioxidant Properties and Health Effects**

Beatrice Dawson

In series: *Food and Beverage Consumption and Health*
Hardcover: 978-1-63484-839-8, $110.00.
The pepper fruit is commonly consumed as fresh fruit. In addition, the fruit is used in food industry and in manufacture processing, either fermented or concentrated. The pepper fruit is a rich source of bioactive compounds with antioxidant properties to which highly desirable medicinal properties and health benefits have been attributed. The stability and concentration of these bioactive compounds are affected by preharvest factors such as cultivar, cultivation methods and fertilisation, grafting, shading, stage of maturity, and postharvest factors such as prestorage treatments, temperature management and packaging. Chapter One of this book discusses in detail the preharvest and postharvest factors influencing the functional properties of pepper fruit. Chapter Two reviews electron paramagnetic resonance imaging of paramagnetic species in pepper seeds. Chapter Three studies the technology and properties of drying peppers after harvesting. Chapter Four presents the potential use of peppers for therapeutic management besides its use as a food additive in various spicy cuisines. Chapter Five provides an overview of recent research on the chemical profile, health properties, and processing of peppers.

**School Food: Participation Trends and Nutrition Implementation Issues**

Gordon Moreno

In series: *Nutrition and Diet Research Progress*
2016. 102 pp.
Softcover: 978-1-63485-109-1, $95.00.
The Healthy, Hunger-Free Kids Act of 2010 required the U.S. Department of Agriculture (USDA) to update nutrition standards for school lunches and breakfasts and add standards for other food sold in schools, known as competitive foods. In response, USDA set new nutrition requirements, including limits on calories, sodium, and fats. Previously, the United States Government Accountability Office (GAO) reported on the implementation of changes to school lunches in school year 2012-2013. Since then, additional requirements for lunches have taken effect, as well as new requirements for breakfasts and competitive foods. GAO was asked to review implementation of the nutrition changes to school food. This book reviews recent trends in school meals participation; challenges School Food Authorities (SFAs) faced in implementing the new requirements for school meals; challenges SFAs and districts faced in implementing new requirements for competitive foods; and USDA assistance in implementing the changes.

**Zinc Deficiency: Etiology, Screening Methods and Health Implications**

Rebecca Morton

In series: *Nutrition and Diet Research Progress*
Softcover: 978-1-63484-414-7, $82.00.
e-book: 978-1-63484-429-1, $82.00.
Zinc is the second most prevalent trace found in the human body after iron. It is essential for normal cell function and metabolism, playing a central role in over 300 enzymatic reactions, and protects cells from free radical damage. The central role of zinc in cell growth and differentiation explains the dramatic effect of zinc deficiency in tissues with a rapid cell turnover such as hair growth. In recent years, much interest has been generated by the possibility that subclinical zinc deficiency may significantly increase the incidence of and morbidity and mortality from diarrhea and upper respiratory tract infections. Clinical manifestations of zinc deficiency include delayed sexual maturation, impotence, hyponogadism, oligospermia, alopecia, dysgeusia, immune dysfunction, night blindness, impaired wound healing, and various skin lesions. After bariatric surgery, zinc
Breast Milk: Consumption and its Effects on Child Health

Lucille Carson

In series: Pediatrics - Laboratory and Clinical Research
Softcover: 978-1-63485-413-9. $95.00.

Maternal nutrition during pregnancy and/or lactation is highly important in the case of fetal programming and epigenetic regulation. Moreover, it is related to the adequate development of the fetus, infant and future adult. Breast milk is the optimal form of infant nutrition for the first six to twelve months of life, providing both short-term and long-term advantages for infants and mothers. Among other benefits, breastfeeding provides the infant with protection from a variety of infections, including recurrent otitis media, gastroenteritis, and respiratory tract infections. Chapter One in this book evaluates the correlation between the nutritional status of breastfeeding women, and the cholesterol concentration in their milk. Chapter Two reviews maternal viral infections that can be transmitted to infants directly through breast milk or other mechanisms associated with breastfeeding.

Chapter Three discusses the application of hydrostatic high pressure treatments for improving the quality of banked human milk. Chapter Four analyzes scientific works published in periodicals indexed in electronic databases about the importance of a social support network to the donation of human milk through the partnership between Brazilian Human Milk Banks and the Military Firefighters Corps for receivers of human milk, counting from the network’s first registered existence in Brazil until the year of 2015, and considering its social effects in the country and perhaps abroad.

Child and Adolescent Health Yearbook 2015

Joav Merrick, M.D. (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
Hardcover: 978-1-63484-512-0. $310.00.

Adolescence identifies a critical period of human life that allows sufficient maturity for the human being to leave childhood dependency and pass through a dramatic period of immense physiological, psychological, and sociological consequences. The adolescent must accept the failures and successes of childhood with the initiation of puberty and in the end, starts his or her adult life as central nervous system maturity occurs. The tremendous peaks of growth and development are only exceeded by those seen in utero and in early childhood. This yearbook has research on pregnancy, cyberbullying, transition issues, body image, health issues and environmental health, which we hope you will find of interest.

Child Health and Human Development Yearbook 2015

Joav Merrick, M.D. (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
Hardcover: 978-1-63484-513-7. $310.00.

In the past there has been much emphasis on child and adolescent developmental problems and while it is perfectly legitimate to look at child and adolescent problems, there are two problems with this approach. First, over-emphasis on problems can reinforce a pathological orientation. As such, children and adolescents may be seen as “problems” or “issues” to be fixed. Second, this approach may overlook talents, potentials and abilities in young people. Because of the limitations of the “deficiency” or “pathological” approach in understanding children and adolescents, there has been a greater interest in positive youth development programs in recent years with a shift from looking at the negative to turning the related programs and approach into something positive and highlighting the positive side of youth development. This has resulted in a focus on talents, strengths, interests and potential in order to facilitate a stronger and better youth development. Instead of viewing children and adolescents as “problems” or “issues” to be resolved, they are regarded as “resources” and “assets” to be developed. In this Yearbook 2015 we cover many
aspects of child and adolescent development and health issues from newborn to adolescence and it is our humble wish that the chapters can help stimulate more interest and effort in developing and implementing programs for children and youth to ensure a good and positive development.

Children and Adolescents: Future Challenges

Daniel TL Shek, Tak Yan Lee, and Joav Merrick
(Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hong Kong, PRC)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
2016. 177 pp.
Hardcover: 978-1-63484-616-5, $190.00.
e-book: 978-1-63484-627-1, $190.00.

In this book, we have looked at some aspects commonly found in urban cities within developed countries. Although the chapters are all from Hong Kong (China’s most international city) with a focus on Chinese children and adolescents, key developmental issues are reviewed and new research agenda are discussed with implications for other cultures and cities. This book might be of interest to researchers who want to develop a new framework for understanding some of the most intriguing developmental issues of today’s youth. They may find new perspectives and precious hints for planning future research. In addition, teachers, psychologists, social workers, and mental health practitioners in general should also be interested, as they need to design prevention or intervention programs to reduce the risk factors for adolescents. Finally, we hope it may be a resource for everyone involved at any level with the promotion of positive youth development.

Children and Childhood: Some International Aspects

Joav Merrick, M.D. (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
Hardcover: 978-1-63484-587-8, $190.00.
e-book: 978-1-63484-594-6, $190.00.

Just a few decades ago, children born with significant congenital anomalies or genetic and metabolic diseases perished at an early age, and very few survived into their teens and even less into adulthood. Congenital heart disease, major errors in metabolism, cancer, cystic fibrosis and many other major diseases were fatal. Because of this, many physicians in adult primary care did not have the opportunity to see patients with these problems and thus were unable to learn how to care for them. With major advancements in medical knowledge, technology, imaging techniques, surgical skills and pharmaceutical products (as well as prosthetic devices), many of these patients now live much longer lives and sometimes even survive to the average life expectancy. With that, a new medical care challenge has been created and we have to take a life span approach.

Chronic Disease and Disability: The Pediatric Heart

Donald E. Greydanus, Devika Malhotra, and Joav Merrick
(Department of Pediatric and Adolescent Medicine, Western Michigan University Homer Stryker MD School of Medicine, Kalamazoo, MI, USA)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
Hardcover: 978-1-63484-828-2, $190.00.
e-book: 978-1-63484-842-8, $190.00.

The current and future shortage of pediatric cardiologists necessitates information on the pediatric heart for primary care clinicians, as they care for the child and adolescent with cardiovascular dilemmas and disorders. In view of this shortage and the rapidly increasing knowledge in pediatric cardiology, as well as understanding indications for referral to pediatric cardiologists in the 21st century, au courant assiduous information aimed at primary care clinicians in these areas becomes increasingly important. The heart does not exist in isolation, but is involved in other aspects of the body; thus, hypertension that may involve renal pathophysiology and hyperlipidemia that involves various organ systems is also an important topic. Behavioral aspects of chronic disease, including renal disorders, should also be considered because of the importance and impact that renal (and chronic) disease has on children and adolescents. Certainly, seeking to stay current on basic principles of pediatric cardiology is important; these include fluid and electrolyte physiology, management of pediatric hypertension, and hyperlipidemia. In view of the importance of hypertension in children and adolescents concerning complications in all stages of life (i.e. renal disease, cardiovascular disease, and others), periodic ambulatory blood pressure monitoring by the primary care clinician (PCP) is an extremely important task. The current epidemic of obesity also heightens the importance of hypertension screening in the 21st century.

Chronic Disease and Disability: The Pediatric Pancreas

Donald E. Greydanus, Mannohman K Kamboj and Joav Merrick
(Dept. of Pediatric and Adolescent Medicine, Western Michigan Univ. Homer Stryker MD School of Medicine, Kalamazoo, MI, USA)

In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
2016.

Hardcover: 978-1-53610-055-6, $230.00.

This book is written for the primary care clinician to help update knowledge of pediatric endocrinology (with an emphasis on diabetes) from both ancient and modern times. The current and future shortage of pediatric endocrinologists necessitates steady, rejuvenated information on diabetes and other endocrine disorders for primary care clinicians as they care for the child and adolescent with complex endocrine dilemmas and disorders. In view of this shortage and the rapidly increasing knowledge in pediatric diabetes as well as understanding indications for referral to pediatric endocrinologists in the 21st century, au courant assiduous information aimed at primary care clinicians in these areas becomes increasingly important.

Growing Up in the Middle East: The Daily Lives and Well-Being of Israeli and Palestinian Youth

Yossi Harel-Fisch, Ziad Abdeen, and Miriam Navot
(International Research Program on Adolescent Well-Being and Health, School of Education, Bar Ilan University, Israel)
In series: *Pediatrics, Child and Adolescent Health*
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)

e-book: 978-1-63484-765-0. $190.00.

The goal of the Middle East HBSC study presented in this book was to examine the needs and experience of Jewish and Arab Israeli youth, as well as Arab youth in the Palestinian Authority of the West Bank and Gaza Strip. The study was based on the HBSC (Health Behaviour of School-Aged Children) study that investigates the health and well-being, behaviour and experiences of adolescents around the world from a broad ecological and holistic perspective. The collection and analysis of youth health data help inform and influence appropriate, culturally-relevant policies of health-promotion and health-education as well as intervention strategies both regionally and internationally. HBSC is a cross-national, school-based survey currently encompassing 43 countries in Europe and North America under the auspices of the World Health Organization (WHO) – European Regional Office. It is conducted every four years in order to track multi-year trends. HBSC-ME is a collaborative, cross-cultural study similar to the international HBSC. The project was initiated in 1995 by researchers from Bar-Ilan and Al-Quds universities and the Myers-JDC-Brookdale Institute. Data collection was carried out in 2004, and data analysis and dissemination of findings have continued over the last decade.

**Infant Feeding: Parental Perceptions, Behaviors, and Health Effects**

*John Worobey (Department of Nutritional Sciences, School of Environmental and Biological Sciences, Rutgers, The State University of NJ, NJ, USA)*

In series: *Pediatrics - Laboratory and Clinical Research*

Hardcover: 978-1-63484-122-1. $190.00.

Although infant feeding may be considered the primal form of mother–infant interaction, its treatment as a worthy subject of scientific investigation has only recently ascended to a position of importance. The reasons for our current interest are varied and important. For example, over the past fifty years the methods for studying feeding have improved, whether one speaks of analyzing the composition of milk or the synchrony of the dyadic give-and-take during a feeding. Secondly, with breastfeeding rates having risen dramatically recently, the correlates of this societal change are undeniably of increased empirical interest. Finally, the current child obesity epidemic has propelled infant feeding to the forefront of the variety of public health strategies that will be needed to slow this crisis. The contributors to the present volume are all well-established researchers in the area of mother-infant interactions that surround infant feeding. With a mixture of theoretical underpinnings, methodological advances, and samples of current research, this book should serve as a useful reference for scientists and practitioners interested in the behavioral and health issues that surround infant feeding.

**Pain Management Yearbook 2015**

*Joav Merrick, M.D. (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)*

In series: *Pediatrics, Child and Adolescent Health*
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)

2016. 443 pp.
Hardcover: 978-1-63484-515-1. $230.00.

In this yearbook for 2015 we present you with the latest research on pain management. We start out with chapters on cancer, intellectual disability and pain. Then we move into the field of palliative care, quality of life and cancer. Post-traumatic stress disorder in cancer patients is discussed from experiences in Canada and you will also find a chapter on burnout for professionals working with cancer patients. Social work related to end of life is also presented and it is our hope that you as the reader will find the information of interest and useful.

**Pediatric Pain: Current Aspects**

*Hatim A. Omar, Dilip R. Patel, Donald E. Greydanus, and Joav Merrick (University of Kentucky College of Medicine, Lexington, KY, USA)*

In series: *Disability Studies*
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)

2016. 194 pp.
Hardcover: 978-1-63485-505-1. $160.00.

Pain in a newborn, child, or adolescent is a complex phenomenon that can be acute or chronic, mild or severe, and invoke complex reactions in the patient, family, and clinician. Pain is a feeling that humans find very unpleasant, seek to ameliorate and even stop as soon as possible. Individuals come to their clinicians seeking the cause of their pain and request ways to deal with their discomfort. Clinicians have not always been well-trained to appreciate or prevent pain in their patients, and this seems especially true for young pediatric patients. The underlying theme in this publication is to consider causes and management of pediatric pain. The authors look at different perspectives of pain including fibromyalgia, peripheral neuropathies, sports-related pain, pelvic pain, recurrent headaches, recurrent abdominal pain, dermatologic pain, oncologic pain, and psychosomatic pain. These reflections offer unique and beneficial perspectives for clinicians as they seek to ameliorate pain in their pediatric patients and offer an improved quality of life.

**Probiotics in Children**

*Marco Manfredi and Gian Luigi de'Angelis (University of Parma, Parma, Italy)*

In series: *Pediatrics - Laboratory and Clinical Research*

2016. 359 pp.

Probiotics, a word of Greek origin composed of “pro” (promoting) and “biotic” (life), have been defined by the Food and Agriculture Organization of the United Nations (FAO) as “live microorganisms, which, when administered in adequate amounts, confer a health benefit on the host.” More than 500 different types of bacteria reside in the human digestive system. In recent years, the study of intestinal microbiota and therefore the use of probiotics have been extensively studied in promoting health, as well as in treating several diseases and not solely regarding the gastrointestinal system. This book summarizes the more recent knowledge about intestinal microbiota, its pathological correlations and the use of probiotics in children for the maintenance, recovery, and strengthening of healthy strains at the expense of bad ones.
Sexuality: Some International Aspects
Joav Merrick and Donald E Greydanus (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
In series: Pediatrics, Child and Adolescent Health
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
2016. 175 pp.
Hardcover: 978-1-63484-707-0. $190.00.

Human sexuality is a complex phenomenon involving the interaction of biologic gender, core gender identity and gender role behavior. Successful completion of normal stages of sexual development is important for children and adolescents to allow for an optimal adult life. Controversies arise for clinicians as they work with their pediatric patients regarding gender identity issues. It is important that clinicians help these patients in an unbiased and neutral manner. As adults, these children and adolescents will function in a number of sexuality roles, whether heterosexual, homosexual, or bisexua. In this book, the authors review many of these complex and critical issues that involve the fascinating development of human sexuality.

PHARMACOLOGY

Dextromethorphan: Pharmacology, Clinical Uses and Health Effects
Xin Wang (Institute of Biomedical Sciences, East China Normal University, Shanghai, China)
In series: Pharmacology - Research, Safety Testing and Regulation
Dextromethorphan (DM) is an over-the-counter antitussive drug that is also used as one of the active ingredients in many cold and cough medicines. In recent years, DM has also been used in other medicines, ranging from pain relief (as either the primary analgesic or an opioid potentiator) over psychological applications to the treatment of addiction. Pharmacodynamics of DM have been gradually discovered with the elucidation of the following properties, including competitive and uncompetitive NMDA receptor antagonist, α1 and α2 sigma receptor agonists, δ3δ4-nACh receptor antagonist, and others. DM is transformed to its primary and active metabolite dextrorphan predominantly via the metabolic enzyme cytochrome P450 (CYP) 2D6. Hence, DM is the first-choice substrate for CYP2D6 phenotyping because it is relatively safe and possesses many favorable pharmacokinetic characteristics for a marker substrate. This book aims to meet the needs of basic researchers, pharmacologists, medical students, clinical practitioners and scientists, as well as broad readers who wish to understand the pharmacology of DM and its clinical uses. The contributing authors are basic scientists, pharmacologists, pharmacists and on-service physicians in neuropsychiatric, anesthesiologic and hematologic fields from the Czech Republic, Austria, the United States, and China. As a collection of masterpieces by well-known experts, this book presents current research in the study of DM, focusing on its pharmacology, clinical uses and health effects. Topics discussed in this compilation include the new pharmacological application of DM; pharmacogenetics of DM; pharmacodynamics and toxicological profiles of DM; long cutaneous block by lidocaine and DM; toxic and beneficial effects of DM on the central nervous system; pharmacokinetics of DM and drug interactions; DM as a probe drug for CYP2D6 and CYP3A4 phoptotyping; evaluation of CYP2D6 in DM-herb interactions; and clinical uses and health effects of DM.

Monoamine Oxidase Inhibitors: Clinical Pharmacology, Benefits, and Potential Health Risks
Sushil K. Sharma (Saint James School of Medicine, Kalendijk, Bonaire, Dutch Caribbean, The Netherlands)
In series: Pharmacology - Research, Safety Testing and Regulation
Hardcover: 978-1-63483-600-5. $230.00.
This book provides basic and applied knowledge about monoamine oxidase inhibitors (MAOIs), their classification, and clinical application as neuroprotective agents and will be a valuable source of new knowledge for doctors, patients, medical students, teachers, researchers, and basic biomedical scientists interested in learning the appropriate clinical application of MAOIs without any misunderstanding for the prevention and/or treatment of neurological and neuropsychiatric disorders. The book will be of immediate interest to patients suffering from Parkinson’s disease (PD), Alzheimer’s disease (AD), post-traumatic stress disorders (PTSD), panic disorders, attention deficit hyperactivity disorders (ADHD), and major depression. Physicians interested in learning more about MAOIs and their molecular and pharmacological mechanism of action will highly benefit from the book’s clinically-interesting contents. In general, this book will be a valuable source of knowledge for the basic researcher, clinically useful for the physician, and therapeutically-beneficial for the patients. The book can also serve as a guide for Masters and PhD students interested in conducting research on MAOIs. Particularly, MD doctors, students, and professors will find this book interesting to enhance their basic knowledge about MAOIs and their potential benefits and adverse effects for the better clinical management of drug-resistant PD, AD, and MDDs. Furthermore, recent knowledge regarding the molecular mechanism of MAOIs-mediated protection at the cellular, molecular, and genetic level is thought-provoking and motivates the young scientists to augment research on developing novel drugs with minimum or no adverse effects. It is envisaged that future research on specific CB-targeted MAOIs will have superior pharmacogenomics profiles, enhanced margin of safety, maximum therapeutic index, and minimum or no adverse effects.

Optimization of Drug Prescribing in Elderly
Hugo Juárez-Olguín and Ismael Lares-Assef (CIDIR, Durango, Mexico)
In series: Pharmacology - Research, Safety Testing and Regulation
Hardcover: 978-1-63484-879-4. $110.00.
The present book offers a set of chapters which describes the procedure for drug treatment of the principal diseases that older people suffer from. In the pharmacological concept, it has been established that pharmacokinetics is the most useful strategy to determine the prime schedule of different medications for seniors. These strategies can be applied in a clinic or nursing home as well as in a home. The initial chapter describes optimizing this technique, continuing with a description of the most common illnesses due to old age. The next chapter discusses deep concepts of pharmacokinetics. Afterwards, some examples of pharmacokinetics studies are described. The text finishes with a description based on previous studies about the patterns of drug consumption in older individuals. The authors hope this material can be useful first to aid the elderly population and can motivate the investigation of pharmacokinetic studies, since this material is lacking in the global context.
remains obscure, but it may be affirmed that the contact of the oral these forms cause pain, discomfort and debilitate the patient, because it
three stages: (1) inflamed stage; (2) proliferative stage of fibroblasts and blood vaso; and (3) maturing stage and collagen remodeling. All of these forms cause pain, discomfort and debilitate the patient, because it makes eating difficult and aggravates the clinical condition of inflammation. The exact reason for the appearance of these lesions remains obscure, but it may be affirmed that the contact of the oral mucosa tissues with physical agents capable of inducing trauma such as the edges of teeth, fractured crowns or defected restorations and maladapted orthodontic and prosthetic appliances or even the ingestion of acidic foods represent the main causes. Any medicinal strategy which anticipate or promote a closer remodeling to the physiological one is certainly desirable, because it would collaborate to reduce the discomfort and risk of later infection. The form of treatment indicated can vary depending on the professional and the period of the inflammatory cycle, and as therapy, antimicrobial compounds (terramycin, neomycin), non-steroid anti-inflammatory (derived from propionic acid), and steroid anti-inflammatory (triamcinolone - Oncilom-A®) agents may be used. Nevertheless, many patients that come to the dental offices with aphthous and stomatitis seek natural treatment for these afflictions. However, since the studies in this area are still at the developmental stage, an approach to prescription, posology and pharmacokinetics of these medicinal plants is needed, and this has led pharmacology, pharmacognosis, phytochemistry and microbiology entities to invest in research of new drugs with active principals of natural origin. Due to the importance of medicinal plants, studies about medicinal plants have been increased. Our objective in this book is to verify the classification, diagnosis, causes and treatment of mouth ulcers. Also, the anti-inflammatory and healing activity of Arnica montana, Chamomille recuita, and Zingiber officinale on the treatment of ulcer lesions, as well as observing the development of the repair process, are included. Furthermore, we have prepared a description about Traditional Chinese Medicine and mouth ulcer treatment.

Phytotherapy Approaches for Oral Ulcers Treatment

Ana Maria Trindade Gregio, Patricia Vida Cassi Bettega, Mariana Rinaldi, and Aline Cristina Batista Rodrigues Johann (Pontificil Univ. Catholic of Parana, Brazil, College of Pharm. and Pharmaceutical, The Univ. of Toledo Health Science Campus, OH, USA)

In series: Pharmacology - Research, Safety Testing and Regulation
2016. 103 pp.
Hardcover: 978-1-63484-672-1. $110.00.
Phytotherapy Approaches for Treatment of Mouth Ulcers is a book with updated and illustrated text with pictures and graphs that help to define, characterize and classify mouth ulcers. The most frequent oral mucosa lesions are the aphtous ulcerations with a prevalence of 4.6 to 30.6%. These can be defined as a fundamental lesion characterized by the absence of the epithelial tissue layer, which makes the subjacent conjunctive tissue unprotected and vulnerable to external aggressions. There are three main forms, the most common being the aphthous; these are small, rounded, defined ulcerations that are painful and heal in 10 to 14 days. The other form of recurrent aphtous ulceration is the type of deep, long aphthous that present a grayish yellow aspect, with the same period of duration and the patient frequently presents monthly lesions. They are also called herpetiform aphthous. A third form of recurrent aphtous ulceration are those distributed on the tongue dorsum; these are oral mucosa, but they are not located in the keratinized region. The mouth ulcer healing process is very complex, being characterized by taking out the conned tissue, and replaced by a conjunctive tissue. The standard healing process can be divided into three stages: (1) inflamed stage; (2) proliferative stage of fibroblasts and blood vaso; and (3) maturing stage and collagen remodeling. All of these forms cause pain, discomfort and debilitate the patient, because it makes eating difficult and aggravates the clinical condition of inflammation. The exact reason for the appearance of these lesions remains obscure, but it may be affirmed that the contact of the oral mucosa tissues with physical agents capable of inducing trauma such as the edges of teeth, fractured crowns or defected restorations and maladapted orthodontic and prosthetic appliances or even the ingestion of acidic foods represent the main causes. Any medicinal strategy which anticipate or promote a closer remodeling to the physiological one is certainly desirable, because it would collaborate to reduce the discomfort and risk of later infection. The form of treatment indicated can vary depending on the professional and the period of the inflammatory cycle, and as therapy, antimicrobial compounds (terramycin, neomycin), non-steroid anti-inflammatory (derived from propionic acid), and steroid anti-inflammatory (triamcinolone - Oncilom-A®) agents may be used. Nevertheless, many patients that come to the dental offices with aphthous and stomatitis seek natural treatment for these afflictions. However, since the studies in this area are still at the developmental stage, an approach to prescription, posology and pharmacokinetics of these medicinal plants is needed, and this has led pharmacology, pharmacognosis, phytochemistry and microbiology entities to invest in research of new drugs with active principals of natural origin. Due to the importance of medicinal plants, studies about medicinal plants have been increased. Our objective in this book is to verify the classification, diagnosis, causes and treatment of mouth ulcers. Also, the anti-inflammatory and healing activity of Arnica montana, Chamomille recuita, and Zingiber officinale on the treatment of ulcer lesions, as well as observing the development of the repair process, are included. Furthermore, we have prepared a description about Traditional Chinese Medicine and mouth ulcer treatment.

The Pet Medication Industry: Overview, Competition and Distribution Issues

Anita R. Alvarez

In series: Pharmacology - Research, Safety Testing and Regulation
Hardcover: 978-1-63485-316-3. $120.00.
e-book: 978-1-63485-317-0. $120.00.
The U.S. market for pet medications is growing, and is in a state of transition. Although many pet owners continue to purchase their pet medications directly from veterinarians, this traditional distribution model has been challenged by the entry and expansion of retail businesses (both online and brick-and-mortar) that sell pet medications, as well as changes in the business practices of pet medication manufacturers, distributors, veterinarians, and retailers. This book provides an overview of the pet medications industry then examines prescription portability (prescriptions that can be filled by someone other than a veterinarian). The book also looks at distribution practices and the topic of generics. Recommendations on potential policy choices are made and areas that could benefit from additional study are identified.

Autonomic Nervous System (ANS): Clinical Features, Functions and Disorders

Patrick Bernard Owens

In series: Human Anatomy and Physiology
2016. 182 pp.
Hardcover: 978-1-63484-884-8. $110.00.
e-book: 978-1-63484-905-0. $110.00.
Physiological functions of the body (muscle contraction, visceral activities, glandular functions, etc.) are regulated autonomously by a constituent of the peripheral nervous system commonly known as the autonomic nervous system (ANS). The ANS is controlled by centers found in the spinal cord, brain stem and hypothalamus. The authors of
this book discuss the clinical features, functions and disorders of the ANS.

PURCHASED

RECURRENT PREGNANCY

Recurrent Pregnancy Loss: Prevalence, Risk Factors and Outcomes
Lilliana R. Evans
In series: Pregnancy and Infants: Medical, Psychological and Social Issues
2016. 192 pp.
Softcover: 978-1-63485-747-5. $95.00.
e-book: 978-1-63485-760-7. $95.00.
This book provides up-to-date research on the prevalence, risk factors and outcomes of recurrent pregnancy loss. Chapter One discusses immunopathogenetic aspects of recurrent miscarriages with infectious genesis. Chapter Two examines abnormal endometrial decidualisation in endocrine disorders associated with early recurrent pregnancy loss. Chapter Three focuses on the significance of the determination of antibodies to different phospholipids and some genetic factors for thrombophilia in patients with systemic lupus erythematosus. Chapter Four explains immunorehabilitation in miscarriages of pregnancies.

PSYCHOLOGY AND PSYCHIATRY

A Social-Ecological Approach to Cyberbullying
Michelle F. Wright (Masaryk University, Institute for Research on Children, Youth, and Family, Joštova, Brno, the Czech Republic)
In series: Bullying and Victimization
2016. 443 pp.
Cyberbullying is a growing concern and a negative consequence associated with children's and adolescents' increasing accessibility to the internet and digital technologies. Children and adolescents are accessing the internet and these technologies at younger and younger ages, leaving some of them vulnerable to cyberbullying. As a new phenomenon, cyberbullying might be best understood as a complex process resulting from the interplay among the individual and multiple environments. To this end, this groundbreaking book provides a new framework for understanding cyberbullying perpetration and victimization. Utilizing the social-ecological perspective to describe how personal factors and multiple environments contribute to cyberbullying, the book compiles research on these topics from international researchers in developmental psychology, social psychology, counseling, school psychology, social work, criminology, law, and clinical psychology. Providing critical information about individual and contextual predictors of cyberbullying, the authors provide new practices and policies for addressing these behaviors. Key topics include: • Cyberbullying and cyber aggression • Theoretical considerations • Definition and measurement of cyberbullying • The role of individual-level variables in cyberbullying perpetration and victimization • Parental involvement in children's cyberbullying • Schools' and peers' roles in cyberbullying • Cultural context for understanding cyberbullying • The impact of cyberbullying on mental health • The roles of victim, bully, bully-victim, and bystanders in cyberbullying • Policies, procedures, and recommendations for addressing cyberbullying This book is an essential read for researchers, educators, and policy-makers who are concerned with the social, emotional, and physical well-being of children and adolescents. In addition, the book will be an invaluable resource for anyone interested in the factors that make children and adolescents vulnerable to cyberbullying perpetration and victimization.

ADVANCES IN PSYCHOLOGY RESEARCH

Advances in Psychology Research. Volume 114
Alexandra M. Columbus
In series: Advances in Psychology Research
Hardcover: 978-1-63484-317-1. $160.00.
This book focuses on the latest developments in psychology research. The first chapter reviews the effects of acute aerobic exercise and high intensity interval training (HIIT) on positive and negative affect. The following chapters discuss alexithymia, psychological flexibility and social anxiety; analyses the ethical implication of discrimination, especially discrimination that may occur inadvertently, through a type of stigma; presents eating disorders in women as a multifaceted and complex social phenomenon; evaluates the potential of visible facial behavior in studies of affective disorders; studies infants' communication and parental triad nonverbal interactions; and examines the challenges and practices, and provides research on distinguishing grief from depression in the clinical setting.

Advances in Psychology Research. Volume 115
Alexandra M. Columbus
In series: Advances in Psychology Research
This book focuses on the latest developments in psychology research. The chapters included in this book examine the relationship between identity, ideology, victimization and ideological segregation and diverse emotional variables; personality traits of spitefulness in humans and non-humans; the theoretical panorama on the experience of guilt; the interpretation of guilt in adolescents from the perspective of guilt-eliciting situations, trait guilt, self-disgust, and feelings of inferiority; individual differences in attitudes toward gay males; research findings on the relationship between tobacco consumption, negative affect, negative reinforcement, and relapse; the possible influence of parental Problematic Internet Use (PIU) on the mental health of their children; the epidemiology of suicidality, mortality and over-dose associated with Z-drugs; social influences on meat consumption; and "engineer's intuition" in the construction industry in Japan.

Advances in Psychology Research. Volume 116
Alexandra M. Columbus
In series: Advances in Psychology Research
2016.
Hardcover: 978-1-63485-927-1. $190.00.
This book focuses on the latest developments in psychology research. Chapter One reviews the theoretical underlying mechanisms of building self-control from three perspectives: self-control as a limited resource, social cognitive changes in self-control, and neurological models of improving self-control. Chapter Two reviews physical self-perception of college students. Chapter Three examines the impact of mood and environmental cueing on thought suppression. Chapter Four focuses on the psychological benefits of urban nature. Chapter Five examines how far regulatory focus moderates women's instinctive motivation in financial decisions when responding to erotic stimuli involving the choice of a partner for a short- or long-term relationship. Chapter Six investigates whether and in what ways acceptance of neoliberal political beliefs may be associated with individual responses to risk for an incapacitated sexual assault. Chapter Seven examines the relationship between the caretaking experiences of mothers and their caregiving experiences with their subsequent infant, born following stillbirth. Chapter Eight identifies correlations between extended-hour, center-based care, including nighttime care and schoolchildren's
health, and the childrearing environment provided by parents and the health of school-age children. Chapter Nine is a commentary on the role of psychology in preparing for lean times.

Advances in Psychology Research. Volume 117
Alexandra M. Columbus
In series: Advances in Psychology Research
2016.
This book focuses on the latest developments in psychology research. Chapter One aims at the presentation of specific determinants for indirect type aggressive behaviour in adolescence. Chapter Two studies child-to-parent violence (CPV). Chapter Three briefly summarizes the long-standing literature on stereotypes about gender and emotion and how gender role socialization reinforces these stereotypes before highlighting more recent empirical evidence that refutes at least some of these commonly held beliefs. Chapter Four assesses personality traits and psychiatric indicators in active alcohol-dependent subjects, and also determines the possible associations between clinical conditions alcohol use pattern and time. Chapter Five focuses on insomnia disorder. Chapter Six highlights and compares evolving views concerning morality at different points in time and in different cultural contexts, in addition to reviewing the existing commonly-held opinions regarding the development and purpose of morals within human society. Chapter Seven presents a systematic review and meta-analysis of controlled trials assessing the efficacy of Group Cognitive Behavioural Psychotherapy (GCBT) for Obsessive-Compulsive Disorder (OCD). Chapter Eight discusses novel pharmacological strategies for the treatment of depression. Chapter Nine provides new insights for the pharmacological treatment of Alzheimer Disease. Chapter Ten discusses novel perspectives for the pharmacological treatment of Parkinson Disease.

Advancing the Science of Suicidal Behavior: Understanding and Intervention
Dorian A. Lamis and Nadine J. Kaslow (Emory University School of Medicine/Grady Health System, Department of Psychiatry and Behavioral Sciences, GA, US)
In series: Psychology of Emotions, Motivations and Actions
2016. 495 pp.
Suicide is a complex human behavior that remains one of the leading causes of death worldwide. Although suicidal behavior continues to perplex clinicians and scholars, there have been recent advances with regard to the research related to the understanding, assessment, and biopsychosocial treatment of suicidal individuals, as well as the prevention of suicidal behavior. This volume combines the efforts of several leaders in the field of suicidology in an attempt to grasp a better understanding of why people have suicidal thoughts, engage in suicidal behavior, and ultimately die by suicide. The book is divided into four major parts and provides a comprehensive summary of the exciting progress being made in the field of suicide prevention. Part I discusses epidemiology, epigenetics, and theories of suicide. Part II focuses on assessment, prevention, intervention, and postvention. Part III examines suicide in special populations. Part IV explores suicidal behaviors in psychological disorders. This unique and comprehensive book is intended for graduate students, researchers, clinicians, and professionals who may encounter issues relating to suicide on a regular basis.

Ageing and Mental Health: Global Perspectives
Wendy Wen Li (James Cook University, Australia), Sherry M. Cummings (The University of Tennessee), Ilanga Ponnuswami (Bharathidasan University), and Hong-Jae Park (The University of Auckland)
In series: Aging Issues, Health and Financial Alternatives
Hardcover: 978-1-63484-777-3. $190.00.
Globally, the number of elderly individuals is growing at an unprecedented rate. Currently, eleven percent of the worldwide population is 65 years and older. This number will more than double to twenty-two percent (2 billion) by 2050. As the older population continues its inexorable growth, so does the number of older adults with mental health disorders, such as Alzheimer’s disease, depression, anxiety and schizophrenia. For example, the number of individuals affected by dementia worldwide is expected to double every twenty years to over 81 million by 2040. Depressive episodes in later life are also prevalent, and depression is the leading cause of disability in older adults worldwide. These mental disorders lead to increased morbidity and mortality in older adults, and often they can exact a negative toll on their family members. To respond to the ageing world, this book sets out to help researchers, policy makers, service providers, and students develop their knowledge of the issues associated with ageing and mental health throughout the world. Written by twenty-one gerontological experts from Africa, Asia, Europe, North and South America, and Oceania, this book provides an understanding of issues related to ageing and mental health from global perspectives.

Ageing Disgracefully, with Grace: Enjoying Growing Older
Michael John Lowis (Chartered Psychologist, Associate Fellow of the British Psychological Society, Honorary Academic Writer University of the Highlands and Islands, Scotland)
In series: Psychology Research Progress
2016. 130 pp.
Hardcover: 978-1-63484-488-8. $110.00.
A doctor was once heard to say that it is a pity we know our own age; otherwise, we could just say that we are as old as we feel. The populations of most countries are ageing, and because of this we can anticipate many years of retirement. We need to make the most of this opportunity, but we are faced with exhortations such as “act your age.” Does this mean that older people should not have fun anymore, but should instead conform to conventional stereotypes such as being unproductive, conventional, inflexible, serene, and no longer interested in intimacy? In other words, should people have to grow old gracefully? The answer is no. Instead, we should enjoy ageing while still having fun and living life to the fullest. The author, Dr. Mike Lowis, is a psychologist and theologian who has numerous academic publications to his name, including over sixty articles in peer-reviewed journals, two books and two book chapters. His vast research experience, plus being himself in the ‘third age’ of life, adequately qualifies him to write on the topic of making the most of the retirement years. He delights in debunking the myths and stereotypes of ageing, and gives many examples of individuals who have achieved great things in later life. The book includes details on several ways that can help older people to cope with life, including making full use of both music and humour. This book is written in an accessible style that should also appeal to the interested general reader. The book also includes some simple self-test exercises that readers are invited to complete, the results of which should help those interested to gauge their own levels of progress toward life satisfaction.
An Introduction to the Interpersonal-Cognitive-Behavioral Treatment System (I-CBT): A 21st Century Recipe for Mental Health Treatment Success

Thomas A. Cordier (PhD, NECBT Cordier Institute for I-CBT, Glastonbury, CT, USA)

In series: Mental Illnesses and Treatments

An Introduction to the Interpersonal-Cognitive-Behavioral Therapy (I-CBT) Treatment System: A 21st Century Recipe for Mental Health Treatment Success introduces a revolutionary treatment model for patients entitled “the I-CBT Treatment system.” The I-CBT system is currently being utilized to treat child, adolescent and adult patients struggling with an array of mental health issues such as depression, anxiety, post-traumatic stress disorder, obsessive compulsive disorder, and attentional deficit disorders. Additionally, other mental health issues that affect these patients. The I-CBT approach was designed to address and correct problems associated with America’s struggling mental health system. The I-CBT model incorporates pre-existing, highly effective clinical methods such as cognitive-behavioral therapy emotional intelligence and behavioral training for patients, professionals and parents “and other effective psychological and psychiatric practices” into one integrative, structured and easily comprehensive treatment system. The I-CBT treatment system serves to increase the access and usage of validated treatment in our ever-evolving complex world. This book not only serves as an instructional model to aid in the implementation of the I-CBT system but it is also lined with a wealth of valuable, explanatory material pertaining to current psychological and psychiatric practices, validated treatment concepts, and the advancement of the mental health field. The book also serves as a highly beneficial educational resource for the reader who is interested in learning more about successful mental health treatment components and their applications.

Antipsychotic Drugs: Classification, Pharmacology and Long-Term Health Effects

Mark L. Aguilar

In series: Psychiatry - Theory, Applications and Treatments
In series: Pharmacology - Research, Safety Testing and Regulation
Hardcover: 978-1-63484-403-1. $110.00.

Antipsychotics are a class of psychiatric medications primarily used to manage psychosis symptoms, including delusions, hallucinations, or disordered thought. This book discusses the classification, pharmacology and long-term health effects of antipsychotic drugs. Chapter One provides definitions, boundaries, and misconceptions of treatment adherence in psychotic disorders. Chapter Two studies pharmacopoe and metabolic disturbances of atypical antipsychotic drugs. Chapter Three reviews recent human and animal studies showing anti-inflammatory effects of existing antipsychotic drugs, emphasizes recent clinical trials with some antiinflammatory drugs including aspirin, celecoxib, minocycline, and N-acyethylcysteine (NAC), and offers theoretic explanations for roles of neuroinflammation in schizophrenia. Chapter Four addresses the aetiology, associations and types of sexual problems in patients on long-term antipsychotic medications.

Art Therapy: Programs, Uses and Benefits

Vincent Buchanan

In series: Psychology Research Progress
2016. 175 pp.

Art therapists have long theorized about the healing properties of visual expression through various media and have articulated the importance of media choices based on individual client needs for self-expression and healing. Art Therapy is a tool that can favor social, educational and cultural integration for disadvantaged children and minority communities. Artistic activities promote tolerance, dialogue, respect for diversity and interaction among others. The field of art therapy is based on a few basic assumptions that only recently have achieved some degree of research-based support. The first chapter of this book examines three assumptions that underlie the field of art therapy and their relations to art therapy theory and practice. The second chapter reviews the model of the Expressive Therapies Continuum (ETC), and illustrates its use in assessment and treatment planning with case examples. The following chapters introduce aesthetics as it informs art therapy intervention; present the concept of ritual and explores the possibility of creating spontaneous rituals as a central axis in art therapy, in drama therapy and in nature therapy in particular; explores art therapy programs for building peace territories in schools in Ecuador; provide a literature review relevant to the use of visual journaling with military veterans; studies art therapy for mobilizing personal resources in the elderly; describes the ViDeinsight® Method and its applications in the psychotherapeutic setting, in distress prevention and in promoting well-being and early recovery during rehabilitation following surgery; and provides an overview of the application of LEGO® block creations as a medium for art therapy.

Borderline Personality Disorder: Understanding the Unconscious Function of Deliberate Self Harm and Managing the Transference Relationship

Amanda Commons Treloar (Alumni of Monash University, School of Psychology, Psychiatry & Psychological Medicine, Victoria, Australia)

In series: Psychology of Emotions, Motivations and Actions
Hardcover: 978-1-63117-076-8. $150.00.

Ideally a resource for clinicians and therapists, this book describes the value of using a psychoanalytic theoretical framework to explore and understand behavioural disturbance in patients diagnosed with borderline personality disorder (BPD). It blends both theoretical and practical treatment considerations in working with BPD, using detailed case study presentations to demonstrate this material. It also provides a description of diagnostic procedures and the importance of recognising the transference relationship with patients diagnosed with this disorder. The psychoanalytic framework of moral masochism by Freud (1924/1961) is used to explore the unconscious function of deliberate self harm behaviours. Case illustrations are offered to highlight the process by which to understand the patient’s unconscious responses throughout treatment, and to appreciate the patient’s experience of clinical care when a consideration of these unconscious processes is disregarded or not adequately acknowledged. Specific discussion is then offered on appreciating the role of the clinician in the therapeutic alliance in terms of the patient’s prognosis. The role of the transference in the repetition of the patient’s trauma, and therefore the occurrence of recurrent deliberate self harm episodes during treatment, is then considered in detail. Recommendations are also provided as to more robust diagnostic practices and more effective clinical responses to BPD patients, particularly in relation to the recognition of the significance of the transference relationship and the importance of managing the countertransference in the therapeutic contact with such patients. The theoretical content of this book has been empirically tested (within education programs offered to emergency medicine and
mental health clinicians in Australia and New Zealand) to demonstrate its effectiveness in improving clinician attitudes toward working in this clinical area, and in improving clinician consideration of the diagnostic criteria required for application of the diagnosis.

Building Mental Health Capacity in Haiti through Collaborative Partnerships
Guerra Nicolas, Gemima St. Louis and Castagna Lacet
(Department of Educational and Psychological Studies; School of Education and Human Development, University of Miami, FL, USA)
In series: Mental Illnesses and Treatments
Softcover: 978-1-63485-169-5. $95.00.
e-book: 978-1-63485-200-5. $95.00.
The increasing focus on mental health across the globe calls for guidance on how mental health programs can be tailored to different cultures and suggests the best practice models for addressing these issues from a cultural context. Additionally, in countries with limited resources and increased susceptibility to natural disasters, the call is even more urgent. In addition to poverty and limited resources, low- and middle-income countries (LMICs) are most vulnerable to disasters, which make the need for culturally sensitive and sustainable mental health programs even greater. This monograph provides a framework for how to address mental health issues internationally in collaboration with local partners to create sustainable programs. Specifically, this monograph provides didactic and practical examples using a mental health-training program that has been implemented in Haiti for the past 20 years. Successes and challenges, as well as lessons learned and recommendations for other practitioners and researchers, are provided. This monograph is a guidebook focusing on how to implement mental health training programs internationally. The authors’ aim is to structure the book in a way that will use Haiti as an example of what scholars who are interested in global mental health can do to effectively implement a training program internationally. This monograph includes didactic as well as detailed practical examples with illustrations of the mental health training program in Haiti for the past two decades. The monograph highlights the guiding principles that we have used as a framework for the authors’ research. They are: (1) In-Country Partnership, (2) Enhancing Cultural Knowledge, (3) Building a Culturally Competent Team, (4) Creating a Culturally Relevant Curriculum, and (5) Building Capacity. The authors’ show the reader how to use the framework and approaches with any subject and country. The intended audiences for the monograph are practitioners, academics, researchers, human service providers, program administrators, public health advocates, policymakers, community leaders, undergraduate and graduate students, non-profit and grassroots organizations, and state and international agencies with an interest in developing, implementing, and evaluating culturally-appropriate mental health training programs for use in international settings. Given the increased number of individuals immigrating to the United States and the diverse demographic make-up of the country, the information presented in this monograph can be useful nationally to individuals who are interested in learning about ways to make mental health programs more culturally appropriate to ethnically diverse clients.

Catatonia on the Consultation Liaison Service and Other Clinical Settings
Brendan T. Carroll, M.D. and David R. Spiegel, M.D.
(Ohio University Heritage College of Osteopathic Medicine, Athens, Ohio, USA)
In series: Neuroscience Research Progress
Hardcover: 978-1-63463-809-8. $110.00.
Softcover: 978-1-63485-355-2. $79.00.
Catatonia is an interesting neuropsychiatric syndrome. It resides at the intersection of psychiatry and neurology. For far too long it has been a curious subtype of schizophrenia or an infrequent observation; but catatonia is not rare. It can be found within the clinical domains of many branches of medicine. Catatonia is misunderstood. Catatonic signs and symptoms are often interpreted as volitional when they are not. These patients are given attention because they often respond favorably to treatment. It can be found in historical cohorts, Catatonia liaison settings, developmental disorder clinics and medical units. Now with the advent of DSM-5, Catatonia has a home of its own. DSM-5 and ICD-10 now identify Catatonia as a primary psychiatric disorder, a primary medical disorder and the primary presentation of a long list of psychiatric, neurological and medical conditions. The screening and identification of catatonia is very important in consultation liaison and other clinical settings. This book offers new methods to detect and diagnose Catatonia. The authors have brought together researchers, clinicians and trainees from a variety of clinical disciplines to contribute to this book. In fact, this book is not a perfunctory review of catatonia. It brings forth new ideas: the screening of Catatonia, new cases of Catatonia and new ways of conceptualizing Catatonia in DSM-5 and ICD-10. This is the theme presented for a fresh approach to the diagnosis and treatment of Catatonia in non-psychiatric settings for the clinical syndrome that has been described since antiquity. This book is recommended to any clinician, nurse, research student or team member who will encounter patients with Catatonia. This includes most of those working in emergency rooms, medical and surgical units, child and adolescent clinics and nursing homes. The authors think that the reader will find this book intriguing, straightforward and offering promise to the care of patients with Catatonia.

Cognitive Control: Development, Assessment and Performance
Pamela Garza
In series: Perspectives on Cognitive Psychology
2016. 94 pp.
Softcover: 978-1-63485-411-5. $82.00.
e-book: 978-1-63485-432-0. $82.00.
Cognitive stimulation (CS) is an individualized approach to help cognitively impaired Alzheimer’s disease (AD) and dementia patients and their families in identifying personally relevant goals and devising strategies for addressing them. Chapter One in this book provides a systematic review of cognitive stimulation and information-communication technologies (ICT) in AD. Chapter Two assesses the efficacy of Cognitive Stimulation (CS) on cognitive, behavioural and affective aspects and mortality risk in institutionalized patients with dementia after a one-year follow-up. In the last chapter, the authors review studies on eye movements accompanying cognitive activity (EMaCA), then describe their studies with an eye-tracking recording system.

Consciousness: Social Perspectives, Psychological Approaches and Current Research
Lloyd Alvarado
In series: Perspectives on Cognitive Psychology
Hardcover: 978-1-63485-023-0. $230.00.
Consciousness is a phenomenon that puzzled many thinkers of the past in disparate fields, including theology, literature, art and philosophy, and continues to be a hot topic of debate at present. However, in the last few decades, the change of paradigm brought by cognitive psychology and the emergence of new techniques, which allowed the in vivo study of the human brain, have made the investigation of consciousness a respectable field of scientific research. This book discusses social perspectives of consciousness, as well as provides current research on psychological approaches.
Creativity in Gifted Children
Roya Klingner (The Global Center for Gifted and Talented Children, Munich, Germany)
In series: Psychology Research Progress
Defining creativity comprehensively explains what creativity is from an international diverse standpoint. At the same time, it makes for a concise and inspiring read that brings together everything there is to know about creativity and gifted children. This practical text is based on the newest research, and the described practice enables the reader to understand what creativity means and how we can develop potential in creative gifted children by creating a positive, constructive, and challenging curriculum along with a supportive learning environment for them.

Critical Thinking: Theories, Methods and Challenges
Gerard Gibson
In series: Perspectives on Cognitive Psychology
Critical thinking, being a general competency, is usable in different professions and areas of human life. In most professions, the crucial ability is to be capable of problem-solving and decision-making. If one needs to make a decision, it is the critical thinking aspect that is most helpful in making the right decision. Nowadays, much more important than to know how to find information is the ability to meaningfully process it. Critical thinking includes higher-order cognitive operations, such as interpretation, analysis, evaluation, inference, explanation and self-regulation. The authors of this book examine the theories, methods and challenges of critical thinking and its applications in the real world.

Discussions with Julian Jaynes: The Nature of Consciousness and the Vagaries of Psychology
Brian J. McVeigh (PhD, Julian Jaynes Society, NV, USA)
In series: Psychology Research Progress
2016.
Softcover: 978-1-53610-054-9. $82.00.
e-book: 978-1-53610-067-9. $82.00.
In 1976, the late Julian Jaynes of Princeton University published the groundbreaking The Origin of Consciousness in the Breakdown of the Bicameral Mind in which he argued that before the twelfth century BC, the minds of individuals were of a different neurocultural organization. Rather than being consciously self-aware as people nowadays think of it, the behavior of our ancient predecessors was governed by religiously-inflected “voices” and visions. These were produced by a “two-chambered” or “bicameral” mentality: language areas in the right hemisphere (the ruler or “god” side) organized advice and admonishments and coded them into hallucinatory experiences that were conveyed over the anterior commissure to the left hemisphere’s corresponding language regions (the follower or “person” side). Brian J. McVeigh, a student of Julian Jaynes, took the opportunity in 1991 to record a series of informal, wide-ranging, and unstructured discussions with Jaynes, considered a controversial maverick of the psychology world. Weaving their way in and out of the discussions are the following themes: a clarification of the meaning of “consciousness”; the relation between linguistics, consciousness and language study as a crucial method to reveal this relation; the history of psychology and its prejudices (e.g., the marginalization of consciousness as a research topic, ignoring socio-historical aspects of psyche, the significance of religion, the fraudulence of Freudianism, and the overuse, vagueness, and emptiness of “cognitive”); and some practical, therapeutic implications of Jaynes’s ideas on consciousness. This book will appeal to anyone interested in the emergence of consciousness, language and cognition, cultural psychology, the history of psychology, and the neurocultural transformation of our species. A glossary of names provides useful historical context. Presenting a series of wide ranging and thought-provoking conversations with Julian Jaynes, who was one of the most insightful and original thinkers of the twentieth century, Discussions with Julian Jaynes constitutes an important contribution to the growing literature on Jaynes and his ideas.

Emotional Intelligence and Health Outcomes: Toward an Ecological Model of Well-Being
Leehu Zysberg (Gordon College of Education, Haifa, Israel)
In series: Health Psychology Research Focus
2016.
Softcover: 978-1-53610-052-5. $95.00.
Everybody talks about emotional intelligence, it seems; educators, organizational science experts, self-help and self-growth gurus all speak of the ability to identify emotions, use them in problem-solving, decode complex emotional reactions and regulate emotion to guide internal and external behavior. Is emotional intelligence really the big answer to all those big questions that went unanswered for so long? Despite the promise this budding concept holds, there is danger in overusing, abusing and overgeneralizing our insights in a field still marred by misconceptions, popular notions (that are not necessarily supported by evidence) and misguided perceptions. What people need to promote their knowledge of EI (and how to apply it) is a good theory or model to guide people’s understanding of what is known, and to help design and pose questions to keep exploring and develop our knowledge base. This is exactly what this book attempts. Focusing on the potential role of emotional intelligence within a field that, until recently, was left underexplored by social scientists: health. Despite ample evidence suggesting emotional intelligence can be a pivotal factor in understanding of effective coping with stress, well-being, psychological resilience and health, only a handful of empirical studies examined if and how emotional intelligence is associated with health outcomes. This book takes a good look at the emotion-health association across time, culture and scientific approaches, while reviewing what is known about the potential of EI to account for a broad range of health outcomes. Based on what academics know, or more importantly perhaps what they still do not know, a theoretical model of emotional intelligence and health is presented, and possibilities are presented, including directions for interpretation of current evidence for asking new questions to broaden our understanding and ability to use the concept to explain varying health conditions. Such efforts may lead to the design of screening and intervention procedures, while suggesting how emotional intelligence can work not only within the boundaries of the individual, but also within a socio-ecology of factors that shape, among other things – human health. This book can be of interest to students and academics in the social sciences and health sciences, as well as anyone who is fascinated by the intriguing (and often misunderstood) link between body and soul, mind and matter, and emotion and health.

Empathy Rules: Depression, Schadenfreude and Freudenfreude Research on Depression Risk Factors and Treatment
Catherine Chambliss and Amy C. Hartl (Chair, Dept. of Psychology, Ursinus College, Collegeville, PA, USA)
In series: Psychology Research Progress
2016.
Hardcover: 978-1-53610-000-6. $230.00.
e-book: 978-1-53610-017-4. $230.00.
This book presents compelling empirical evidence, collected in the US and Europe, that how one reacts to others’ ups and downs may
profundely affect their own mental health. Depression continues to devastate a growing number of lives globally. More than 350 million people worldwide have depression (Smith, 2014). While medications and psychotherapy help many, more solutions are urgently needed. Since social factors are known to be influential, innovative exploration of the interpersonal dimensions of depression is vital. This book explains how expressing greater empathy can help. This book is directed at a broad audience, including everyone seeking better relationships, clients wanting to amplify their recovery experience, as well as clinicians and students interested in helping others who struggle with depression. Schadenfreude (deriving pleasure from others’ misfortune) helps explain our inordinate interest in others’ pain and bad luck. It is why in the news “if it bleeds, it leads,” why so much fiction focuses on tragedy, why attention rivets on the latest celebrity arrest or rehab, and why people poor through obituaries. Granted, schadenfreude is not the whole story. Seeking information about potential threats has survival significance. Part of our brains evolved to focus laser-like on even low risk dangers. And people’s huge appetite for bad news about others’ lives has its social advantages. When adroitly conveyed, this interest communicates concern and caring. It comforts and connects people. But if the joy that other people’s problems occasionally gives you becomes unveiled, watch out. Nothing hurts more when someone’s down than seeing their own despair delight the listener or obviously make the listener feel lucky (“I’m presently thrilled not to be in that fix; better you than me!”). The trick, in friendship and other helping relationships, is to dampen expressions of schadenfreude and instead emphasize empathy. But not everyone is skilled at this, which frequently seems to result in interpersonal difficulties and enhanced risk of depression. This book was designed to highlight the perils of excessive schadenfreude when others stumble, as well as the promise of building better relationships through greater expression of “freudenfreude” (sharing others’ joy) when others’ succeed. Understanding these issues may help the reader improve relationships and reduce depressive symptoms, or possibly enable the reader to assist others battle depression more successfully. Long-term recovery depends heavily upon establishing and maintaining an effective support system. Learning how to balance one’s selfish and cooperative impulses more thoughtfully can be extremely useful in building a more robust social network. As humanity contends with modern threats, including the hazards of planetary warming, successful solutions require empathizing empathy and our interconnectedness while curbing our short-term, selfish inclinations. Although responding more optimally to depression is the focus of this book, it invites the application of these ideas to even broader concerns. Target Audience: Clinicians and clinicians in training; Psychologists and psychology students.

Empowerment: Cross-Cultural Perspectives, Strategies and Psychological Benefits

Randall Harris

In series: Health Psychology Research Focus

2016. 177 pp.

Hardcover: 978-1-63484-036-1. $190.00.


Empowerment is something that gives people hopes and dreams, brings them courage, and prompts them to be filled with the strength to live. It is a wonderful quality that should be present in everyone. People are born with splendid abilities. And throughout their lives, they can continue to demonstrate magnificent strengths. In this book, chapter one covers the latest theories and practices of empowerment. The second chapter reviews how empowerment can be a tool in both treatment and stigma reduction for individuals with serious mental illness (SMI). Chapter three discusses empowerment as a tool to enhance social integration among mainland Chinese migrants in Hong Kong. Chapter four provides a theoretical review of experiences of sexual objectification and their consequences for women. The following chapter examines empowerment of women in the tourism and hospitality industry. Chapter six describes how, through their participation in mutual assistance groups, the wives of alcoholic men are able to re-signify conjugal relationships that are usually deeply marked by physical and psychological violence. Chapter seven provides characteristics of the empowerment of Japanese families rearing children. Chapter eight provides a historical overview of the appropriation of empowerment and recovery ideas and approaches in the mental health field in Brazil. The final three chapters assess hope, provide lessons learned from an economic empowerment model, and examines prevention mother to child transmission programs for HIV-positive women living in West Nile Uganda.

Encyclopedia of Suicide (3 Volume Set)

Oliver B. Torres

In series: Psychology Research Progress

2016. 1074 pp.

Hardcover: 978-1-63485-084-1. $550.00.


Suicide is a serious problem, hallmarkd by complexity and ranked as a leading cause of death worldwide. International studies of suicide epidemiology show that suicide rates are generally greater in males than females and increase with age, with the elderly having the highest suicide rates (WHO, 2002). The prevention of suicide is, in part, contingent on the ability to identify individuals and populations at high risk and to offer prompt, effective interventions. However, evidence exists that suicidal individuals remain commonly undetected, rendering appropriate intervention unlikely. This encyclopedia presents important research on suicide.

Gambling: Risk Factors, Prevalence and Treatment Outcomes

Yvonne Carter

In series: Health Psychology Research Focus


Softcover: 978-1-63485-787-1. $95.00.

e-book: 978-1-63485-809-0. $95.00.

Gambling is a public health problem characterized by persistent and recurrent maladaptive patterns of gambling. There is a social incentive to reduce current gambling problems and prevent future gambling addiction. In this book, Chapter One begins with an analysis of the risk factors, prevalence, pathophysiology and discusses treatment options for pathological gambling. Chapter Two provides a review on the idea that games should be taxed in ac...
couple’s emotional health. Chapter Two examines the existing literature on active gaming and physical activity, and addresses game design components that have the potential to impact psychological factors such as motivation, emotions and well-being that may promote or deter long-term game play and physical activity behavior. Chapter Three systematically summarizes and evaluates the effectiveness of exergaming on fundamental movement skill competence among children and young adults. Chapter Four reviews some neuroimaging internet gaming disorder (IGD) studies and discusses the findings. The book concludes with a commentary on internet gaming disorders and its impact on the children who play.

"Green Studio": Nature and the Arts in Therapy
Alexander Kopytin and Madeline Rugh (St.-Petersburg Academy of Post-Graduate Pedagogical Training, Psychology Department, St.-Petersburg, Russia)
In series: Psychology Research Progress
Hardcover: 978-1-63484-213-6. $190.00.
This collection of articles embraces theoretical and practical issues related to the emerging phenomenon of ‘nature-based creative arts therapies’, or ‘eco-arts therapies/environmental arts therapies’. Due to the negative effects of some aspects of technological development upon various social and environmental processes, the relationship between human beings and nature has received more recognition. The growing field of eco-arts psychology reflects this attitude in its developing social-therapeutic environmental philosophy, claiming that reconnection with nature is essential not only for the maintenance of the physical world, but for people’s well-being and happiness. Many writers have written about the therapeutic aspects of nature and contact with nature, but few have tried to reconstruct the knowledge gained through practice and intuition into creating a therapeutic framework using the relationship with nature as the key reference point for therapy. From the eco-psycho-social viewpoint of ‘nature-based therapies’ not only pathogenic factors typical for intensive modern life can be fought, but resilience-building potential implied in the unmediated contact with nature together can be reinforced. The articles include highlights of the work that creative/expressive arts therapists from different parts of the globe have done over the last years to establish a new platform and instruments for therapeutic practices. The book presents a new approach that incorporates nature not as a mere setting for therapeutic creative practices, but often as a partner in the process. This raised some fundamental questions concerning the concept of therapeutic setting, the role and functions of nature as an active partner in the creative and therapeutic practices, modes of human interaction with the environment with the use of different creative/expressive means. The book has been edited to provide practitioners not only with the new theoretical perspectives, but with methods and tools that can help them to incorporate nature into their daily work with different challenged populations and their varied needs, clinical and psychosocial issues. The first part of the book includes articles that present nature-based creative/expressive arts therapies framework: theory, concepts and methods. The second part focuses on the variability of expressive and instrumental forms that can be applied in the context of the nature-based therapies: expressive music, dramatic performances and rituals, dance and movement, visual arts, photography, narratives and multimedia events. It represents a variety of practical approaches and tools used with different populations and in various institutional contexts including clinical, educational, social and community-based settings. This part of the book also addresses some of the limitations and risks that nature-based creative/expressive therapies may have, and ways in which they may be bypassed and converted into growth and resilience. The book is for anyone interested in the therapeutic use of natural materials, processes and settings in their combinations with the expressive/creative activities. It will be of particular interest to mental health practitioners, especially creative/expressive arts therapists, psychotherapists, counselors and psychologists as well as artists and other creative workers wishing to explore further the creative use of nature within their existing practices.

Hope: Individual Differences, Role in Recovery and Impact on Emotional Health
Francis L. Cohen
In series: Psychology of Emotions, Motivations and Actions
2016.
Hardcover: 978-1-63485-703-1. $160.00.
This book provides research on the individual differences of hope. It reviews the role hope has in recovery and its impact on emotional health. Chapter One describes the importance of hope in peoples' personal and professional lives. Chapter Two presents hope as a major factor in predicting the resilience of families. Chapter Three attempts to explicate theoretically the impact of hope on adolescents’ optimal achievement and its impact on their emotional well-beings. Chapter Four studies the relationship between hope, spirituality and life satisfaction, using a structural equation model approach. Chapter Five examines Polish students’ and how their spiritual experiences mediate between hope and religiosity. Chapter Six uncovers the emotional problems preceding an eating disorder and the main reasons and explanations for the development of these problems. Chapter Seven explores the two-sided nature of hope as it pertains to decision-making at the end-of-life. Chapter Eight examines the experience of hope in caregivers of children with CI. Chapter Nine focuses on the revisiting and re-storying of hopeful actions and practices in the face of emotional hurt, physical pain, sorrow, loss and shattered dreams.

Humor: Emotional Aspects, Role in Social Interactions and Health Effects
Holly Phillips
In series: Psychology of Emotions, Motivations and Actions
Expression of humor begins at an early age in humans and it arises from both cognitive and social-emotional developmental origins. This book presents research on the emotional aspects, role in social interaction, and the health effects of humor. Chapter One begins with a discussion on social-emotional and cognitive aspects of humor, and suggests that the interactions among these developmental factors provide impetus for the expression and appreciation of humor, even during early childhood. Chapter Two supports the Theory of the Absurd and the Empowerment theory as a framework of unfolding the clowning behaviors of a kindergartner and provides a positive way of considering clowning during the early childhood years highlighting its importance to play and social empowerment. Chapter Three studies the impact of humor of closeness to neighbors. Chapter Four aims to bridge the gap between theory and practice in the fields of social cognition, identity, and humor within adolescence. Chapter Five explores some of the ways that humor may influence workplace health and well-being, while also addressing some of the problematic aspects of humor use. Chapter Six explores areas of healthcare where the deployment of humor or response to patient-initiated humor and/or laughter by a health profession would be considered inappropriate by their peers and/or their patient and/or the patients’ family and friends. Chapter Seven analyzes instances of a specific kind of humor that has been identified as jocular mockery because of its frequent occurrence in intimate and close relationships among friends.
Learning Disabilities: Assessment, Management and Challenges
Rodney Parsons
In series: Psychiatry - Theory, Applications and Treatments
Hardcover: 978-1-63485-840-3. $190.00.
This book contains assessments, management options and challenges for individuals with learning disabilities. Chapter One reviews whether there is enough clinical-epidemiological evidence to support the definition of dyscalculia as a nosological category. Chapter Two examines current findings and scientific evidence that is needed to better understand metacognitive ability in higher education students with learning disorders. Chapter Three discusses the importance of hearing loss identification and rehabilitation, aimed at professionals across different disciplines and also as a starting point for those new to the audiology profession. Chapter Four details a piece of original qualitative research, designed to improve audiological issues for adults with learning disabilities and hearing loss who are supported by paid caregivers. Chapter Five focuses on the examination of the major deficits of reading in English and Chinese writing systems; reviews instructional methods to the sub-types of students with reading disabilities; and introduces recent developments in teaching programs for students with reading disabilities. Chapter Six discusses the impact of challenging behaviour on families and provides avenues for support. Chapter Seven shows the way Ariel University in Israel is dealing with the goal of giving students with learning disabilities an opportunity of being part of society and the academic world. Chapter Eight examines whether and to what extent academic institutions integrate students with high-functioning autism.

Life Satisfaction: Determinants, Psychological Implications and Impact on Quality-of-Life
Guillermo Torres
In series: Health Psychology Research Focus
The state of health and life satisfaction are influenced not only by social and demographic factors, but also by a number of other factors: the rate of occurrence of sickness and health problems, lifestyle, how leisure time is spent, a balanced diet, ecological conditions, etc. This book provides a review of determinants of life satisfaction, psychological implications, and the impact of life satisfaction on the quality-of-life. Chapter One studies the influence of social and demographic factors (age, gender group, lifestyle, presence or absence of chronic diseases) on parameters of self-assessed health and life satisfaction by studying the population of Poland. Chapter Two provides an evidence-based review of gratitude interventions. Chapter Three investigates the connection between well-being and time use with the focus on working parents. Chapter Four examines the impact of health-related quality of life on female migrant workers suffering from cadmium poisoning in China.

Mental Epidemics: From Mobbing to Terrorism Handbook
Pavel Sidorov (Doctor of Medical Sciences, Professor, Academician of the Russian Academy of Sciences, Chief Scientific Officer, The Northern State Medical University, Arkhangelsk, Russia)
In series: Mental Illnesses and Treatments
2016. 520 pp.
Hardcover: 978-1-63484-809-1. $230.00.
Mental Epidemics: From Mobbing to Terrorism Handbook focuses on a new research area: mental medicine as a psychiatric paradigm of integrative medicine. The scientific basis of mental medicine is “synergetics”. Synergetics is an interdisciplinary science of development and self-organization, which has allowed the successive and systematrical combination of treatment and rehabilitation strategies of nosocmonic clinical psychiatry with preventive and correctional methods of health-oriented mental preventology. Mental medicine strengthens mental health and treats mental illnesses. Its mission lies in enabling adaptive engineering and management of mind and health. This book presents a synergetic biopsychosociospiritual concept of development of mental epidemics — that is, contagious polymodal and polymorphic mental diseases and states. The conceptual provisions of mental health services are proposed, and requirements for mental health system monitoring as an interface of the public conscience are included. The features of anti-epidemic biopsychosociospiritual care are examined in this book. These features include somatotropic and psychotropic management, psychotherapeutic and sanogenetic management in multidisciplinary teams, as well as social, spiritual, and moral correction and rehabilitation. The principles and techniques of mental preventology are grounded. Mental preventology grows out of a synergetic rendering of mental hygiene and psychopraxalgia, ethical and psychological support of adaptive progenesis and business communication, integration of healthy ways, and the moral meaning of life. The system of biopsychosociospiritual protection of the personality and society is represented by the resources of mental immunity, which is behaviorally embodied in the profile registers of mental resilience. This book is intended for general practitioners and psychotherapists, psychiatrists and narcologists, clinical psychologists and educators, specialists in social work and bioethics, and churchmen and volunteers.

Mental Health Conditions and Services in Selected African Countries: Implications for Social Work and Human Services Professions
Marie-Antoinette Sossou (University of Kentucky, College of Social Work, Lexington, KY, USA) and Tirelo Modie-Moroka (Department of Social Work, University of Botswana, Botswana)
In series: Mental Illnesses and Treatments
Hardcover: 978-1-63485-276-0. $190.00.
e-book: 978-1-63485-292-0. $190.00.
The mental-health conditions and services in most African countries are of great concern. There is a stark distinction of health disparities between urban and rural communities across these countries. There is an unequal divide in the allocation of resources for health related services, and mental health services have become a political decision more than the fair distribution of resources. The situation is even worse in the less developed countries across the various sub-regions. People all over the African continent are increasingly being affected by many common psychological and mental health disorders, as well as illnesses that go untreated for many years. This book is based on the assumption that there is a need to examine the conditions/services of mental health prevailing in different African countries to inform and educate people about the situation, and also to serve as an additional source of knowledge on African mental health issues. Additionally, there is a dearth of literature on mental health services from multiple African countries accessible through one anthology. Also notable is that the social work and human services professions in Africa lack textbooks written by indigenous African educators on pertinent issues affecting the people in the continent. Therefore, this book serves to fill that gap and to contribute to literature concerning Africa. The book examines mental health conditions and services in terms of diagnoses, causes, treatment and psycho-social services provided by some countries in Africa, namely Botswana, Ghana, Kenya, Nigeria, Rwanda, South Africa, Uganda and Zambia. Even though, mental health issues have
been written about by some African mental health specialists and experts, the chapters in this book are written mostly by African social work professionals and psychologists, and this is presumably the first of its kind. Each country describes the situations, conditions, resources, stigma/discrimination, traditional beliefs and practices concerning mental health, and also discusses the ways to improve the conditions and services for these populations.

Metacognition: Theory, Performance and Current Research

Julianna Benson

In series: Perspectives on Cognitive Psychology

The development of metacognitive skills in the human mind has been and is still a great challenge in cognitive psychology. This book provides current research on the theories and performance of metacognition. Chapter One analyzes the nature of metacognition conceptually with respect to its relationship to cognition. Chapter Two studies metacognition and cognitive flexibility in the transfer of learning. Chapter Three focuses on metacognition, self-regulation and feedback for object-oriented programming problem-solving. Chapter Four discusses a learning integrated approach to developing metacognition in school. Chapter Five highlights strategies which can be used to develop metacognition in classical dance classes. Chapter Six investigates the effectiveness of reciprocal and self-check teaching style in promoting metacognition in physical education classes.

Mind over Matter

Luke Strongman (Social Sciences, Open Polytechnic of New Zealand, Lower Hutt, New Zealand)

In series: Psychology Research Progress
2016.
Hardcover: 978-1-63485-739-0, $190.00.

Mind over Matter explores issues in popular psychology and science that are firstly concerned with the evolution of the human species and, more particularly, of the human mind and its functioning; secondly, it discusses how people orientate to their environments and react through communication and discourse. It will also explore some interesting bisecting roads of neural functioning, such as the purpose of déjà vu and dreaming, discuss what happens when the mind seeks “shortcuts” in the creation of understanding, and what happens at the periphery of conscious control. Mind over Matter is about the human mind and making sense of the semiosphere of information that surrounds us. As such, it is both about something – mind and behaviour – and also a reflection on thinking about the mind. The book is concerned with thinking through the ideas behind orientating oneself in an environment which is teeming with information, consciousness, and the possibilities of language and communication. The book concludes by making brief commentary on possible human evolution in the future.

Music Therapy in the Management of Medical Conditions

Mandana Hashemi (George Washington University, Washington, DC, USA)

In series: Health Psychology Research Focus
Hardcover: 978-1-63484-492-5, $190.00.

Music has been used as a mood altering intervention for thousands of years. There are numerous examples of the healing powers of music in the historical records of different cultures. In the last few decades, investigators have developed a more scientific approach to exploring the mechanisms by which music exerts its effects on the brain and other organs. Music interventions are now being used in medicine and nursing throughout the world, and “music therapy” has become an accepted discipline alongside other paramedical professions. This book is a timely and comprehensive review of the use of music as a complementary therapy, and for management of some “otherwise difficult to treat” conditions. The authors, each experts in their chosen field of medicine, have come together to compile an excellent, clear and precise update regarding the use of music therapy in different illnesses and neuropsychiatric conditions. This book contains information useful to psychologists, psychiatrists and physicians involved in primary care in other branches of medicine, as well as health science students and other health professionals interested in music as a complementary and alternative therapy (CAM). This book adds music as a potent, enlightening, and life-enriching addition to our armamentarium for the management of complex medical conditions. The content of some chapters may foster more ideas for future research. Throughout the book, there is an emphasis on the greater need for large, blinded, controlled studies to better support music therapy.

Neuroticism: Characteristics, Impact on Job Performance and Health Outcomes

Annamaria Di Fabio (Department of Education and Psychology, University of Florence, Italy)

In series: Psychology of Emotions, Motivations and Actions
Hardcover: 978-1-63485-323-1, $110.00.

Neuroticism: Characteristics, Impact on Job Performance and Health Outcomes offers a review of current theoretical and research perspectives regarding neuroticism and its impact on job performance and health outcomes. The aim is continuing to stimulate the reflection on neuroticism at both theoretical and intervention levels. The volume presents researches and perspectives about neuroticism with a focus on organizational contexts, addressed to widen the horizon regarding neuroticism and its associations in job performance and health outcomes. Concerning the research in organizational contexts, neuroticism is considered in relation to job satisfaction, workaholism, organizational and emotional intelligence, health risks, prevention in organisations, and promotion of workers' strengths in the first part of the volume. In the second part, they are reflections relative to: physiological correlates of neuroticism, relations between neuroticism and extraversion in different contexts, associations of neuroticism with innovative and adaptive outcomes (for example, flourishing and Intrapreneural Self-Capital, and career outcomes), and concluding with the importance of continuing to study neuroticism in a cross cultural perspective. The hope is that this book can really help to enhance the study of neuroticism, its characteristics, and the impact it possesses on job performance and health outcomes. The volume constitutes an aid to the valorization and protection of human resources. Its goal is giving a real contribution to favor both the performance and well-being of workers, promoting organizational productivity, business success, well-being and healthy environments in organizations.

New Directions in the Treatment of Aggressive Behavior for Persons with Mental and Developmental Disabilities

Robert Paul Liberman and Gary W. LaVigna
(Professor of Psychiatry & Director of the UCLA Psychiatric Rehabilitation Program, UCLA Department of Psychiatry & Biobehavioral Sciences)
In series: Psychiatry - Theory, Applications and Treatments

New Directions in the Treatment of Aggressive Behavior in Persons with Mental and Developmental Disabilities was written because of the paucity of practical, evidence-based and person-centered information regarding the treatment and management of aggressive behavior exhibited by persons with these disabilities. This book will acquaint readers about the: *scope of aggression among the mentally and developmentally disabled persons *basic principles for designing and validating novel treatments for aggressive behavior *comprehensive functional assessment of aggression that permits individualized design of treatment interventions with a high likelihood of success in reducing or eliminating aggression toward others or self. *positive behavior supports for a wide range of developmentally disabled persons, including those with traumatic brain injuries *currently validated, evidence-based medications for the control of aggression and how to use medications so they are monitored for effectiveness *cognitive-behavior therapy for aggression among the mentally ill *national and international dissemination and adoption of the treatment techniques described in this book. The major reason for writing this book was to bring these new directions in the effective treatment of aggressive behavior into the mainstream of services for persons with mental and developmental disabilities. The Editors engaged in enormous efforts of dissemination — far beyond publications and presentations to professional colleagues at conferences, conventions and institutes. Our extensive dissemination efforts - where they given workshops and training institutes - have taken place in China, Japan, India, Turkey, Israel, Algeria, Spain, France, Italy, Bulgaria, Poland, Czech Republic and Slovakia, Austria, Germany, Sweden, Norway, Denmark, U.K., Ireland, Australia, New Zealand and South Africa. For example, our colleagues in China recently informed us that over 50,000 Chinese persons with schizophrenia have participated in our published modules. Our previous books have been translated in numerous languages, and at last count are in active use in 23 countries. Their goal in writing this book was to encourage various service agencies, treatment facilities and clinical teams to use positive techniques in managing aggressive behavior and teach appropriate communication and self-management skills.

New Research on Collective Behavior
Till Daniel Frank (Associate Professor, Dept. of Psychology, Center for the Ecological Study of Perception and Action, Univ. of Connecticut, CT, USA)
In series: Psychology Research Progress

“Collective behavior” is can be defined as human individuals acting together in groups; these groups can be as small as three people, or as large as millions of people. Collective behavior is also concerned with animals forming swarms and flocks, neurons firing in synchrony, and chemical and biochemical particles with on-board energy depots acting together as a whole. As such, collective behavior refers to units (humans, animals, neurons, biochemical substances, etc.) interacting with each other to form a whole. In physics, collective phenomena have been studied for a long time for systems that are in thermodynamic equilibrium. Magnetism produced by the alignment of elementary spins is a well-known example. In contrast, in this book, collective behavior refers to systems composed of units that operate far from thermodynamical equilibrium. It is about lifeforms and active biochemical substances. This book presents recent developments in the research field of collective behavior. Various disciplines are addressed, ranging from economy, leisure sciences, and psychology to neurosciences, physics and biology. This book is intended both for the general reader interested in collective behavior and for the quantitative researcher looking for an update in this rapidly developing field. This book has two parts. The first part presents theoretical fundamentals and concepts. The second part provides chapters with mathematical modeling and simulations. Although the individual chapters of this book report from a variety of research disciplines, the chapters are interconnected with each other and give rise to a general picture of the state-of-the-art research on collective behavior. Target Audience: Economists, Researchers in Leisure Sciences, Psychologists, Neuroscientists, Physicists, Biologists.

Positive Psychology for Positive Pedagogical Actions
Benjamín Zúñigaurre and Maider Pérez de Villarreal (Public University of Navarra, Spain)
In series: Psychology Research Progress

Positive Psychology for Positive Pedagogical Actions is organized into three different sections, each containing an introduction and three chapters. This book provides desirable and attainable new ideas for improving education as positive interventions. The introduction of this book frames the authors’ analysis using positive psychology tools to develop techniques promoting positive pedagogical actions. Each section of this book deals with different aspects in the realm of positive pedagogies, positive psychology and practical experiences. The three sections together frame an educational roadway to prepare a humankind social capital in which positive interactive experiences, both psychologically and pedagogically related, do match. Section one, Positive Pedagogies in Action, is organized into three parts that include: Creating a Niche for Critical Pedagogical Praxis in which the theory of practice architectures supports the journey to positive realities when sharing educational purposes; Pedagogical Praxis and Storytelling: Promoting Educational Change through Participation, which gets to the notion of praxis and participatory action in education in which the bridges towards educational change are: dialogue, commitment, self and joint reflection, interaction; and Gender Consciousness: Personal Pedagogy and Political Activism, in which the idea of social change sets bounds to feminist pedagogies, and positive psychology strategies, emerging as appropriated tools connected with the feminisation of discourses and practices. Section two, Positive Psychology in Practice aims to offer a picture of how to draw positive strategies to guide teaching, while invigorating learning. It includes Affect, Emotion Regulation and Flow Experience in School and Leisure. Contributions for a Positive Education, which studies how to create the best conditions to facilitate optimal experiences at school life; Hope, Engagement and Achievement at School: How Enhancing Hope can Increase School Commitment and Success?, which supports Synder’s Hope Theory to quote the relationships between hope and engagement, effectiveness, perception of autonomy, school commitment, life satisfaction and well-being; and School as a Positive Organization: Teacher Training on Positive Pedagogies, which explains what a positive institution is and how to cultivate strengths to discover meaning and growth opportunities when sharing educational purposes. Section three, Practical Experiences to Frame our Positive Pedagogy Proposals, is sustained in positive psychology approaches to promote human development for individual, communities and societies to grow. Taking these into consideration, the combination of reflection, action and participation is the substance for the three practical experiences discussed in this section. These include Inclusive Education: A Frame for Positive Changes in South Africa, which is supported on Bronfenbrenner’s (1987) ecological model of interrelations from the macro to the micro system of educational organization; Teaching Sciences Positively, which is supported in positive psychology strategies to develop positive pedagogical practices in which infant & elementary students can live sciences in an active way, experiencing...
motivation and engagement towards scientific knowledge; and Involvement and Well-Being: A Micro School Experience, which compares involvement, emotional engagement, sharing and cooperating with one another for well-being in a school room with a teacher trained in positive psychology tools.

**Problem Behaviors: Risk Factors, Consequences and Treatment**
*Edgar Miles*

In series: *Psychology of Emotions, Motivations and Actions*  
Hardcover: 978-1-63484-621-9, $110.00.  

This current book reviews risk factors, consequences and treatment of problem behaviors in individuals. Chapter One proposes and describes a model of the initial emergence and early development of problem behavior in individuals with developmental disabilities. Chapter Two identifies discrete cognitive and behavioral risk factors associated with incoming college freshman who report aggressive or delinquent consequences while drinking alcohol. It examines whether risk factors were the same when evaluating pre-college students and conversely at the end of an academic year. Chapter Three discusses research showing older youth in the foster care system at a greater risk of engaging in problem behaviors.

**Problem-Solving: Strategies, Challenges and Outcomes**
*Karla Newton*

In series: *Perspectives on Cognitive Psychology*  
Hardcover: 978-1-63485-513-6, $190.00.  

Life is a series of coping with a variety of problems. Major or minor problems arise for us all the time, and our life is filled with them. Thus, we need to engage in constant problem-solving in our daily lives. This book reviews strategies, challenges and outcomes of problem-solving. Chapter One discusses computational thinking and fuzzy logic in problem solving. Chapter Two reviews digital technologies and mathematical problem solving. Chapter Three deals with the concept of Einstellung effect—a psychological phenomenon evinced by problem solvers through a tendency (mind set) to use previously learned workable strategy in situations that either can be resolved more efficiently or to which the strategy is not applicable at all. Chapter Four gives an overview of the research on the use of narrative Context Rich Problems (CRP) in physics education at the upper secondary and higher education levels. Chapter Five examines teaching and assessing story problems. Chapter Six assesses the interpersonal problem-solving process. Chapter Seven discusses validations and outcomes of a multi-dimensional scale to measure strategies for solving personal problems. In Chapter Eight, the ability for solving problems in our day-to-day lives, called social problem-solving is addressed. Chapter Nine examines the relationship between social problem solving and some mediator and moderator variables among 12- and 16-year-old Hungarian students. Chapter Ten investigates the effect of improving young students’ self-regulatory strategies on their persistence to face and overcome cognitive obstacles and their problem-solving ability. Chapter Eleven discusses improving undergraduate student generic problem solving skills by using problem-based learning in large classroom settings. Chapter Twelve presents problem-solving therapy (PST) as an effective intervention to prevent or reduce psychopathology and to enhance positive well-being by helping individuals cope more effectively with stressful life problems. Chapter Thirteen investigates the status of Problem Solving in our modern society, and explores perspectives in the forthcoming Third Industrial Revolution.

**Psychiatric Disorders during the Postpartum Period in Light of Current Advances**
*Faruk Uguz, M.D. (Necmettin Erbakan University, Meram Faculty of Medicine, Department of Psychiatry, Konya, Turkey)*

In series: *Psychiatry - Theory, Applications and Treatments*  
Hardcover: 978-1-63484-579-3, $190.00.  

Childbirth is one of the most important social and psychological life events for women. In addition to the social context of including a new family member, this period is highly associated with the occurrence or recurrence of psychiatric disorders. Psychiatric disorders during this period have some negative outcomes in children as well as functional impairments in mothers. The prevalence of psychiatric diagnosis—especially depression and anxiety disorders—is high in the postpartum period. Recently, there has been growing interest in psychiatric disorders in the perinatal period. This book summarizes classical information and recent advances regarding epidemiology, clinical features, pathogenesis, prognosis, the long-term effects on children, and treatments of psychiatric disorders during the postpartum period.

**Psychoanalysis: Perspectives, Techniques and Socio-Psychological Implications**
*Zelda Gillian Knight (Department of Psychology, University of Johannesburg, Johannesburg, South Africa)*

In series: *Psychology Research Progress*  
Hardcover: 978-1-63483-858-0, $190.00.  
e-book: 978-1-63483-887-0, $190.00.

This book presents contemporary psychoanalytic perspectives, ideas, concepts and socio-psychological implications of living in the modern world, both within the therapy room and outside. Since its inception, and as with any conceptual framework of human perception and motivation that frames how the world is experienced, psychoanalysis has evolved in both theory and application to now featuring a pluralism of models as opposed to a single, unitary theory. The chapters are diverse in the conceptualisation of various psychoanalytic topics such as the therapeutic process, psychoanalytic supervision, the social and personal unconscious, sexuality and perversion, reproduction, counter-transference, the guilt-ridden patient, and loss and trauma. The chapters cover a broad range of theoretical approaches to the human experience and the world at large, from object relations theories to the modern day notion of self and self-realisation, to intersubjectivity and the real relationship between supervision and relational theories in understanding difficult moments in therapy and beyond. This book is a must read, suitable for both students and practitioners of psychoanalysis.

**Psychological Distress: Risk Factors, Patterns and Coping Strategies**
*Angelo Compare, Claudia Elia, Antonio Giulio Simonelli, and Francesco Cattafi (University of Bergamo, Bergamo, Italy)*

In series: *Psychology Research Progress*  
Hardcover: 978-1-63485-426-9, $190.00.  
e-book: 978-1-63485-427-6, $190.00.

Psychological distress has become a very relevant and highly debated topic as a result of the increasing volume of information available. In fact, in the last decades, more and more research has been conducted in
Psychological Well-Being: Cultural Influences, Measurement Strategies and Health Implications

Rafael Bowers

In series: Psychology Research Progress

2016. 208 pp.
Hardcover: 978-1-63484-354-6. $190.00.

Psychological well-being can be influenced by several factors. This book provides research and reviews cultural influences of well-being, as well as discusses measurement strategies and health implications. Chapter One studies immigrants’ psychological well-being by investigating their motivation, preference of tourist activities, and emotional experiences during their visit to their homeland. Chapter Two proposes the creation and validation of theories and measures on positive psychological constructs that can be integrated into a tool that aims at what might be called a desirable and credible global psychology. Chapter Three examines the relationship between language, identity and behavioral acculturation and well-being among non-western skilled migrants in a western host society. Chapter Four discusses well-being, health status and culture. Chapter Five analyzes emotional intelligence in adolescents. Chapter Six provides a study of the psychological well-being of Chinese immigrant adolescents. Chapter Seven explains variables related to psychological well-being, and discuss the importance of psychological well-being in the field of psychological counseling and guidance. Chapter Eight examines the predictive role of martial relations and communication styles in psychological well-being within a model proposed by Ryff. The final chapter studies the psychological health among frail older adults with chronic pain.

Psychology and Neurobiology of Empathy

Douglas F. Watt and Jaak Panksepp (Cambridge Health Alliance, Harvard Medical School, Clinic for Cognitive Disorders, Quincy Medical Center, Boston University School of Medicine, Boston, MA, USA)

In series: Psychology of Emotions, Motivations and Actions

Hardcover: 978-1-63484-446-8. $270.00.

The scientific study of empathy has exploded in the past decade. Practically all of the relevant sciences — from various neuroscientific, psychological and sociological perspectives — are now vigorously participating in the emerging conversations about the nature of this essential, pro-social process. Empathy is also emerging as a critical topic in medical education and practice, in terms of its essential relevance for not only the patient—physician relationship and bed-side practice, but also for diverse psychiatric problems and syndromes that demonstrate a fundamental disordering of empathy, particularly conduct disorder/sociopathy and autistic spectrum disorders. Consistent with these multidisciplinary trends and interests, this volume reflects contributions from many disciplines and summarizes the impact of diverse empathy studies. It also discusses the perspectives of individuals participating in the scientific discussion and scholarship about this critical frontier topic. Contributions in the present volume range from detailed neuroscientific reviews of empathy concepts and processes, to a diversity of evolutionary and developmental perspectives looking at empathy in both phylogeny and ontogeny. Likewise, an examination of how helping and medical disciplines are impacted by such issues are included — a wide ranging and comprehensive list of topics that are typically not covered elsewhere in a single volume. In summary, this book covers diverse but related approaches to understanding empathy from evolutionary, developmental, sociological and clinical viewpoints across the life cycle. Various contributors from around the world merge scientific and practical viewpoints in depth to provide readers a comprehensive picture of this emerging field, ranging from basic scientific knowledge to practical medical perspectives. This book should be a valuable resource to those interested in the diverse facets of empathy, from advanced students in psychology and related fields, to educators, to various medical and healthcare professionals. It may appeal to anyone interested not only in scientific studies of empathy, but also those curious about how a deeper understanding of empathy might inform and illuminate problems related to our daily human social interactions and their vicissitudes.

Psychology of Creativity: Cognitive, Emotional, and Social Processes

Giovanni B. Moneta (London Metropolitan University, London, UK) and Jekaterina Rogaten (University of the Arts London, UK)

In series: Psychology Research Progress

Hardcover: 978-1-63484-934-0. $210.00.

Creativity is a property of a finished idea or product. An idea is creative if it is both new and adaptive. Creative ideas are needed in a world that becomes ever more complex, and poses problems with no clear path to a solution and for which no solution method is known. These ill-conditioned problems are ubiquitous in work and everyday life. For 65 years, psychologists have researched the psychological processes that foster the inception of a novel and promising idea, and eventually lead to its social recognition as an innovation. Despite the huge conceptual and methodological progress made, creativity still defies attempts to teach it in universities, to foster it in work environments, and to make it become a component of lifelong personal development for all. “Psychology of Creativity” is a timely collection of cutting-edge conceptual and empirical contributions to the research on the cognitive, emotional, and social processes underlying creativity in general and in specific contexts, such as learning and teaching development, professional development, and adaptive coping with ageing. Each chapter is grounded in psychological theory, addresses specific research questions, and outlines interesting and feasible directions for future research and applications. This book is suitable both for experienced researchers and for graduate students who are considering conducting their dissertation in the field of psychology of creativity.

Psychology of Gratitude: New Research

Ashley R. Howard

In series: Psychology of Emotions, Motivations and Actions
Psychology of Individual Differences: New Research
Eleanor Roberson
In series: Perspectives on Cognitive Psychology
Hardcover: 978-1-63484-508-3. $110.00.
Cognitive psychologists have been interested in individual differences in complex cognitive processes and intelligence since the cognitive revolution. A good deal of the research in this area has focused on individual differences in reasoning ability, but even more has focused on differences in working memory. Individual differences in working memory have been related to reasoning, problem solving, reading comprehension, discourse comprehension, intelligence, and a great many more cognitive tasks. Chapter One presents a review of working memory theories that call for access to long-term memory to supplement the limited capacity of working memory during complex cognitive processing. It also presents a review of the evidence that facilitation of procedural memory is an individual difference related to complex cognitive processing, and the different theoretical interpretations of that evidence. Chapter Two discusses individual differences in two health-related outcomes: emergency severity index (ESI) scores as assigned to patients by nurses and other healthcare professionals, and pain scores as reported by patients. Chapter Three examines the psychological effect of a forest environment and how it can differ depending on a subject’s initial values. Chapter Four focuses on non-cognitive predictors of individual differences in education outcomes, and discusses the model of mental toughness. Chapter Five studies if non-criminal psychopathy is associated with reduced electrodermal arousal using measures comparable to those employed with criminal samples. Chapter Six discusses associations between the Big Five personality traits and social physique anxiety in women. The last chapter uses a theory-based approach to examine the construct validity and the usefulness of the OCEAN.20 personality dimensions in predicting training/academic performance.

Psychology of Meditation
Nirbhay N. Singh (Medical College of Georgia, Georgia Regents University, Augusta, Georgia, USA)
In series: Psychology of Emotions, Motivations and Actions
Softcover: 978-1-63485-733-8. $89.00.
Our understanding of the nature and applications of meditation, especially mindfulness meditation, has been expanding almost as rapidly as the empirical evidence from neuroscience and intervention studies that have become available in the research literature. Meditation is centuries old and prevalent in almost all ancient cultures in one form or another. Initially, people in the West were enamored by its spiritual promise of personal transformation, but now a larger portion is attracted to mindfulness meditation (Vipassana or insight meditation) because of the promise of enhanced physical and mental wellbeing. Indeed, research shows that engaging in a daily practice of meditation for 20 to 30 minutes a day over 8 weeks produces new neural networks in the brain, attesting to observable calmness and clarity of perception. This book brings together a diverse group of experts who collectively provide a nuanced view of meditation from a variety of perspectives. This book offers a single-source authoritative guide to an ancient practice that is coming into its own in the Western world.

Psychology of Morality: New Research
Miranda Fuller
In series: Psychology of Emotions, Motivations and Actions
2016. 102 pp.
Hardcover: 978-1-63484-201-3. $110.00.
e-book: 978-1-63484-202-0. $110.00.
The past few decades have witnessed an increasing number of organization studies that focus on morality. This book presents new research on the psychology of morality. The first chapter begins by analyzing the persistence and revitalization of old beliefs and sacred rituals in rural communities affected by strong processes of rural change. The next chapter aims to delineate the structure of Confucian ethics and morality, the transcendental formal structure sustaining the lifeworlds of East Asians. The third chapter aims to contribute to this conversation through examining the role of the trustee’s moral agency. The final chapter answers the question of whether the moral characteristics of users of different OS smartphones differ from one another.

Psychology of Self-Control: New Research
Carroll Saunders
In series: Psychology of Emotions, Motivations and Actions
Softcover: 978-1-63485-120-6. $110.00.
Self-control is an important aspect of human daily functioning. Humans must choose how to respond in stressful or emotional situations while simultaneously trying to limit poor decision-making. Effective self-control bolsters the ability to delay gratification, regulate social behaviors, mitigate mistakes, and make decisions. However, many variables can affect the human ability to utilize these attributes. This book provides new research on the psychology of self-control. The first chapter examines sleep habits and self-control. Chapter Two reviews student engagement in academic dishonesty and its link to a lack of self-control. Chapter Three provides a review of the studies that have focused on the relation between self-control and performance. The final chapter reviews research on self-control demands and presents empirical evidence on interindividual and intraindividual resources, which buffer the adverse impact of self-control demands on employees’ well-being.

Psychology, Society and Education: Critical Perspectives in Brazil
Marilene Proença Rebello de Souza, Gisele Toassa and Kátia Cristina Silva Forli Bautheny (University of São Paulo, São Paulo, Brazil)
Psychopathology: Symptoms, Challenges and Current Concepts
Jeremy Williams
In series: Mental Illnesses and Treatments
2016. 221 pp.
Hardcover: 978-1-63485-745-1, $160.00.
This book provides current research on the symptoms, challenges and current concepts of psychopathology. Chapter One reviews the stipulative definitions of poor and protective prognostic factors as applied in the field of clinical mental health. Chapter Two discusses the categorical and dimensional models of personality pathology and highlights the advantages and disadvantages associated with each perspective. Chapter Three investigates the association between the Dark Triad (DT) and early maladaptive schema domains. Chapter Four reviews the main instruments for assessing avoidance as well as treatment suggestions. Chapter Five addresses the intergenerational transmission of trauma (ITT). Chapter Six presents mental health intervention concepts on pre- and postnatal mental health. Chapter Seven focuses on the advances in the study of male psychopathy.

Psychotherapy: Methods, Outcomes and Future Directions
Dominic Brewer
In series: Psychiatry - Theory, Applications and Treatments
This book discusses methods, outcomes and future directions in psychotherapy. Chapter One studies phenomenological hermeneutics psychotherapy. Chapter Two provides an essential understanding of sexual issues so therapists can confidently address problems with both knowledge and strategies that help individuals and/or couples overcome sexual difficulties. Chapter Three explores the emotional needs of people with intellectual disabilities, looking at methods for identifying the issues and ways of working to enable progress to be made. Chapter Four explores the experience of the future because without a sense of the future, patients cannot move forward psychologically. The remaining chapters are dedicated to the work of Habib Davanloo, MD, Professor Emeritus of Psychiatry at McGill University. The authors in this special section are all current or recent past members of Davanloo’s Closed-Circuit Experiential Training Workshops in Major Mobilization of the Unconscious and ISTDP, and have presented at one or more of the last several of Davanloo’s annual audiovisual symposia on the metapsychology of the unconscious. All four authors acknowledge a deep sense of gratitude to Dr. Davanloo for his generous sharing of his discoveries and insights, and his tireless teaching. The theoretical concepts presented in these chapters including the terminology such as Mobilization of the Unconscious, Transference Component of the Resistance, Complex Transference Feeling, Unconscious Therapeutic Alliance, Central Dynamic Sequence, Perpetrator of the Unconscious, Fusion of Primitive Murderous Rage with Guilt and Sexuality, Intergenerational Destructive Competitive Transference Neurosis, Uplifting the Transference Neurosis, Unlocking the Unconscious, and others, are not the authors’ own. They were developed by Dr. Davanloo by over 50 years of systematic clinical research. Each author, through their many years of involvement in Davanloo’s programs brings their own unique synthesis of his teaching. The chapters will review the historical development of Davanloo’s ideas and techniques and then will focus on his recent work in Transference Neurosis. The Experiential Training Workshops have provided a laboratory for Dr. Davanloo and the Trainees to get a unique perspective on the Metapsychology of the Unconscious, Unconscious Resistance, Fusion and the various forms of Transference Neurosis. These topics will be elucidated further. It is the hope of the authors, that by the end of this special section, the reader will have a broader understanding of Davanloo’s Metapsychology of the Unconscious and of the concept of Transference Neurosis. Further, they hope that their offerings will be useful to psychotherapist of any orientation, to short-term dynamic psychotherapists, and to Davanloo’s Intensive Short-Term Dynamic Psychotherapy (DISTDP) therapists specifically as it applies to their most challenging cases.

Psychotropic Medication for Children in Foster Care: Oversight and Guidance Issues
Malcolm C. Burgess
In series: Psychiatry - Theory, Applications and Treatments
2016. 147 pp.
Hardcover: 978-1-63485-155-8, $120.00.
Children in foster care are children that the state has removed from their homes and placed in another setting designed to provide round-the-clock care (e.g., foster family home, group home, child care institution). The large majority of children enter foster care because of neglect or abuse at the hands of their parents. Maltreatment by a caregiver is often traumatic for children, and may lead to children having challenges regulating their emotions and interpreting cues and communication from others, among other problem behaviors. Children in foster care are more likely to have mental health care needs than children generally. Children in foster care who have mental health needs may receive psychosocial services such as individual or group counseling and case management to improve their health. Alternatively, or in addition, a medical professional may prescribe psychotropic medications. These are prescribed drugs that affect the brain chemicals related to mood and behavior. They are used to treat a variety of mental health conditions including attention disorders, depression, anxiety, conduct disorders, and others. While psychotropic medication alone is not necessarily advised, children in foster care may more readily receive psychotropics to treat their mental health needs due to the complexity of their symptoms and the lack of appropriate screening and assessment and/or the limited availability of health care professionals trained to provide effective therapies (e.g., cognitive behavioral therapy). This book discusses psychotropic medication for
children in foster care. It also provides additional federal guidance which could help states better plan for oversight of psychotropic medications administered by managed-care organizations.

Risk Perception: Theories and Approaches
Theodore Spencer
In series: Psychology Research Progress
Hardcover: 978-1-63484-623-3, $120.00.
The study of risk perception started when experts in these matters figured out that common people often disagreed about how they envisage risk, even in how people observed that risk. There are many theories about risk perception. Some are exclusively related to risk perception while others are adaptations from perception theories. Many of these theories date back to last century, others are more recent. Chapter One of this book discusses the reasons there are many different theories of risk perception. Chapter Two studies community vulnerability in risk analysis task using multi-source data statistics. Chapter Three offers a thorough analysis of risk perception and psychosocial vulnerability in a health context, from a theoretical perspective, and based on current scientific evidence, in order to open research limits for both of these constructs both separately and collectively. Chapter Four establishes a relationship between the consumption of drugs like cannabis, cocaine and designer drugs in young university and non-university populations with the young people’s perception of risks associated with such consumption. Chapter Five provides an analysis of consumers’ choice of pay television and car insurance services based on the perceived risk model.

Self-Determination Theory in New Work Arrangements
Maria José Chambel (Associate Professor, Faculty of Psychology, Alameda da Universidade de Lisboa, Lisbon, Portugal)
In series: Psychology Research Progress
Hardcover: 978-1-63482-762-1, $110.00.
Nowadays, organizational competitiveness depends on its effectiveness, versatility and the ability to respond to customer needs. Thus, companies look for flexibility in human resources as a means of attaining an economic advantage. In fact, the increasing recourse to contingent work may be regarded as more than an economic matter; it can be considered a reflex of an actual social change. Moreover, contingent workers are no longer confined to peripheral activities. Today, it is common to find temporary and permanent employees working alongside each other in technical jobs. However, what is it that drives these workers and how do their motivations fall in with the success of such new work arrangements? By following the principles of the Self Determination Theory (SDT), the authors will show that human motivations, in all kinds of workers, are the result of a complex interplay between individuals’ autonomy and its internal and external regulation, proving that elevated forms of motivation (i.e., intrinsic motivation and identified regulation), provided by autonomous environments, lead to more adaptive, cognitive and affective outcomes. Additionally, this book will show how it may be possible to transform suboptimal forms of motivation into more self-determined ones. We will show that minor, repeated events can lead to gradual and internalized behaviors, which allow people to experience more adaptive outcomes and attain higher motivation towards their job. In other words, positive work experiences will be shown as being capable of captivating and engaging individuals, leading them to consider their choices as more voluntary and autonomous. How contingent workers’ motivation can change over time may actually be crucial to better comprehend and improve their employment relationship.

Sexual Abuse: Intervention, Coping Strategies and Psychological Impact
Olivia Parsons
In series: Health Psychology Research Focus
Hardcover: 978-1-63484-509-0, $110.00.
Approximately 1 in 4 girls and 1 in 6 boys below the age of 18 are victims of child sexual abuse (CSA) according to the Centers for Disease Control and Prevention. A wealth of peer-reviewed literature has investigated interventions for child victims and adult survivors of CSA; however, there has been a lack of focus on the therapeutic needs of nonoffending parents and caregivers (NOPC) of child victims. In the wake of their children’s sexual abuse, NOPC are at risk of a host of mental health disorders, and researchers estimate their symptomatology continues for two years following the disclosure or discovery. Sexual Abuse: Intervention, Coping Strategies and Psychological Impact begins with a framework for group counseling for NOPC, and discusses alternative and parallel interventions for NOPC while providing recommendations for future research. Chapter Two continues on to provides an overview of CSA and intervention in India. Chapter Three focuses on two historically persecuted groups, Orthodox Jews and Muslims, and the religious values that may enhance culturally competent interviewing skills in child sexual abuse interviews. Chapter Four presents potential cognitive mediators associated with the psychological impact of childhood sexual abuse by reviewing past and current literature on the effects of this type of abuse. Chapter Five addresses the gap in current knowledge and understanding of male sexual abuse.

Social Skills: Perceptions, Role in Autistic Children and Assistive Technology
Douglas Shaw
In series: Psychology of Emotions, Motivations and Actions
2016.
Softcover: 978-1-63485-837-3, $95.00.
e-book: 978-1-63485-865-6, $95.00.
Autism spectrum disorder (ASD) is often associated with general intellectual disabilities because approximately 75% of people with autism have a non-verbal Intelligence Quotient (IQ) below 70, but autism can also occur in people with normal or even superior intelligence. Autism is a developmental disorder having deficiencies in social development, in communication. People with autism have restricted and repetitive interests and behavior. Chapter One of this book examines parental perceptions of the social skills of their children with high-functioning autism spectrum disorder. Chapter Two reviews the use of children's literature to teach social skills in children. Chapter Three discusses inclusive education, mentoring and Information and Communication Technologies (ICT) for the development of social skills in young people with autism. Chapter Four argues that continuous use and development of a “cloud computing-based support system for comprehensive childcare” and the Scale for Assessing Social Skill Development in Children will provide greater evidence of its efficacy, assist in expertise acquisition, and contribute to the healthy development of children and their caregivers. Chapter Five introduces applications of group participation for people with autistic spectrum disorders (ASD), with a particular focus on adolescents and emerging adults.

Stories from the Border: Reflections on Ways of Working with People with Borderline Personality Disorder Living in the Community
John Little and Duncan Thomson (Kapiti CMHT, New Zealand)
Chapter two and three assess the relationships between the extensive research on eating disorders (EDs) patients' personality and quality of life of temperaments. Chapter one provides a summary of individual objectives and values, influencing voluntary election, the intentions dimensions. Cloninger model is set up as a complex dynamic system in novelty (NS), harm avoidance (HA), reward dependence (RD) and specific neurotransmission systems, such as dopamine, serotonin and four temperamental dimensions exhibited early in life and related to In 1987

Strategic Intervention: What to Do When Things Go Wrong
Laure Paquette (Lakehead University, Thunder Bay, Ontario, Canada)

This book is about figuring out what the best course of action is when things go wrong. The goal is to provide a set of tools so that the non-strategist can make the best of bad situations. It does so by providing worksheets and a knowledge transfer system based on the Socratic Method, as well as a set of case studies illustrating how they can be used in various situations. The deeper purposes of this book are first, to propose strategies for the analysis and design of individual tactics and second, to show how well-designed tactics can have a transformative effect on an overall set of actions.

Temperaments: Individual Differences, Social and Environmental Influences and Impact on Quality of Life
Magdalen Cécile Arnold

In 1987, Cloninger proposed a bio-social model of personality based on four temperamental dimensions exhibited early in life and related to specific neurotransmission systems, such as dopamine, serotonin and norepinephrine. The temperamental dimensions include: search of novelty (NS), harm avoidance (HA), reward dependence (RD) and persistence (P). Three other character dimensions, founded on an information synthesis of social, cognitive and personality development according to humanistic and transpersonal model, complete this four dimensions. Cloninger model is set up as a complex dynamic system in which the biological elements are combined with family, social, and cultural influences. According to Cloninger, temperament refers to 'the patterns of individual automatic lifelong emotional response', while character refers to the 'self-concept and individual differences in objectives and values, influencing voluntary election, the intentions and the sense of what is experienced in life'. This book discusses individual differences, social and environmental influences and impact on quality of life of temperaments. Chapter one provides a summary of the extensive research on eating disorders (EDs) patients' personality. Chapter two and three assess the relationships between temperament dimensions and psychopathology in eating disorders using the TCI.

Chapter four examines relevant research studies on the change of emotion regulation and its connections and influence on social relationship and academic success in young children. Chapter five studies and develops tests for assessing temperament and affective states by behavioural criteria and to assess welfare during machine milking and lambing of dairy sheep on farm conditions. The last chapter reviews convergence between several distant disciplines: neurochemistry, kinesiology, clinical psychophysiology and differential psychology.

Temporal Love: Temporality and Romantic Relationships
Mira Moshe (Senior Lecturer, Ariel University, Israel)

Temporal Love: Temporality and Romantic Relationships deals with personal, social and cultural time perceptions and their impact on love and romantic relationships. By focusing on time orientation and its representation in romantic relationships, this book reveals the latent links between temporality and love. Given that the Western conception of time is based on the ability to distinguish and compare among time units and time intervals, fascinating layers of covert romantic ties are revealed: the representation of temporality in marriage and non-marital relationships as well as in long-term "no strings attached" ones; the blurred boundaries between expectations based on past relationships, present love and future intimacy; the real world of "here and now" vs. virtual intimacy and sexuality in the cyber age; the interjecting of "there-and-then" into "here-and-now"; the need to cope with "ghosts from the past"; the reverberation of dating time back and forth coupling intimacy rituals; nostalgic "there-and-then", romantic secrets; deception and betrayal, and more. Temporal Love: Temporality and Romantic Relationships draws a comparison between "natural," warm spontaneity free of external romantic intervention with "mechanical" cold, pre-scheduled and monitored love and intimacy. Spontaneous temporal behavior is depicted as authentic and fatalistic behavior, whereas planned ahead of time is portrayed as rational and alienated. Furthermore, there is an analysis of "time trading," i.e., investing in romance and maintaining long-term romantic relationships via investing "time coins" in hopes of future profit. Among other things, taking a break from one's lover, breaking up or getting a divorce are represented as a kind of "financial" write-off, whereas a sense of permanency in a relationship might be viewed as a successful time investment. Simultaneously, the "time trading" phenomenon generates a tendency to raise the stakes in the relationship and boost the willingness to "work" at it and make a commitment. Finally, Temporal Love: Temporality and Romantic Relationships attempts to illuminate efforts to minimize "temporal damage" and maximize "temporal gains," while raising personal, social and cultural expectations for a "happily ever after" and "till death do us part" romantic experience.

The Psychology of Consumer and Social Influence: Theory and Research
Daniel J. Howard (Professor of Marketing, Edwin L. Cox School of Business, Dallas, TX, USA)

In this book, you will find a set of consumer and social researchers - some among the best in the country who address topics within their areas of expertise. The papers
presented here should have a unique appeal because of the diverse range of issues that are examined. The papers are broadly connected within the consumer and social influence domain, but vary considerably in the theoretical matters the chapters address: empirical studies on how indirect social influence can affect different styles of thinking that result in counterintuitive outcomes; new insights into the issue of self-control as a limited resource and how it affects susceptibility to persuasion and compliance; the different types of appeals most effective in facilitating abstinence from unhealthy habits; how the effectiveness of a company’s public response to brand failures is contingent on different factors involved in such failures; the persuasiveness of different forms of online versus offline consumer influence strategies; an expanded theoretical approach to social responsiveness integrated into an emerging area of theoretical physics: socio-physical modeling; and finally a controversial chapter that defines, tests and validates a scale that measures a commonly used descriptive vulgarity (negative influence) and then demonstrates its utility in predicting interpersonal and social problems. The empirical and conceptual chapters compiled in this book should be of interest to researchers working in the areas of consumer or social influence looking for new theoretical insights and ideas to investigate, as well as for those seeking stimulating questions or results for classroom learning and discussion. This book provides both.

Tolerance: The Glue That Binds Us: Empathy, Fairness and Reason
Rivka T. Witenberg, Ph.D. (Honorary fellow, Australian Catholic University, Melbourne Victoria, Australia)

Have you ever wondered why some people are more tolerant and accepting to difference than others? This book is ground-breaking in its scope. Guarding Tolerance is the first comprehensive publication about tolerance of human diversity which explores historical, philosophical (including the controversial relationship between freedom of speech and tolerance) and psychological aspects of tolerance as well as educational implications informed by theory and research. Rivka Witenberg suggests a new direction in research and theory, and proposes an alternative way of viewing tolerance as a concept in its own right better placed within the moral domain and not simply the opposite of prejudice. When tolerance is placed within the moral domain pertaining to equality, justice, respect and avoiding harm to others, it should be viewed as positive in nature rather than simply forbearance or “putting up with”. She argues that to be tolerant is a fundamental human quality as central to human existence as love, justice, empathy and fairness, and that tolerance is instinctive. While tolerance and intolerance do coexist, intolerance is not innate. Understanding more about the nature of tolerance to human diversity in today’s increasingly diverse and complex world could not be more important for harmonious, cooperative intergroup living. Witenberg reflects on the origin of tolerance and its deep historical roots, exemplified by the “Golden Rule”. Analysis of philosophical theories and her psychological research about tolerance to human diversity will further expand our understanding of this important matter. This book is bringing a new outlook on the questions about what tolerance is, how it is conceptualised and its practical implications. It is written in approachable language which allows everybody to understand this important topic. Moving away from the idea that tolerance is simply “putting up with” and the antithesis to prejudice, this is a major interdisciplinary work that alters our understanding of tolerance to human diversity. This book is unique in its approach and subject matter, and should be of value to educators and policy makers, but also to anyone interested in understanding this important issue.

Trait and State Anxiety: Assessment, Predictors and Outcomes
Abel Bradley
In series: Human Anatomy and Physiology

Anxiety can be defined as an emotional state that combines either physiological and psychological response and reflects a stage of cognitive and behavioral alert that an organism mobilizes in response to a potential distress. This pathology can be conceptualized as having two components: state and trait. Trait anxiety refers to an individual’s personality and predisposition for anxiety, whereas state anxiety refers to the emotional response generated by a perceived distress. This book provides current research on the assessment, predictors and outcomes of trait and state anxiety. Chapter One examines the “Spielberger State – Trait Anxiety Inventory” (STAI) and classifying trait and state anxiety. Chapter Two provides an overview of the development of anxiety, reviews the available literature on state and trait anxiety, including the neuroanatomical correlates, and presents a collective overview of cognition and the aging brain, with emphasis on the specific impact of anxiety on this process. Chapter Three provides a brief description of Attention Deficit with Hyperactivity Disorder (ADHD), with a focus on comorbidity between ADHD and anxiety disorders, and examines the concept of anxiety and the different classifications of the disorder in relation to the most commonly-utilized assessment methods and instruments at the present time. The final chapter, Chapter Four, studies the possible existence of gender differences in sleep organization of individuals with low and high trait anxiety levels.

Understanding Human Behavior: Theories, Patterns and Developments
Robert G. Bednarik (Convener, President and Editor, International Federation of Rock Art Organisations (IFRAO), Australia)

Human behavior is of fundamental importance not only to the individual, but to the community and all of humanity. Now that humans have acquired the capability of interfering with or destroying living systems, it is of great consequence to the planet itself. With this in mind, the book Understanding Human Behavior: Theories, Patterns, and Developments is the result of inviting several leading innovative thinkers to consider how they could contribute to a discussion of understanding human behavior. Their perspectives differ in approach and focus, but they all confirm the great complexity of the topic, and they show that science has hardly scratched its surface. The eight chapters of this volume are dominated by considerations of how the behavior of humans began and developed in the distant past, during the evolution of early humans. In human sociology, the term ‘behavior’ refers to the range of physical action/reaction and observable emotion associated with individuals today, as well as human society as a whole. But this describes only effects or symptoms of a condition pertaining to today, without considering how it came about, i.e., its original causes. This is examined in several chapters of this book, together with apparent historical trajectories of human behavior in an attempt to explore its etiology. Other contributions investigate more specific aspects of human behavior, including those recorded in history and even in modern times. In summary, this volume provides a well-rounded investigation into current cutting-edge understanding of the origins and nature of human behavior.
Victim Victorious: From Fire to Phoenix
Marie-Claire Patron and Stephen S. Holden (Bond University, Robina, Australia)
In series: The World of Psychology: Therapeutic, Relational, Teaching
Edited by: Ami Rokach (Department of Psychology, The Center for Academic Studies, Yehuda, Israel and York University, Toronto, Canada)
Softcover: 978-1-63485-198-5. $79.00.
e-book: 978-1-63482-238-1. $190.00.
The world is peopled by victims; everyone has a story. However, victimhood is just the beginning of the story. This book is about the endings of at least some of those stories, the stories of victims who strive to overcome and even triumph in the end. This book is a collection of research perspectives and personal stories exploring the various pathways for overcoming victimhood. It is hoped that they might offer an inspiration for others and encourage others to stay on the path to find a positive ending. Victim Victorious is an examination of the ways in which victims come to rise above the challenges that they face. Victims may be innocent bystanders, and in no way responsible for their victimhood. Nonetheless, they can – and indeed we argue need to – take responsibility for finding a personal solution. To assist in this task, this book chronicles the pathway of prejudice and how the pain and the damage experienced by individual victims may be overcome by effort, by and on their own behalf. The first half of the book features outsider views of victimhood. A range of professionals, philosophers, psychologists, criminologists and critical theorists offer their thoughts on how people might overcome victimhood. The second half of the book features insider views of victimhood; in this section, the victims speak for themselves about their experience and how they have endeavored to break through their victimhood. This book is less about identifying and proscribing the behaviors of perpetrators and more about the efforts that victims can undertake to heal themselves as they journey towards resilience and victory.

Victims and Victimization: Risk Factors, Intervention Strategies and Socioemotional Outcomes
Tiffany F. Colby
In series: Bullying and Victimization
Hardcover: 978-1-63484-180-1. $190.00.
Bullying involves an act of physical or psychological persecution carried out by one student (or group of students) against another student, who is chosen as a victim of repeated attacks. This book focuses on risk factors of victimization, intervention strategies, and socioemotional outcomes for victims. Victimization is a phenomenon that appears in different settings, and includes several dimensions that also differ with the type of victim and their specificities. Certain populations have some heightened vulnerability, which exposes them more to the experience of victimization situations. The first chapter of this book studies predictors and outcomes for victims of school bullying. The second chapter focuses on analyzing the problem of bullying, an issue that is currently of great concern to parents, teachers, students, the educational community, and also social scientists, governments, and administrations. The third chapter examines polycrimevictimization, defined as children’s experience of multiple forms of victimization. Chapter four presents an overview as to the function of friendship in childhood before discussing evidence that suggests for some children, friendship can serve to protect against the experience of victimisation, and alleviate symptoms associated with peer-victimisation. Chapter five assesses how childhood trauma, interpersonal violence, intimate partner violence (IPV), and violent peer networks are related to the HIV risk behaviors of homeless youth. Chapters six and seven introduce and provide overviews of cyber victimization, and recommendations for parents, teachers, and educators in general, and offers concrete actions for preventing and reducing the growing problem of CB in children and adolescents in the digital age. Chapter eight briefly presents an integrative theoretical model, and presents a way to assess the drug addict under the victimization perspective. Chapter nine examines gender differences in bystander response to risk for party rape. Finally, chapter ten examines the moral question that inaction against victimisation in the corporate realm raises.

Visual Spatial Attention: Functions, Influences and Performance
Lana Haynes
In series: Psychology Research Progress
2016. 84 pp.
Softcover: 978-1-63485-284-5. $82.00.
e-book: 978-1-63485-307-1. $82.00.
Many events in our daily lives require that we allocate attentional resources towards relevant information in the environment. However, we are constantly presented with more information than we can possibly attend to at any given moment. Visual spatial attention is the prioritization of visual processing to a particular spatial region in one’s environment, and is therefore an important component of attention (more broadly construed) and information-processing. Once a region of space has been selected by visual spatial attention, the objects and features within that region can be processed. In this book, Chapter One examines visual spatial attention and its functional role in a variety of cognitive tasks. Chapter Two reviews the different ways in which the various mechanisms of selective attention have been cortically and otherwise classified into low and high levels of processing and to disentangle some of the confusion that may have arisen as a result of inconsistent usage of terminology and concepts in the field. The last chapter discusses studies which use computer simulations to estimate the effect of noise correlation upon the performance benefit gained from cues.

PUBLIC HEALTH

Biological Implications of Human Mobility
Slawomir Koziel, Raja Chakraborty and Kaushik Bose
(Polish Academy of Sciences, Anthropology Unit, Wroclaw, Poland)
In series: Public Health in the 21st Century
This book outlines the possible influence of some important aspects of human migration and social mobility on the biological characters of human populations, including their health and well-being. It contains ten contributions from different researchers working in this area of research. The first chapter, written by Budnik and Henneberg, demonstrates the effect of social class and mobility on morphological characters of body size like height and body mass index (BMI) in a historical population of Poland. In Chapter Two, Chakraborty et al. shows that the migration of disadvantaged people to an adverse environment in an early period of growth and development may increase health risk in adulthood compared to those after completion of major physical growth period, or even compared to those who are born into that adverse environment. Chapter Three (by J. R. Ghosh) reveals the influence of educational and occupational positions on clinical hypertension among adult males from the eastern part of India. In the fourth chapter of this volume, S. Ghosh et al. attempts to find out the relationship between the socio-economic status of family and growth on height and weight demographics in school children aged 5-12 from
Kolkata, India. Godina et al. in Chapter Five delineates the differences in various anthropometrical measurements in children and adolescents aged 7 to 17 years across different types of schools, representing different social strata in Moscow. Chapter Six by Kaczmarek discusses the implications of rural to urban migration and its impact on women’s health status in Poland. The next chapter by Krzyżanowska* and C. G. Nicholas Macie-Taylor discusses the impact of regional migration and social mobility on variation in adult height, weight and Body Mass Index, which is evidenced from a British cohort study. In Chapter Eight, Gomula and Koziel highlight from a study in Poland the effect of social mobility of fathers on maturity, measured by the age at menarche in their daughters. In the next chapter, Missoni and Sarac review dietary and lifestyle characteristics in the Eastern Adriatic Islands of Croatia in the backdrop of recent economic transition, urbanisation and migration. The tenth chapter contributed by Singh and Kirchengast compares demographic health-related characteristics and reproductive behaviours between Punjabi women residing in Punjab and in Vienna, Austria. This book will be useful for researchers dealing with biological implications of human mobility. It may be of particular interest to human biologists, biological anthropologists, epidemiologists, demographers, economists and other researchers dealing with biological implications of human mobility. Target Audience: Postgraduate students and academic researchers in the fields of biological anthropology, human biology, epidemiology, economists, demographers and allied health professionals.

Caribbean Adolescents: Misuse and Abuse of Alcohol
Cecilia Hegamin-Younger and Joav Merrick
(Department of Public Health and Preventive Medicine, St. George’s University, Grenada, West Indies)
In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
2016.
When an economy is fueled by the alcohol industry, which is a powerful and a resource-intense industry, governments who lack technical capacity and financial resources to combat the alcohol industry may fear the economic impact of restrictive alcohol policies. How can a country address the public health concerns from alcohol misuse and abuse? Because alcohol is no ordinary commodity, the public has a right to understand and expect a more enlightened approach to the development and implementation of an alcohol policy. An enlightened approach of using evidence to inform policies, include key members of the community and target the general population, at high-risk drinkers and at people already experiencing alcohol-related problems. Alcohol is a drug and a currency, making it a unique commodity. In this book, the authors present research on alcohol and advertisement, alcohol related traffic accidents, suicidal behavior and many more aspects of alcohol use and misuse in the Caribbean area.

Chronic Diseases: The Escalating Dilemma in Developing Countries
Adelia Bovell-Benjamin (Professor of Food and Nutritional Sciences, Tuskegee University, Tuskegee, AL, USA)
In series: New Developments in Medical Research
2016. 208 pp.
Hardcover: 978-1-63321-915-1. $190.00.
The World Health Organization expects deaths from non-communicable diseases to rise by 15% between 2010 and 2020, with jumps of over 20% in Africa and South-East Asia. For example, the number of people in the developing world with diabetes will increase by more than 2.5-fold, from 84 million in 1995 to 228 million in 2025. Furthermore, the WHO reported that almost 80% of deaths from chronic diseases now occur in developing countries, where most of the world’s population lives. Chronic diseases negatively affect quality of life (QoL) of affected individuals, contribute to premature death, and create huge economic burdens on families, communities and societies in general. Unless urgent action is taken, 41 million people will die of a chronic disease in 2015. This book creates awareness about the problem in developing countries by outlining the magnitude and critically analyzing the dilemma (that is the double burden of disease) and putting it in context, while examining the issues, best practices, government policies, prevention, the direction and the way forward using an integrated approach. The book relates chronic diseases to climate change and sustainable development, which has not been done before. It points out the need for involvement of the non-health sector, discusses dialog with the food industry, and media for better understanding and solutions to the problem. It calls for urgent action to prevent the problem from escalating and gives a number of recommendations.

Climate Change and Public Health: Federal Preparedness Efforts
Cassandra Evans
In series: Public Health in the 21st Century
2016. 111 pp.
Softcover: 978-1-63485-308-8. $52.00.
The World Health Organization projects climate change will adversely affect health significantly over the next several decades. Some health effects of climate change are already being felt in the United States, according to assessments by the National Research Council, U.S. Global Change Research Program (USGCRP), and others. Since the federal government is the nation’s largest purchaser of health care services, federal health care expenditures could increase in future years due to climate-related impacts. This book addresses federal activities to enhance understanding about the risks climate change poses to public health; federal resources used by selected states and localities to address these risks; and challenges states and localities face and actions federal agencies could take to mitigate them. This book also provides a suggested sequence of steps that health departments can undertake to assess such health vulnerabilities associated with climate change.

Community Health Workers: Emerging Role and Intervention Outcomes (with accompanying CD-ROM)
Cecilia Hodges
In series: Public Health in the 21st Century
Hardcover: 978-1-63485-060-5. $145.00.
A community health worker (CHW) is a frontline public health worker who, as a member of the community, has the potential to deliver cost-effective, high quality, and culturally competent health services within team-based care models. This book reviews select health services research findings on community health worker utilization that are relevant to U.S. policymakers and considers the key challenges to fully realizing the potential for CHWs to improve health care delivery. This book is accompanied by a CD-ROM which includes appendices A through E for Chapter Two, Outcomes of Community Health Worker Interventions.
Critical Approaches to Harm Reduction: Conflict, Institutionalization, (De-)Politicization, and Direct Action
Christopher Smith (School of Social Work, Memorial University, St. John’s, Newfoundland and Labrador, Canada) and Zack Marshall (Division of Community Health and Humanities Memorial University St. John’s, Newfoundland and Labrador, Canada)


This book is divided into three sections. Entitled Critical Harm Reduction Policy: From Oppositional Social Movement to Institutionalized Public Health Policy, Part One encompasses a diverse array of issues relating to the cost/benefit analysis of harm reduction as measured in the terms of institutionalization and (de-)politicization. Part Two, Critical Harm Reduction Practice: Autonomy, Ideology, and Evidence-Based Interventions, consists of several concrete case studies concerning harm reduction practice in an array of (non-traditional contexts. Comprised of a unique series of chapters that each interrogates a different issue relating to the philosophical underpinnings of harm reduction, Part Three is entitled Critical Harm Reduction Theory/Philosophy: Depoliticization, Direct Action, and Drug/Service Users’ Experiential Knowledge. Although the emphasis of each section and corresponding set of chapters is remarkably diverse, several themes remain prominent throughout this book, including an overtly critical analysis of the multiplicity of contextual deployments of harm reduction, a recurring focus on elevating the value of experiential knowledge and the fundamentally important, central role of people with direct lived experience. Additionally, the centrality of direct action tactics in the innovation of user-based forms of harm reduction in policy, practice, and philosophically-based contexts are discussed.

Effective Health Communication for Sustainable Development
Patchanee Malikhao (HIV/AIDS Sociologist, Health Communication & Communication for Sustainability Specialist, Fecund Communication, Kowloon Tong, Kowloon, Hong Kong, China)

Hardcover: 978-1-63484-807-7. $190.00.

The health communication strategies presented in this book are based on the understanding that there are many factors underpinning health. Starting from a framework of addressing health at an individual, group, and structural level, we need to realize the impact of globalization and social determinants on health. Health literacy and media literacy are necessary for health communicators and stakeholders to communicate effectively about/on health. Knowledge and skills in media technology, especially new media, new developments in the Internet and mobile devices are important. In addition, intercultural communication is essential to understand and collaborate with others. Health communication needs collaboration from all sectors in society. The health communication promoted in this book is based on a participatory model based within the multiplicity paradigm. Strategies suggested in this book are practical examples to encourage the reader to design his/her own strategies to serve a particular community.

Before one can devise a strategy for health promotion and disease prevention, one needs to understand that a top-down communication approach cannot change nor sustain people’s health behaviors. On the contrary, one needs to create an enabling environment or a context that supports an individual’s decision to change their behavior. How to achieve sustainability in health or health for all is ultimately what this book is about. In nine chapters, the reader is introduced to the history and discourses of health communication and sustainable development; the first part provides the reader with an in-depth overview of the many health communication theories, set in the context of globalization and localization and assessed from both anthropological and sociological perspectives. In the second part of the book, chapters systematically explain communication for/about health for sustainable development in general, as well as regarding old and new traditional and digital media in particular. The concluding chapters present the principles and applications of health communication strategies for sustainability. Sustainability in health can only be achieved once health equality is a reality.

Environmental Health Disparities: Costs and Benefits of Breaking the Cycle
I Leslie Rubin, M.D., and Joav Merrick, M.D.
(Management of Pediatrics, Morehouse School of Medicine and President, Innovative Solutions for Disadvantage and Disability, Atlanta, GA, USA)

In series: Public Health: Practices, Methods and Policies

Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel) 2016. 225 pp.
Hardcover: 978-1-63484-211-2. $160.00.

This book represents a body of work performed by students from a diverse set of disciplines and a variety of universities. Each project was developed by the students to “break the cycle” of social, economic and environmental health disparities. This book contains the projects from the tenth annual “Break the Cycle” program. “Break the Cycle” projects are designed to raise awareness among students of the reality of environmental health disparities and its impact on the world around them. Although the students may feel daunted by the magnitude of the challenge, they need to know that every relatively small project they develop can make a big difference and becomes part of an inexorable process towards making the world a better place for all of its citizens. The dictum that “It is not incumbent upon you to finish the task, yet, you are not free to desist from it” empowers the students to take on a challenge for a lifetime. We believe that the lessons learned by the students from their own projects, from working with the other students and from appreciating the difference that each little effort can make, goes significantly towards cultivating our future leaders. They are the people who will carry on the work and make the world a better place.

Heavy Metals and Health
Lance Castillo

Hardcover: 978-1-63485-610-2. $190.00.

Heavy metals are persistent in the environment and their elevated emission during longer periods of time can cause contamination of the environment. They are emitted in all environmental media, but can also be easily transported between them due to the atmospheric deposition, water runoff, etc., and thus accumulate in the environment or penetrate the food chains. The main routes of human exposure to heavy metals are through ingestion, inhalation or via dermal contact. Hence, there is a need for better understanding of absorption, distribution and deposition of heavy metals in the human body. This information is of a crucial importance for the evaluation of heavy metal potential health implications. In this book, Chapter One provides an overview of the
heavy metal health hazards, presented as a consequence of heavy metal pollution, their availability and cycling between different media in the environment. Chapter Two comprehensively discusses the roles and harmful effects of heavy metals on human health, as well as the sources and techniques of removing heavy metals from the environment. Chapter Three explores the mechanisms of mercury cardiovascular toxicity, with a particular emphasis on its effects toward endothelial cells. Chapter Four focuses on the effects of exposure to soil contaminated by metals. Chapter Five examines antimicrobial functionalized textiles. Chapter Six discusses thallium poisoning. Chapter Seven provides a review of heavy metal pollution, human exposure and public health implications in Nigeria.

Higher Education in Hong Kong: Nurturing Students to be Caring Service Leaders
Daniel TL Shek, Andrew MH Siu, Hildie Leung, and Joav Merrick (Faculty of Health and Social Sciences, Department of Applied Social Sciences, The Hong Kong Polytechnic University, Honghom, Hong Kong, China)
In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
2016. 239 pp.
Hardcover: 978-1-63484-980-7, $190.00.
In this book, some other attributes of service leadership and the related curriculum materials are introduced. The first one is moral character. While generic leadership competences are important, they are simply not enough. The reason is simple. Without moral character, greed and lust for power will dominate leadership and the related work. Therefore, moral character such as integrity, self-sacrifice, honesty and authenticity are emphasized. Although there are different models of character strengths, some universal commonalities can be found across different approaches, such as integrity in leaders. The second attribute is caring disposition which refers to valuing the needs and experiences of the service recipients and the habitat. In contrast to mere “customer service” or “industrialization” of service, caring disposition means concern and empathy for other people. Besides the two attributes, other service leadership attributes including self-leadership, relationship development and maintenance and mentorship are discussed, and it is our modest hope that other colleagues can have more understanding of the service leadership model proposed by the Hong Kong Institute of Service Leadership and Management, as well as the related curriculum so that more university students will benefit from service leadership education locally and globally.

International Perspectives on Traumatic Stress: Theory, Access, and Mental Health Services
Bita Ghafoori (CA State Univ, Long Beach, Prof. and Dir. of Long Beach Trauma Recovery Center, USA), Yael Caspi (Rambam Med. Health Care Center, Haifa, ISR) and Stefanie F. Smith (CA School of Professional Psych. at Alliant Int. Univ., San Fran., CA, USA)
In series: Psychology of Emotions, Motivations and Actions
In series: Public Health in the 21st Century
2016. 269 pp.
Hardcover: 978-1-63484-929-6, $210.00.

Measles: Epidemiology and Control of Measles in the Gweru Urban District in Zimbabwe
Tawanda Marufu, Seter Siziya, Mazyangia L. Mazaba and Joav Merrick (University of Zimbabwe College of Health Sciences, Avondale, Harare, Zimbabwe)
In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
Hardcover: 978-1-63485-559-4, $160.00.
Measles is a disease of public health importance that is associated with high mortality and morbidity, particularly in developing countries. In recent years, widespread application of the measles vaccine among children has led to a decline in the morbidity and mortality attributed to measles. In the city of Gweru in Zimbabwe, research was carried on the epidemiology and control of measles. Due to these studies, a seven year multiple dose measles vaccination intervention was carried out in Gweru from 1990-1996. The results of this intervention played a significant role in the debate that led to the adoption of the WHO/UNICEF current policy to use multiple dose measles vaccination strategies to control measles in developing countries. One of the critical lessons that has arisen from the Gweru city measles operational research effort has been that fairly low cost, simple research makes a great difference in providing insight into the epidemiology and control of endemic disease conditions locally.

Medical History: Some Perspectives
Donald E. Greydanus, and Joav Merrick (Dept. of Pediatrics and Adolescent Medicine, Western Michigan University Homer Stryker M.D. School of Medicine, Kalamazoo, Michigan, USA)
In series: Public Health: Practices, Methods and Policies
Occupational Exposure and Health Risks

Enrico Oddone (Department of Public Health, Experimental and Forensic Medicine, Occupational Medicine Unit, University of Pavia, Italy)

In series: Public Health in the 21st Century

2016. 345 pp.
Hardcover: 978-1-63485-073-5. $230.00.

Despite several improvements in risk assessment and exposure prevention, the occupational environment could expose workers to a wide variety of risk factors. Beside “classical” risk factors, such as chemical compounds, physical agents and biological agents, a group of “new” risk factors has become more and more prevalent over the last few decades; psychosocial hazards in occupational environments and exposure to nanoparticles are flawless examples of these potential issues for workers' health. This book aims to address principal “classical” risk factors by dealing extensively with occupational respiratory diseases, cardiovascular diseases related to work, occupational cancers, and occupational risks for hypersensitivity. Additionally, it attempts to shed light on a deepened treatise of occupational hazards related to the development of neurodegenerative diseases, psychosocial ailments, and ergonomic risk factors, which could result in cumulative trauma disorders of the upper limb. The second part of this book provides some advice regarding specific risk factors or specific occupational exposures: health issues related to exposure to mechanical vibrations, pesticides, nanomaterials, and in a hospital environment were used as examples to deepen the risk assessment and the analysis of health hazards. The authors hope to paint a global picture of the principal risk factors in occupational medicine. Given these premises, this book is not aimed to be comprehensive, but rather to provide an introductory and robust base for facing several current issues in occupational medicine.

Public Health Yearbook 2015

Joav Merrick, M.D. (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)


A variety of topics are presented in this book that seek to reflect on medical history before and after the golden age of the Medical Renaissance. These topics include newborn care, the story of adolescence, behavioral pediatrics, psychopharmacology, substance abuse, psychodermatology, specific organ systems (the kidney and the heart in pediatrics), and other motifs. Reflections on adolescence are provided based on society’s classic disdain and envy of its youth, which is seen throughout the ages of human life. In this book, we include a variety of scholars who stood on the shoulders of giants and made giant leaps in medicine of their own. In each century since the Medial Renaissance, these giants advanced the field of medicine into what we have as today’s standard medical care, and perhaps we can learn what it will be like in the future. These esteemed experts learned from the past, made mistakes, exhibited amazing courage, and faced scientific — and sometimes — sacredotal criticism. Their courage was amazing, as many were confronted with minacious, inauspicious, portentous, and unpropitious attacks against their ethics and accomplishments. However, they persisted and were able to develop verifiable data that others could independently substantiate and sometimes improve upon for the benefit of all humans.

Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel

In series: Health and Human Development

Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)

2016. 547 pp.
Hardcover: 978-1-63484-514-4. $310.00.

In this Public Health Yearbook 2015 we will touch upon several public health topics having in mind the fight against Ebola in West Africa. Public health efforts can only be successful if attention is paid to the interconnectedness between the population’s perception of the disease, their cultural practices relating to death, dying, and the treatment of corpses, their ecosystem (including their food culture, garbage disposal, and overall sanitation culture), their socialization methods, and their cultural practices and perceptions of isolation and human security. It is essential for governments to provide essential information relating to the nature of the disease and the risks associated with it as well as create awareness through culturally congruent education and sensitization methods. West African governments must engage with community members and learn about their perceptions of the disease and of their own safety. Public health providers must also learn about and utilize control and prevention strategies that are community-based. We hope this Yearbook and the research will be of interest to our readers.

Public Health: International Aspects on Environment and Health

I Leslie Rubin, M.D., and Joav Merrick, M.D. (Department of Pediatrics, Morehouse School of Medicine and President, Innovative Solutions for Disadvantage and Disability, Atlanta, GA, USA)

In series: Public Health: Practices, Methods and Policies

Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)

Hardcover: 978-1-63484-834-3. $190.00.

The "Break the Cycle" program has been an annual academic event since 2005, recruiting students from many different disciplines and departments at different universities across the United States and the world, to break the cycle of environmental health disparities at any point. This volume presents the set of "Break the Cycle" projects that look at the international stage. Environmental conditions and health disparities are universal and represent a challenge for our global village. We hope to see many more students assist with this program in different international settings. The students are, after all, our future; our work is a preparation for them to make the world a better place for generations to come. Poverty, disadvantage, disease and disability are all global challenges. This global picture has been captured in the Millennium Development Goals 2015, which came out of the Millennium Summit in September 2000, the largest gathering of world leaders in history. We now have the UN Sustainable Development Goals to guide our efforts for the next couple of decades.

Public Health: Some International Aspects

Joav Merrick, M.D. (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel
In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations (public and private), communities and individuals. The mission of public health is the fulfillment of society’s interest in assuring the conditions which make people healthy. In the twentieth century, one of the improvements in public health has been an increased life expectancy in the developed world. However, we have also seen other achievements in the provision of vaccinations, motor-vehicle safety, safer workplaces, control of infectious diseases, decline in deaths from coronary heart disease and stroke, safer and healthier foods, healthier mothers and babies, and family planning and fluoridation of drinking water. There has been some positive trends in recent years in developed countries, such as less smoking, more physical activity and better vaccination status. Still, drinking, obesity, violent crime and lack of health insurance are some challenging areas in public health. We need to apply what we have learned and know now in order to reduce health inequality in our nations in the future. We also need to use advanced technology to improve health and address new health issues as they emerge over time; it is imperative that people are ready to intervene and minimize adverse effects of new diseases at all times.

Quality Control and Safety Evaluation of Natural Products
Shuang-Qing Zhang, Hong-Tao Jin, Feng Wei, and Xiaohui Ma (Department of Nutrition and Metabolism, National Institute for Nutrition and Health, Chinese Center for Disease Control and Prevention, Beijing, China)
In series: Public Health in the 21st Century
Natural medicines are derived from natural sources such as plants, animals and/or mineral origins. The use of traditional natural products is an empirical healthcare system based on thousands of years of human experience. Over the past few decades, quality control and safety evaluation methods for natural products, though sophisticated and technologically advanced, still lack comprehensiveness and practicability to some extent. Generally, those methods fully satisfy the modern scientific requirements for extraction, identification, purity, quality and pharmacological effects in the assessment of chemical drugs. However, they are not suitable for handling the complex chemical characteristics of natural products. Therefore, a better understanding of the basic properties of natural medicines and advanced chemical, pharmacological and biological techniques would facilitate the application of the natural products in public health. The purpose of this book is to address the issues mentioned above and present related solutions. The book covers the below topics: •Advanced analytical technologies in the application of the natural medicines (e.g. mass spectrometry, gas or liquid chromatography, and NMR). •Recent advances in biochemistry research of natural medicines (e.g. gene expression microarray, tissue microarray, and chromatin-precipitation assay) •Innovations in analytical chemistry of natural products •Quality control and safety evaluation of traditional medical material and finished products •Detection of low quality and adulterants of natural product •Identification of the plant by various analytical techniques •Regulations and management of natural products from foreign countries •Novel cell-based models used for the high-throughput screening for drug discovery in natural products •Pharmacological effects of natural products in vitro and in vivo •Advanced modeling techniques used in pharmokinetic and pharmacodynamic properties of natural products (e.g. Pharsight WINNONLIN, Simcyp, and Gastroplus).

Significant Health Statistics: Select Reports from Federal Agencies
Christopher Barrett
In series: Public Health in the 21st Century
Hardcover: 978-1-63484-563-2. $120.00.
e-book: 978-1-63484-564-9. $120.00.
This book provides significant health statistics through reports from federal agencies. The statistics discussed include updates on previously reported estimates for strategies used by U.S. adults aged 18 and over to reduce their prescription drug costs; regional variation in use of complementary health approached by U.S. adults; health care access and utilization among adults, by race and Hispanic origin; characteristics of hospital stays for super-utilizers by payer; trends in hospital readmissions; hospitalizations for patients aged 85 and over; prevalence of obesity among adults, children and adolescents; sexual activity, contraceptive use, and childbearing of teenagers; serious psychological distress among adults; racial and ethnic disparities in men's use of mental health treatments; and the leading cause of death contributing to decrease in life expectancy gap between black and white populations.

Smoking and Adolescence: International Public Health Experiences
Mazyanga L. Mazaba (WHO, UN Annex, Lusaka, ZMB), Seter Siziya, Ph.D., (Copperbelt University, School of Medicine, Ndola, ZMB) Joav Merrick, M.D. (Division for Intellectual & Dev. Disabilities, Ministry of Social Affairs & Social Services, Jerusalem, ISR)
In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
Hardcover: 978-1-63484-311-9. $190.00.
Smoking cigarettes starts during adolescence. Some adolescents may stop smoking cigarettes having taken it as an experiment during adolescence, but others may continue smoking into adulthood. Most adults who smoke started smoking during the adolescence stage and may have been already addicted to nicotine before the age of eighteen, resulting in long-term health consequences. This book compiles and documents smoking epidemiology and correlates of smoking in adolescents in various regions of the world. It aims to provide critical information that relates to the magnitude of the problem and who is affected in order for strategies to be identified and implemented. The issue is a concern of public health, since smoking affects people not only at the time the smoking habit begins, but because it has an influence on them for the rest of an individual’s life.
The Occupational Safety and Health Act: Standards, Provisions, Rights
Christy Knight
In series: Public Health in the 21st Century
Softcover: 978-1-63482-637-2. $95.00.
e-book: 978-1-63485-597-6. $95.00.
Through the Occupational Safety and Health Act of 1970 (“OSH Act” or “act”), Congress sought a nationwide approach to regulating workplace accidents and injuries. The act authorizes the Secretary of Labor to create and enforce workplace safety standards. Additionally, the act contains a “General Duty Clause,” also enforced by the Secretary of Labor, which generally requires employers to provide workplaces that are free of potentially harmful hazards. The act created the Occupational Safety and Health Review Commission (“OSHRC”), an adjudicatory agency independent of the Department of Labor, and therefore OSHA, that is tasked with reviewing enforcement actions. OSHA enforces its standards and the General Duty Clause through inspections, citations, and penalties. Employers can seek review of OSHA enforcement actions first with OSHRC and then with U.S. Courts of Appeals. This book discusses, in depth, the standards, provisions and rights of the Occupational Safety and Health Act.

U.S. Public Health Service Agencies: Overview and Funding
Darin Morrison
In series: Public Health in the 21st Century
2016.
Softcover: 978-1-63485-995-0. $62.00.
Within the Department of Health and Human Services (HHS), eight agencies are designated components of the U.S. Public Health Service (PHS). The PHS agencies are funded primarily with annual discretionary appropriations. They also receive significant amounts of funding from other sources including mandatory funds from the Affordable Care Act (ACA), user fees, and third-party reimbursements (collections). This book discusses funding, and provides an overview of the PHS agencies.

Walking and Walkable Communities: Health Goals and Implementation Strategies
Samuel Keller
In series: Public Health in the 21st Century
Hardcover: 978-1-63484-760-5. $145.00.
Being physically active is one of the most important steps that Americans of all ages can take to improve their health. But only half of adults and about a quarter of high school students get the amount of physical activity recommended in national guidelines. This book aims to get Americans walking and wheelchair rolling for the physical activity needed to help prevent and reduce their risk of chronic diseases and premature death. The book also assist residents, parents, community association members, and others in getting involved in making communities safer for pedestrians. The book includes facts, ideas, and resources to help residents learn about traffic problems that affect pedestrians and find ways to help address these problems and promote pedestrian safety. The book includes information on identifying problems, taking action to address pedestrian concerns, finding solutions to improve pedestrian safety, and resources to get additional information.

Women’s Health in the Majority World: Issues and Initiatives (Second Edition)
Laurie Elit and Jean Chamberlain Froese (McMaster University, Professor in the Department of Obstetrics and Gynecology, Ontario, Canada)
In series: Public Health in the 21st Century
Hardcover: 978-1-63482-454-5. $230.00.
Softcover: 978-1-63485-734-5. $89.00.
This novel text outlines issues faced by the majority of women living in low and middle income countries. The unique aspect of this book is the numerous examples of innovative solutions that have been implemented in various global settings. The chapter authors are transparent concerning the barriers encountered and successes experienced. This book covers well known medical issues related to pregnancy (like maternal morbidity, and abortion, female genital cutting), HIV, and gynecologic cancers with a focus on cervical cancer prevention and treatment. This book goes beyond the medical diagnoses to explore the social determinants of health such as environment priorities like the water-health nexus, social ills like human trafficking, political influencers like the impact of advocacy and low and high resource countries’ government agendas and the books closes with a discussion on the bioethical dilemmas. This goal of this book is to enable the reader to understand that by improving the status of women how this benefits the whole family and community. We ultimately hope that the reader becomes engaged in the process of improving the status of these women’s.

RENAL AND UROLOGIC DISORDERS

Comorbidities in Chronic Kidney Disease: From Diagnosis to Management
Luca Di Lullo (Department of Nephrology and Dialysis, L. Parodi Delfino Hospital, Piazza Aldo Moro, Colleferro, Roma, Italy)
In series: Renal and Urologic Disorders
2016. 228 pp.
Hardcover: 978-1-63485-070-4. $190.00.
The first edition of Comorbidities in Chronic Kidney Disease is focused on the main clinical syndromes associated with renal injury and failure. The first chapter is dedicated to epidemiological aspects of chronic kidney disease, and also introduces risk factors and associated comorbidities. Arterial hypertension and cardiovascular diseases are actually accountable as major risk factors for developing renal disease, and the next chapter is mainly focused on the latest trials in this field. The following chapter is dedicated to pathophysiology, diagnosis and treatment of dyslipidemia and atherosclerosis in patients with declined renal function. The subsequent chapter is exhaustively focused on the clinical features of secondary hyperparathyroidism and the disease’s complications on kidneys, bone, vessels and heart, from early laboratory findings to severe vascular and heart valvular calcifications. The section that succeeds reflects on secondary anemia and consequent cardiorenal anemia syndrome with particular attention on the latest treatment schedules. Coronary artery disease is also discussed, especially for those concerned with clinical features and laboratory diagnosis in chronic kidney disease patients with impaired clearance of coronary acute syndrome biomarkers. Cardiorenal syndrome and sudden cardiac
death are well-established clinical aspects in CKD patients, and they are discussed both in terms of pathophysiological and clinical features. The book finally ends with two sections on hepato-renal syndrome and contrast-induced nephropathy (CIN). CIN represents daily challenges for all nephrologists because due to the large amounts of instrumental diagnostic tests and an increasing number of chronic kidney disease patients involved. This volume could be appreciated both by nephrologists and all clinicians involved in chronic patients’ management due to schematic and practical editing and form.

International Book of Erectile Dysfunction
Miroslav L. Djordjevic and Francisco E. Martins
(University of Belgrade, Serbia and University of Lisbon, Portugal)
In series: Urology Research Progress
2016. 455 pp.
Hardcover: 978-1-63485-271-5. $270.00.
e-book: 978-1-63485-289-0. $270.00.
The International Book of Erectile Dysfunction is a general textbook on erectile dysfunction written by leading world experts in the field. Basic and clinical research into the anatomy, physiology, and biochemistry of erectile function has made it possible to define specific organic disorders and diseases that can result in erectile dysfunction. Now, urologists and other clinicians in this field are able to differentiate between psychogenic and organic causes. The text is well-illustrated, complete with excellent graphics and schemes and will therefore be of use to all medical specialties that cover the male population. It will equally be appreciated by residents, fellows, urologists, reconstructive surgeons, internal doctors and endocrinologists. Each chapter is concise and clear. In addition, general considerations about erectile dysfunction, its etiology, pathophysiology and classifications are discussed. Important facts about its management (conservative or surgical), a variety of surgical procedures, detailed descriptions of different techniques, and possible tricks and traps are noted. Chapters on practical procedures and operative surgical techniques with illustrations are included to provide a detailed and easy reference to the commonly used forms of techniques and procedures. The International Book of Erectile Dysfunction brings together experts of basic science and the clinical management of different types of erectile dysfunction. The chapters cover current diagnostic procedures and treatment options, as well as discuss the current research, that is ongoing in the different areas of erectile dysfunction management.

Overactive Bladder (OAB): Prevalence, Risk Factors and Management
Elvira Larson
In series: Renal, Metabolic and Urologic Disorders
2016. 185 pp.
e-book: 978-1-63485-052-0. $190.00.
Overactive Bladder Syndrome (OAB) is a clinical entity characterised by urgency, with or without increased urinary frequency and/or urgency incontinence. It is a chronic condition with a high prevalence that increases with age, thus being a growing health problem especially in developed countries due to increased life expectancy. Patients with this disorder are often reluctant to seek advice due to embarrassment, fear of social exclusion or the belief that symptoms are an expected consequence of ageing. Costs associated with treatments, use of pads/diapers and general economic burden are expected to increase in the future. OAB has a negative impact on quality of life (QoL) in varying degrees, depending upon the severity of symptoms and the presence of urgency incontinence. It has been linked to increased risk of fractures, institutionalization and depression in older populations particularly prone to the development of OAB. This books discusses the prevalence, risk factors and management options available for OAB.

Urinary Incontinence: Prevalence, Risk Factors and Management Strategies
Debra Newton
In series: Urology Research Progress
2016.
Softcover: 978-1-53610-099-0. $95.00.
Urinary incontinence (UI) is defined as the complaint of involuntary loss of urine. Urinary incontinence can be divided into several different types, including stress urinary incontinence (SUI), which is defined as the complaint of involuntary loss of urine on effort, physical exertion, sneezing or coughing. Mixed urinary incontinence (MUI) is defined as the complaint of involuntary leakage associated with urgency and effort, exertion, sneezing and coughing. Urge urinary incontinence (UUI) is defined as the complaint of involuntary leakage accompanied by or immediately preceded by urgency; overflow incontinence, and functional incontinence. This book reviews UI's prevalence, risk factors and the management strategies currently available.

RESPIRATORY

Chronic Obstructive Pulmonary Disease (COPD): Clinical Symptoms, Emerging Treatment Strategies and Impact on Quality of Life
Jared King
In series: Pulmonary and Respiratory Diseases and Disorders
Softcover: 978-1-63484-500-7. $82.00.
e-book: 978-1-63484-532-8. $82.00.
Chronic obstructive pulmonary disease (COPD) is a respiratory disorder characterized by chronic and recurrent air flow obstruction that increases resistance and dynamic hyperinflation of the peripheral airways. Chapter One presents a system for classification of COPD, based on fuzzy rules and a trained neural network. In Chapter Two, surrogate outcomes (i.e., physiological and/or anatomical outcomes) and outcomes that matter to patients (i.e., patient-centered), commonly used in COPD respiratory physiotherapy interventions, during stable and exacerbations periods, will be presented and discussed according to their strengths and weaknesses. Chapter Three assesses the association of COPD with the risk of adverse outcomes in patients with acute ST-segment elevation myocardial infarction (STEMI) who underwent percutaneous coronary intervention (PCI).

COPD and the Workplace
Jordan Minov, M.D., Ph.D. (Head of the Department for Physiology of Work, Institute for Occupational Health of R. Macedonia, Skopje – WHO Collaborating Center for Occupational Health)
In series: Pulmonary and Respiratory Diseases and Disorders
Softcover: 978-1-63484-249-5. $82.00.
e-book: 978-1-63484-518-2. $82.00.
Chronic obstructive pulmonary disease (COPD) is a major cause of disability and is the fourth leading cause of death throughout the world. Although cigarette smoking is the major and best studied causative factor of COPD, there is consistent evidence that a substantial proportion of COPD cases cannot be explained by smoking. Other noxious particles and gases, such as workplace dusts, vapours, fumes or gases, indoor air pollution from burning biomass fuels during cooking foods and heating spaces, and air pollution in urban areas are
important risk factors of COPD. According to collected data, 15-20% of COPD cases are likely to be caused or made worse by work; around 4,000 COPD deaths every year are related to workplace exposures, and 40% of COPD patients are below the retirement age. The development of COPD as a consequence of workplace exposure is a matter of growing interest and importance. There is no doubt that certain workplace exposures enhance the risk of COPD and may do so independently of or in concordance with cigarette smoking. The evidence is most coherent for work that entails exposure to coal, silica, welding fumes, cadmium fumes, cotton dust, farming dusts, grain dust and/or wood dust. The research found consistent associations between workplace exposures and COPD across a wide range of sectors, describing a nearly uniform pattern of exposure-response relationships. Based on the research, affected occupations include miners, construction workers, road workers, tunnel workers, welders, glass workers, metal workers, foundry workers, textile workers, farm laborers, wood workers, chemical workers, and rubber workers; in other words, a working population including millions and millions workers worldwide have been affected. It seems that occupational risk for COPD, although variable, is smaller compared with that of cigarette smoking. However, it affects a large proportion of the population and its contribution to the total burden of COPD cannot be neglected. In addition, existing evidence indicates that workplace exposure may influence the course of COPD as factors with significant impacts on the progression and severity of the disease. As in the case of the workplace agents being causative factors of COPD, the mechanisms underlying this effect still are not fully understood. This monograph contains seven chapters which cover the most important aspects of this issue. It summarizes results of the studies performed in this area of research and conclusions based on them. This monograph also presents the author’s view regarding the influence of workplace exposures on the development and progression of COPD. In addition, it may be a basis for further research for better understanding of the association between COPD and workplace exposures.

Cystic and Idiopathic Pulmonary Fibrosis: Risk Factors, Management and Long-Term Health Outcomes
Lorenzo Robertson
In series: Pulmonary and Respiratory Diseases and Disorders
Cystic fibrosis (CF) is one of the most common autosomal recessive disorders in the Caucasian population with an estimated incidence of 1 in 2,500 childbirths. While this disease affects several organ systems of the body, morbidity and mortality is chiefly related to the extent of pulmonary involvement. Idiopathic pulmonary fibrosis (IPF) is the most common idiopathic interstitial disease of the lung of unknown etiology with a median survival time of about 3 years. IPF occurs mainly in men older than 60 years who have comorbidities such as pulmonary hypertension, COPD, lung cancer, gastro-esophageal reflux, ischemic heart disease and obstructive sleep apnoea. This book provides current research on risk factors of CF and IPF, as well as management options and long-term health outcomes of the disorders.

SUBSTANCE ABUSE
Advances in Drug Testing and Drug Delivery Systems
Kin Fong Lei, I-Chi Lee and Yi-Chen Li (Chang Gung University, Taiwan)

Alcohol Consumption: Patterns, Influences and Health Effects
Winston Gutierrez
In series: Alcohol and Drug Abuse
Alcohol consumption patterns are characterized as mild, moderate, social, heavy drinking, problem drinking, binge drinking and heavy episodic drinking may or may not lead to alcohol dependence. Excessive alcohol consumption has been associated with a variety of negative health consequences, acute or chronic, both the alcohol user and for society to which this drinker is inserted, ranging from injuries resulting from traffic accidents to diseases chronic such as cancer and cardiovascular disease. This book discusses alcohol consumption patterns, influences and health effects. The first chapter describes the epidemiology of global alcohol consumption, classification patterns of alcohol consumption, the influences and the deleterious effects of excessive consumption of these licit drugs can cause to the human body, and finally, the nutritional implications of this consumption. Chapter Two elucidates the risk factors associated with binge drinking from different approaches and presents the advances in prevention strategies and intervention programs for adolescents and young adults. Chapter Three discusses underlying theoretical constructs associated with alcohol-related group norms, outlines the empirical impact of social norms on binge drinking behavior, and presents secondary data analyses of two distinct nationally representative datasets. Chapter Four examines the relationship between electronic-cigarette use, alcohol consumption and smoking prohibition where alcohol is consumed. Chapter Five uses the curious case of Dr. Jekyll and Mr. Hyde to describe the ways individuals drink and why regular drinking (i.e., our Dr. Jekyll) may be very different to our event-specific drinking. Chapter Six summarizes the evidence suggesting that an unfavorable mixture of higher overall level of alcohol consumption and
binge drinking pattern is a major risk factor for cardiovascular mortality in Russia. Chapter Seven is an expert commentary on current research and future directions of text message interventions for alcohol use.

Substance Abuse and Aftercare
Sarah Callahan and Leonard A. Jason (DePaul University, Chicago, IL, USA)
In series: Substance Abuse Assessment, Interventions and Treatment 2016.
Softcover: 978-1-63485-501-3. $82.00.
e-book: 978-1-63485-539-6. $82.00.
Drug and alcohol addiction are critical social problems in the United States. Drug and alcohol abuse are powerful facilitators of health and economic disparities, making recovery and re-entry into the community difficult. Alcohol and drug abuse/addiction are among the costliest of health problems, totaling approximately $428 billion annually. A range of services have been developed to address the problem of substance dependence, including inpatient services, outpatient services, and recovery housing. However, only about 11% of those with substance addictions reach any type of substance abuse treatment, and those that are treated evidence high rates of relapse. Thus, it is critical to understand the mechanisms by which individuals are successful, and sustain abstinence after receiving treatment and aftercare. This book provides a collection of research that explores alternative models, aftercare programs, employment services, trauma issues that effect recovery, gender-specific, and culturally modified treatment and aftercare programs. Each chapter is an individual study that addresses key unanswered questions in substance abuse and recovery research. Furthermore, the editors and authors identify potentially important, understudied topics for further research and formulate public policy recommendations. This is a must read for addiction researchers, academics, students, Substance Abuse practitioners.

Substance Abuse: Influences, Treatment Options and Health Effects
Tanya Reid
In series: Substance Abuse Assessment, Interventions and Treatment 2016. 159 pp.
This book discusses the influences, treatment options and health effects of substance abuse. Chapter One examines the phenomenon of alcoholism and alcoholic psychoses in Russia from the late Soviet to post-Soviet period. Chapter Two studies the validity and reliability of alcohol use data collected via the Amazon’s Mechanical Turk (MTurk), a commonly used tool for social science research. Chapter Three assesses and compares certain parameters of sexual functioning in patients with alcohol dependence syndrome. Chapter Four summarizes the results of two double-blind, placebo-controlled pilot studies conducted in order to evaluate the efficacy of mirtazapine for the treatment of persons with comorbid major depressive disorder and alcohol use disorder (MDD/AUD). Chapter Five presents a re-offense prevention program which specifically addresses the participant’s social network composition. Chapter Six reviews the epidemiology of the hepatitis B virus infection among non-injecting drug users. Chapter Seven discusses the macro- and micro-level factors that influence the emergence and sustainability of recovery high schools (RHS) and conclude that both grassroots advocates and policy-makers must consider the myriad ecological forces and their influence on the development of particular recovery support programs.

'The Knotted Cord'. Transgenerational Alcohol Related Neurodevelopmental Disorder (ARND)
Kieran D. O'Malley (Child & Adolescent Psychiatrist, Charlemont Clinic, Dublin, Ireland)
Hardcover: 978-1-62808-712-3. $150.00.
Softcover: 978-1-63485-197-8. $89.00.
e-book: 978-1-63117-100-0. $150.00.
The title of the book harks back to Michael Dorris’s seminal work The Broken Cord (1987) which eloquently brought this ‘hidden’ population into the light. However, the metaphorical umbilical cord is not truly broken, and the unique neurodevelopmental disorder resulting from prenatal alcohol exposure will continue to be one ghost in our delivery rooms, nurseries, and lives which haunts us. Why a different ‘knot’? Because management becomes knotted with the origins of the infant’s prenatal life, whether they are birthed, fostered, adopted, either culture or inter-country adoption. This ‘knot’ (as in ‘Not it’), also speaks to medical professionals and society’s continued ambivalence to acknowledging another inconvenient truth. Maternal drinking in pregnancy causes Alcohol Related Neurodevelopmental Disorder (ARND) whether dysmorphic, called Fetal Alcohol Syndrome (FAS), or non dysmorphic, ARND itself. These are both transgenerational developmental psychiatric disorders. The prevalence of ARND continues to be under-recognized as it is mainly presented as a faceless ‘hidden disability’ (masquerading as ADHD, Mood Disorder or ASD), rather than a facial dysmorphic disorder. The subtle denial and minimization of transgenerational alcohol abuse is aided only by diagnosing the far less frequent dysmorphic ARND (FAS). This creates a false security across social classes concerning alcohol’s true transgenerational epigenetic effect. Thus, the real financial costs and health care burden of transgenerational ARND, with an international prevalence of 1 in 100 live births, is avoided. The thrust of this book has come from 25 years of psychiatric clinical and academic work with children, adolescents and their families, all of whom are affected by prenatal alcohol exposure in Canada, USA, UK and now Ireland. We cannot all escape our collective histories of colonization or abusive violence, and the transgenerational history of alcohol, with trauma and abuse, lies embedded in these stories. It is a story repeated in many different countries and cultures, from Russia to Romania, from South Africa to Southern Alberta. Although I am now working in Ireland, my medical experience has taught me the untold legacies of transgenerational alcohol, in Native Americans, First Nations, disenfranchised minorities, and the seemingly invulnerable gentry. This book is not an angry polemic on the evils of alcohol, but a passionately written academic treatise on 40 years of alcohol teratology and subsequent human research, which in many ways is still ‘stuck in the moment,’ continuing to pursue the minutiae of physical facial features, neuropsychological or brain deficits. This continued approach avoids the ‘elephant in the room,’ namely the murky uncharted waters of transgenerational alcohol abuse management. There are no systematic medical management approaches to ARND, and it continues to be managed in a piecemeal fashion with disconnections between the research community and the obstetric, pediatric, psychiatric, social service and alcohol addiction services. Therefore, it is also the author’s expectation that in the coming generation the age related phenotypes of ARND will begin to finally be appreciated, and we/society will be better served by their eventual acknowledgement by medical professionals.
Surgery

Diagnosis and Treatment Planning in Orthognathic Surgery
Devinder Preet Singh (Dr. Harvansh Singh Judge Institute of Dental Sciences, Panjab University, Chandigarh, India) and Shefali Arora (Swamy Devi Dyal Dental College and Hospital, Barwala, Panchkula, Haryana, India)
In series: Surgery - Procedures, Complications, and Results
Hardcover: 978-1-63482-273-2. $190.00.

“The human face should be in perfect harmony and balance along with ideal functioning of the stomatognathic system...” was a view idealized by Apollo Belvedere, who created the neoclassical Greek sculpture of the head and face. However, Nature ensures that all of us are not blessed with perfect faces. It is for the resolution of these imperfections that orthodontic treatment is sought. But for patients whose problems are so severe that neither growth nor camouflage offers an ideal solution, surgical realignment of jaws or repositioning of dentoalveolar segments is the only choice. Surgery is not a substitute for orthodontics in these patients; instead, it must be properly coordinated with orthodontics and other dental treatment to achieve overall positive results. With recent advances in surgical technology, it is now possible to treat these patients successfully for whom orthodontic camouflage would have resulted in esthetically unacceptable and often unstable results. This art and science of diagnosis, treatment planning, and execution of treatment of dentoalveolar deformities by combining orthodontics, oral and maxillofacial surgery to correct severe musculoskeletal, dento-osseous, and soft tissue deformities of the jaws and associated structures is called orthognathic surgery. Successful orthognathic surgery demands the understanding and cooperation of the oral and maxillofacial surgeon, orthodontist, and general dentist. Each must provide a proper diagnosis and treatment plan, perform necessary treatment and refer to necessary treatment outside his or her respective area of expertise. In order for patients to receive state-of-art care when correcting their deformities, the orthognathic team must: 1. recognize the various characteristics of malocclusion and dento-facial deformity; 2. define the nature of the problem, including the possible etiology; and 3. design a treatment strategy based on the specific needs and desires of the individual. In this modern era, the role of the doctor has shifted from that of sole decision maker in the planning process to that of a partner with the patient as co-decision-maker. Therefore, the clinician must not overlook the importance of including the patient and parents in the treatment planning process. Ackermann and Proffit have suggested that clinicians are generally more influenced by objective findings (problem list) and patients are more influenced by subjective findings (their perception of their needs and values). This dichotomy makes communication an effective tool when one is faced with the decision between orthodontic camouflage and surgical orthodontic correction. The authors of this book examine the diagnosis and treatment planning in orthognathic surgery.

Gastric Bypass Surgery: Procedures, Benefits and Health Risks
Eugene Montgomery
In series: Surgery - Procedures, Complications, and Results
Hardcover: 978-1-63485-412-2. $95.00.

Obesity is a multifactorial global epidemic with associated risk factors for an array of vascular, metabolic, psychological and economical consequences. Bariatric surgery has revealed a significant link between gastrointestinal metabolism and obesity that extends to resolution of many metabolic diseases including type 2 diabetes and cardiovascular disease risk. Bariatric surgery offers the most effective results and Roux-en Y gastric bypass (RYGB) is the most commonly performed bariatric surgery worldwide. The effective weight loss achieved by RYGB is thought to be caused by the re-arrangement of the gastrointestinal tract leading malabsorption and restriction of the ingested nutrients, and consequently resulting in alterations in the gut hormone levels. The first chapter of this book briefly summarizes the current literature on the changes in the gastrointestinal hormones following RYGB. Chapter Two studies the role of bariatric surgery in the resolution of obesity and type 2 diabetes. Chapter Three discusses how to treat a type 2 diabetes patient post-bariatric surgery. The last chapter discusses the recent findings of the relationship between gastric bypass and four different skin disorders.

Minimally Invasive Aortic Valve Surgery
Hunaid A. Vohra, Vinayak Bapat and Christopher P. Young (Bristol Heart Institute, Bristol, UK)
In series: New Developments in Medical Research

Minimally invasive aortic valve surgery is a relatively new field which cardiac surgeons are increasingly embracing, and patients and cardiologists are demanding this with more enthusiasm. This is a current subject of great interest with contemporary results already present and more are awaited. This book describes the process through the set-up of a minimally invasive aortic valve surgery program, pertinent investigations, patient selection, different approaches (including endoscopic and robotic), cardio-pulmonary bypass, re-operations and their application with rapid deployment and aortic vascular surgery. This book is intended for all training cardiac surgeons and cardiologists, consultant cardiac surgeons and cardiologists, anaesthetists, intensive care specialists and perfusionists. This is the first book authored exclusively on this subject. The three editors are leading authorities on this subject in the UK and are mentors for many surgical programs. Every chapter is authored by experts in this particular aspect of minimally invasive aortic valve surgery. These surgeons are mainly from the United States, Australia and Europe. Target Audience: Cardiac Surgeons, Cardiologists, Perfusionists, Anaesthesiologists, Medical Students, Nurses, Physicians.

Percutaneous Endoscopic Gastrostomy (PEG): Techniques, Effectiveness and Potential Complications
Eric M. Pauli (Department of Surgery, Penn State Hershey Medical Center, Hershey, PA) and Jeffrey M. Marks (University Hospitals Case Medical Center, Cleveland, OH)
In series: Surgery - Procedures, Complications, and Results
Hardcover: 978-1-63485-606-5. $190.00.
e-book: 978-1-63485-617-1. $190.00.
Percutaneous endoscopic gastrostomy (PEG) tubes are placed more than 125,000 times a year in the United States alone, making it one of the most common therapeutic endoscopic procedures. The editor, Eric Mark Pauli, along with his co-editor Dr. Jeffrey Marks had the good fortune of training with Dr. Jeffrey Ponsky, the recognized co-developer of the technique. PEG is deceptively simple. You do not need to complete a fellowship to understand it. In the majority of
patients. PEG is a 10 minute procedure that requires minimal preoperative evaluation, a moderate amount of surgical/endoscopic skill and minimal post-operative follow up. The trick to being good at PEG lies in recognizing those circumstances that require more forethought, more patient/family discussion, more endoscopic skills, more postoperative management. If such recognition is followed up with appropriate action, few patients should be deemed “un-PEGable” and complications should be kept to an absolute minimum. The purpose of this book is twofold. First, for the individual who is new to performing PEG, it provides an overview of the basic management strategies and endoscopic techniques as they are performed by recognized experts in their respective fields. Second, for the practitioner who already performs PEG, the editor hope that it exposes them to alternative techniques and more advanced therapeutic options such that they can offer the procedure to more patients in an even safer fashion. Target Audience: Physicians-in-training or in practice who perform enteral access or manage patients with feeding tubes.

Spontaneous Subarachnoid Haemorrhage: Well-Known and New Approaches
Thomas Kapapa and Ralph König (Senior Physicians, Associate Professors, Department of Neurosurgery, University of Ulm, Ulm, Germany)
In series: Surgery - Procedures, Complications, and Results
Hardcover: 978-1-63485-270-8. $110.00.
Hippocrates of Cos was one of the first who described spontaneous subarachnoid haemorrhage without special knowledge about neuroanatomy or neuro-physiology. This haemorrhage represented a life ending event of fate for him. Inventions like computed tomography or angiography gave better insight into the patterns of this life threatening disease. Progress in management was developed by new cranial approaches, new generations of clips and better intensive care modalities. The latter could be represented by the increasing use of nimodipine or the integration of the early sealing mode of an intracranial aneurysm after rupture within 72 hours. Endovascular therapies revolutionised aneurysm management, strengthening the interdisciplinary team-work of neuroradiologists, anesthesists and neurosurgeons. These changes in the past lead to a significant reduction in mortality, producing more survivors who suffer different stages of morbidity. Morbidity in this context is represented by physical handicaps and dependencies, but also mental, emotional and cognitive impairments. However, there are still some challenges to manage, like the cerebral vasospasm or delayed cerebral ischemia including spreading depolarisations, (prolonged) hydrocephalus, and cognitive long-term morbidity that may complicate a smooth and easy reintegration into daily life. Nevertheless, dealing with this long history and the aforementioned challenges, there is still the opinion that there is stagnation in the progress within this field of study. Scientists lack new ideas for surgical procedures or clips, endovascular devices do not always represent safe options, and medication providing protection for vasospasms still remains unknown. This book provides basic knowledge concerning this interesting disease pattern and introduces more intensive work in the field. It is written by a team of individuals from multiple disciplines that represent different parts of therapy management. The literature used is recent and promotes intensive private or independent study. The intended audiences for this book include students, residents, registrars, assistant physicians, and all physicians from neighbouring disciplines.

Surgery of the Orbital Cavity: “No-Man's-Land”
Radmilo Roncevic (Clinical Center of Serbia, Clinic for Plastic and Reconstructive Surgery, Belgarde, Serbia)
In series: Surgery - Procedures, Complications, and Results
2016. 150 pp.
Hardcover: 978-1-63482-271-8. $190.00.
The orbital cavity is still a “no man’s land”, as no surgical discipline has ever fully addressed it. This book will encompass the orbital cavity from a surgical perspective in a manner previously unseen. The described surgical details and presented results will show that impressive results can be achieved in very difficult and complex cases. Surgical procedures will be illustrated with drawings, sketches, and photographs (conditions before and after surgery, details of ongoing operations, etc.), and will be presented with a list of all possible complications. The intention is to provide the reader with both a monograph and surgical atlas of the orbital cavity. The following pages are a comprehensive systematic description of the complete surgery of the orbit. Surgical details, with both practical and theoretical viewpoints, are the author’s contribution to the topic of surgical treatment of the orbit. At the end of each chapter, statistical data about Radmilo Roncevic’s personal patients and results of their surgical treatments will be presented. This data will hopefully indicate the value of the doctor’s surgical procedure and attitude toward the surgery and will help the readers understand better this surgical procedure.
SCIENCE AND TECHNOLOGY
Agricultural Research Updates. Volume 13
Prathamesh Gorawala and Srushti Mandhatri

In series: Agricultural Research Updates
2016. 190 pp.
Hardcover: 978-1-63485-648-5. $250.00.

This book examines the most up-to-date research in the agricultural field. The first chapter discusses strategies for the management and mitigation of herbicide-resistant weeds. Chapter Two revises the available information about the diversity and plant growth promotion abilities of bacterial endophytes isolated from legume nodules and from roots of different plants, focusing on their interest for crop biofertilization. Chapter Three presents process-related technological information for the synthesis and purification of bioactive peptides from soybean and their functional properties. Chapter Four focuses on the nutritional value of wheat germ-supplemented foods, for humans and animals alike, with a specific emphasis on the protein and essential amino acid content of these foods and its related health benefits. Chapter Five provides an overview of the importance of fatty acids (FA), fructans, lipids and lipopolysaccharides in determining some grain and malt composition. Chapter Six gives insights into the production and commercialization of transgenic wheat. Chapter Seven reviews the modification of barley by binary acrylic monomers and its applications.

Agricultural Trade Between the U.S. and Cuba: Issues and Prospects
Lana Valdez

In series: Agriculture Issues and Policies
2016. 150 pp.
Hardcover: 978-1-63484-430-7. $120.00.
e-book: 978-1-63484-431-4. $120.00.

Amid more than a half a century of antagonistic political relations between the United States and Cuba during which commercial ties were largely severed, U.S. exports of agricultural products to the island nation currently stand out as one of the few points of engagement between the two countries, if to a limited degree. U.S. exports of medicine and medical products is the other product category for which the U.S. government has eased its long-standing embargo on trade with Cuba. In a major diplomatic initiative, President Obama announced in December 2014 a significant shift in relations with Cuba with the goal of transitioning from a decades-long policy of sanctions that were designed to isolate Cuba toward a more normal bilateral relationship. This book reviews the current state of agricultural trade between the United States and Cuba, identifies key impediments to expanding bilateral trade in agricultural products, identifies key provisions in the law to which these obstacles are anchored, and considers the potential consequences for trade in agricultural goods in the event that the current thaw in diplomatic relations was to be extended more broadly so that bilateral trade was returned to a more normal footing. It also summarizes several of the bills introduced in the 114th Congress that propose to remove specific restrictions that impede trade in agricultural goods or that seek to lift the embargo on Cuba entirely. This book also discusses the past, present, and possible future of the U.S.-Cuba agricultural trade; and provides information on Cuba's regulatory environment as it relates to U.S. agricultural exports.

Agroforestry Research Developments
Jagdish Chander Dagar and JC Tewari (Emeritus Scientist (ICAR) & Fellow NAAS, Ex-Assistant Director General (Agronomy & Agroforestry), Indian Council of Agricultural Research, Central Soil Salinity Research Institute, Karnal, Haryana, India)

In series: Global Agriculture Developments

Today, agroforestry ranks high among the significant land-management initiatives that have undertaken the world over the past few decades. Indeed, it is now recognized as an important approach to ensuring food security and rebuilding resilient rural environments. Recent studies have shown that more than one billion hectares of agricultural land have more than 10% tree cover. Of this, 160 million hectares have more than 50% tree cover. Agricultural ecosystems can be further improved through agroforestry to ensure environmental restoration, greater farm productivity, and realization of ecological services, including climate change mitigation and adaptation for improved rural livelihood. Now, agroforestry is considered synonymous to climate smart agriculture and a remedy for many modern environmental challenges, and acts as a mitigating process for climate change. Consequently, the knowledge base of agroforestry is being expanded at a rapid rate as illustrated by the increasing number and quality of scientific publications of various forms on different aspects of agroforestry. Making full and efficient use of this upsurge in scientific agroforestry is both a challenge and an opportunity to the scientific community, particularly in the scenario of climate change. In order to help prepare themselves better for facing the challenges and seizing the opportunity, agroforestry scientists need access to synthesized information on multi-dimensional aspects of scientific agroforestry. It is believed that widespread scaling-up of agroforestry innovations during the next decade will greatly facilitate the success of global commitments and conventions such as the UN Millennium Development Goals, Convention on Biological Diversity, Framework on Climate Change, and the Convention to Combat Desertification. This book will be useful for engaging more stakeholders, including students, foresters, farmers, local communities, indigenous people, civil society institutions, the media, private sectors, scientists (working in the fields of Agroforestry, Forestry, Life Sciences, Animal Husbandry & Dairy, Social Science, Food Science and Environmental Sciences), policymakers, leaders, and the public.

Antibiotic Use in U.S. Livestock Production: Economics and Guidance Issues
Karin Greer

In series: Agriculture Issues and Policies
Hardcover: 978-1-63485-056-8. $150.00.

Farmers use antibiotics to treat, prevent, and control animal diseases and increase the productivity of animals and operations. However, there is concern that routine antibiotic use in livestock will contribute to antimicrobial-resistant pathogens, with repercussions for human and animal health. Given these concerns, pressure to limit antibiotic uses for purposes other than disease treatment is mounting. Changes in use will lead to a series of adjustments in animal agriculture as producers change production practices, with potential repercussions for prices and volumes in livestock markets. This book addresses the following questions: How widely are antibiotics used in the livestock industries? How could the current structure of the livestock industry influence the effects of restrictions on certain uses of antibiotics? How might the restriction of antibiotics affect production and costs at the animal and farm levels? How might those impacts affect production and prices in markets?

Bananas: Cultivation, Consumption and Crop Diseases
Valerie A. Pearson

In series: Agriculture Issues and Policies
Softcover: 978-1-63485-418-4. $95.00.
Bananas arise as one of the most popular fruits consumed all around the world. Banana belongs to the genus Musa from the family Musaceae. It is original from tropical regions and presents a strong ability to protect itself from the oxidative stress caused by extreme climatic conditions such as intense sunshine and high temperature. For this protection, bananas increase the production of bioactive compounds with antioxidant activity, which protect the fruit from the oxidative damage. This book provides current research on the cultivation, consumption and crop diseases of bananas. Chapter One addresses the biochemical characterization of Musa spp. genotypes, with emphasis on bioactive secondary metabolites of interest to human nutrition. Chapter Two focuses on the composition of bananas, including macronutrients, micronutrients and bioactive compounds, as well as the effect of postharvest treatments and storage conditions in the quality of bananas. Chapter Three reviews sustainable management of banana waste through renewable energy and bio-fertilizer generation. Chapter Four reviews some of the recently reported valuable uses of banana pseudostem sap (BPS), for growth of sustainable agricultural process, food technology and value-added medicinal products, and in textiles for improving certain functional attributes. The final chapter examines banana as an important food allergen source.

**Contaminated Soils: Sources, Properties and Impacts**

*Michaella Dunn*

In series: *Air, Water and Soil Pollution Science and Technology*


This book provides current research on sources, properties and impacts of contaminated soils. Chapter One reviews the research progress in nanotoxicology related to a systematic approach of evaluating nanomaterials toxicity. Chapter Two discusses the immobilization and mobilization of heavy metals. Chapter Three identifies wheat germplasm resistant to heavy metals, and donors for breeding and promising forms of wheat that are resistance to heavy metals and destined for agricultural production. Chapter Four discusses the effects of mining-generated metal(loid) on soil microbial activities and composition. Chapter Five focuses on heavy metals contamination of soils in the Ural Region of Russia. Chapter Six evaluates the reactivity efficiency of mineral, organic and mineral-organic components on the remediation process of leaf (Pb) at a metallurgically contaminated site. Chapter Seven reviews and establishes that the inoculation of Lens culinaris, Vicia faba and Sula coronaria with heavy metal resistant PGPB shows potential for phyto-stabilization. Chapter Eight assesses the stability of metal-steel colloid bonds as an index of the retention and release of Cu, Pb, Cd in soils. Chapter Nine examines microbial degradation mechanisms of toxic and recalcitrant chemicals.

**Controlled Environment Agriculture - Production of Specialty Crops Providing Human Health Benefits through Hydroponics**

*Md. Asaduzzaman (Olericulture Division, Horticulture Research Center, Bangladesh Agricultural Research Institute, Bangladesh)*

In series: *Global Agriculture Developments*


Controlled Environment Agriculture – Production of Specialty Crops Providing Human Health Benefits through Hydroponics provides useful information on agricultural technology management that enables the grower to manipulate a crop’s environment to the desired conditions. Specialty/functional foods can be produced through simple modification of nutritional composition and environmental controls. Management of chemical composition of hydroponic culture solution and physical modification of growing environments can enhance the performance of agricultural produce. Moreover, development and supplementation of special dietary components provides several human health benefits beyond basic nutrition. This book mainly include reviews and original research on the cultivation of growth and yield crop plants along with the consistent production of secondary metabolites and antioxidants under controlled environments. Light quality mediated changes in nutritional quality and anti-oxidative properties of crop plants are also described. The final chapter reviews the current sensory perception of hydroponically grown fruits and vegetables compared to soil cultivation. The aim of this book is to represent a new way of thinking about sustainable production of specialty/functional foods using specialized culture techniques and demand oriented distribution. Interesting research on controlled environment agriculture from around the world are brought together in this book to produce a valuable resource for teachers, researchers, commercial growers and advanced students of plant biological science.

**Crop Rotations: Farming Practices, Monitoring and Environmental Benefits**

*Bao-Luo Ma (Ottawa Research and Development Centre, Agriculture and Agri-Food Canada, Ottawa, ON, Canada)*

In series: *Agriculture Issues and Policies*

2016. 221 pp.


Crop Rotations: Farming Practices, Monitoring and Environmental Benefits, edited by Dr. Bao-Luo Ma, a senior research scientist from Agriculture and Agri-Food in Canada, includes contributions from more than twenty-eight scientists in this dynamic field from around the world. This book synthesizes the latest innovations and integrated knowledge from science disciplines as diverse as agronomy, soil science, ecology, economy, and social sciences. The global population is projected to reach nine billion by mid-century. Questions continue to arise concerning the ability of the agriculture sector to keep pace with the demands for food, feed, fibre and fuel of an increasing population in the near future, as well as finding a way of sustaining both the production system and the environment. Crop rotations, an ancient practice that has gained renewed interest in recent years, involves growing different crop species/varieties on the same piece of land in consecutive growing seasons (years). The direct and indirect benefits of this practice to the production system and the environment have been recognized for millennia. In recent years, it has been documented that crop rotations coupled with conservation tillage has enhanced the physical, chemical and biological properties of soil, improved seasonal nitrogen availability, and provided nitrogen inputs through symbiotic nitrogen fixation by legumes. This strategy can also lead to a better balance of plant nutritional requirements and a shift in soil mycorrhizal populations, interrupt insect populations, increase root activity, reduce disease severity, enhance environmentally-friendly biodiversity, and lower per-area greenhouse gas emissions or per-yield based carbon footprints. This book serves as one of the most recent and valuable reference on these multi-disciplines, and targets audiences at the undergraduate and graduate level, including crop, soil and agronomy scientists as well as environment scientists and policy-makers.

**Cropping Systems: Applications, Management and Impact**

*Johanna G. Hodges*

In series: *Agriculture Issues and Policies*

This book provides a discussion on the applications, management and impact of cropping systems. Chapter One reviews the possibility of using intercropping, especially strip intercropping, as an effective and economically efficient crop biofortification. Chapter Two evaluates phosphorus dynamics in the soil-plant system under different management practices in the semiarid land of Pampas, Argentina. Chapter Three focuses on long-term winter wheat cropping and its influence on soil quality and yield stability. Chapter Four examines gender-based socio-economic characteristics of cassava farmers; gender-based climate change awareness of cassava farmers; gender-based cassava farmers’ constraints to climate change adaptation and examines the factors influencing gender-based cassava farmers’ choice of adaptation strategies in the study area. Chapter Five studies the increased soil fertility in a long-term rice-oilseed rape cropping system and its potential roles in reducing nitrogen inputs and in the environment.

Emerging Issues in Global International Agricultural Trade and Development
Dragan Miljkovic (North Dakota State University, Department of Agribusiness and Applied Economics, Fargo, ND, USA)
In series: Agriculture Issues and Policies
Most of the typical international agricultural trade research evolves around traditional topics such as the impact of various trade policies including tariffs and taxes on the flow of agricultural trade among countries and on resulting agricultural prices, or the impacts of preferential, regional and global trade agreements on agricultural productivity and welfare implications of such measures on different interest groups. Yet, a variety of issues emerges as potentially more relevant and constraining for the future of global agriculture. This book is dedicated to such issues, on the margin at the moment yet obviously most important for the future of agriculture, globally and locally.

Food Issues, Policies, and Safety Considerations.
Volume 5
Cynthia M. Truman
In series: Food Issues, Policies, and Safety Considerations
Hardcover: 978-1-63485-105-3. $120.00.
e-book: 978-1-63485-106-0. $120.00.
This book discusses several topics on food issues, policies, and safety. The topics include legal issues with federal labeling of genetically engineered food; revisions of nutrition facts label; the U.S. wine industry and selected trade issue with the European Union; U.S. catfish industry and foreign trade; nut consumption among U.S. adults; consumer response to foodborne disease outbreaks of different severities; food safety performance of ground beef suppliers to the national school lunch program; and shelf-stable food safety.

Global Agriculture: Developments, Issues, and Research. Volume 7
Marvin R. Robertson and Jeffery I. Schmidt
In series: Global Agriculture: Developments, Issues, and Research
Hardcover: 978-1-63484-694-3. $120.00.
e-book: 978-1-63484-711-7. $120.00.
This book explores the developments, issues and research outlook of global agriculture. Topics discussed in this compilation include reviews of historical trends in Chinese corn yields in order to assess the potential for future growth; discussions on the impact that pre- and post-2004 reforms had on Public Distribution System (PDS) consumption and on rates of food insecurity; and studies on the growth in broiler meat exports to several major markets.

Innovative Bio-Products for Agriculture: Pig Manure Utilization and Treatment
Agnieszka Makara and Zygmunt Kowalski (Institute of Chemistry and Inorganic Technology, Cracow University of Technology, Warszawska, Krakow, Poland)
In series: Agriculture Issues and Policies
Hardcover: 978-1-63485-364-4. $110.00.
The studies on pig manure utilization are focused on two areas: the use of the manure to fertilize soil and the treatment of the raw and digested manure. Essentially, this book concentrates on the separation of the treated slurries into liquid and solid phases, and the subsequent use of the two obtained products. The facilitating effects of the manure originating from Polish pig farms on the croplands belonging to the pig farm owners are discussed. Due to high phosphorus content in the soil, the recommended manure dose was decreased to match the acceptable quantities of both phosphorus and nitrogen. Additionally, a newly developed complex pig manure treatment and filtration technology called the AMAK process is presented.

Mango: Production, Properties and Health Benefits
Elton P. Young
In series: Agriculture Issues and Policies
2016.
Softcover: 978-1-63485-968-4. $95.00.
e-book: 978-1-63485-982-0. $95.00.
Originally from Southeast Asia, the mango tree (Mangifera indica L.) was disseminated in a variety of areas worldwide, especially in tropical countries. Currently, more than 1000 mango varieties are available in the world, being grown in an area of approximately 3.7 million hectares. The mango is a climacteric fruit and is therefore classified as a drupe, featuring an edible, juicy mesocarp. Mango fruit is an important source of dietary fiber, carbohydrates, proteins, fats, micronutrients, vitamins and phytochemicals such as polyphenols, carotenoids, sterols and other secondary metabolites. This book discusses the production of mangoes, as well as its properties, and health benefits of consuming the fruit.

Monoculture Farming: Global Practices, Ecological Impact and Benefits/Drawbacks
Tapan Kumar Nath and Patrick O’Reilly (School of Biosciences, University of Nottingham Malaysia Campus, Selangor, Malaysia)
In series: Global Agriculture Developments
Hardcover: 978-1-63485-166-4. $190.00.
Monoculture farming is nowadays a widespread practice throughout the world. In order to meet the food demand of rapidly increasing populations, the diverse agroecosystems have been converted mostly into single cropping sectors. Even though food productivity with high input has been boosted to some extent, it is at the cost of local biodiversity loss. This book, drawing examples from several tropical and sub-tropical countries, documents some of the most prevailing monoculture practices and their socio-economic and environmental influences. It describes widespread commercial monoculture of rubber and oil palm, as well as the invasion of exotic mono-plantations in the
forestry sector. Both rubber and oil palm are highly lucrative businesses, and these industries have brought positive impacts on rural development, regional economies, including lifting small farmers out of poverty. The rapid expansion of oil palm and rubber in the last few decades has resulted in widespread deforestation, biodiversity loss, and carbon emissions in the tropics, and has also negatively affected the livelihoods of many local communities. Similar effects have also been observed in the case of the conversion of heterogenous forests into monoculture plantations. An integrated land use planning approach is suggested in order to minimize the negative impacts and maximize the positive benefits of monoculture farming. Further, enhancing plant-soil microbial interactions through inoculation of arbuscular mycorrhiza fungi for soil fertility management is also suggested. With up-to-date information on this subject matter, this book will benefit researchers, academics, students, policymakers and practitioners.

Nutrient Pollution From Agricultural Production: Overview, Management and a Study of Chesapeake Bay
Arlene Walters
In series: Pollution Science, Technology and Abatement
Hardcover: 978-1-63485-187-9. $120.00.
e-book: 978-1-63485-188-6. $120.00.
Nutrients are elements essential to plant and animal growth. In agricultural production, the focus generally rests on the three primary macronutrients—nitrogen (N), phosphorus (P), and potassium (K)—because of their relative abundance in plants. As crops grow and are harvested, they gradually remove the existing nutrients from the soil and over time will require additional nutrients to maintain or increase crop yield. When nutrients are added in excess of the plants’ ability to utilize them, there is an increased risk that the nutrients will enter the surrounding environment (water or air) and create environmental problems. The nutrients of primary environmental concern in agriculture are nitrogen and phosphorus. This book discusses the types and sources of nutrient pollution from agricultural production; possible environmental effects of nutrient pollution; examples of current control measures; the federal response to excess nutrients, including regulatory and incentive-based programs; and future considerations for nutrient management policy at the federal level.

Organophosphorus Pesticides: Structural Characteristics, Mechanisms of Toxicity and Effects of Exposure on Health
Neil Wilkinson
In series: Agriculture Issues and Policies
Hardcover: 978-1-63485-450-4. $160.00.
At present, organophosphorus compounds (OP) are considered some of the most toxic substances synthesized by man. These compounds are widely used in agriculture, residential gardening and in pest control programs, as well as in veterinary practices of the modern world. The primary toxicity of organophosphates is associated with the inhibition of acetylcholinesterase in the central and peripheral nervous system, resulting in acetylcholine accumulation and consequently disrupted neurotransmission. In this book, Chapter Two summarizes the results of monitoring agricultural products for the presence of organophosphorus pesticides, putting a special emphasis on potential ways for reduction of their levels. The final chapter focuses specifically on the structural features, applications, toxicity mechanisms and effects of exposure on human health of fenitrothion, a non-systemic organophosphorus insecticide.

Peanuts and Sugar: Background, Policy and Provisions of Federal Programs
Edith Perez
In series: Agriculture Issues and Policies
Hardcover: 978-1-63485-487-0. $150.00.
According to the U.S. Department of Agriculture (USDA), the United States is expected to be the fourth largest producer and exporter of peanuts in the world in 2015. In addition to its prominent role in international markets, U.S. peanut production and marketing is an important activity in several states located in the southeastern and southwestern United States. The U.S. sugar program is singular among major agricultural commodity programs in that it combines a floor price guarantee with a supply management structure that encompasses both domestic production for human use and sugar imports. The sugar program provides a price guarantee to the processors of sugarcane and sugar beets, and by extension, to the producers of both crops. This book provides a review of the background, policies and provisions on federal programs for both peanuts and sugar.

The Animal Welfare Act and Farm Animal Research: Background, Issues, Reviews and Findings
Albert V. Griffin
In series: Agriculture Issues and Policies
2016. 142 pp.
Hardcover: 978-1-63484-380-5. $120.00.
e-book: 978-1-63484-388-1. $120.00.
In 1966, Congress passed the Laboratory Animal Welfare Act (P.L. 89-54) to prevent pets from being stolen for sale to research laboratories, and to regulate the humane care and handling of dogs, cats, and other laboratory animals. The law was amended in 1970, changing the name to the Animal Welfare Act (AWA). The AWA is administered by the U.S. Department of Agriculture’s Animal and Plant Health Inspection Service. Congress periodically has amended the act to strengthen enforcement, expand coverage to more animals and activities, or curtail practices viewed as cruel, among other things. A 1976 amendment added Section 26 to the AWA, making illegal several activities that contributed to animal fighting. Farm animals are not covered by the AWA. This book provides a background on the AWA and discusses selected animal welfare legislation. It also reviews farm animal research, the Meat Animal Research Center, and the Animal Welfare Action Plan.

ANIMAL SCIENCE

Animal Cognition: Principles, Evolution and Development
Mary C. Olmstead (Department of Psychology, Centre for Neuroscience Studies, Queen’s University, Kingston, Ontario, Canada)
In series: Animal Science, Issues and Research
Hardcover: 978-1-63485-363-7. $190.00.
The study of animal cognition has undergone enormous growth in the last two decades. In the early part of the 20th century, the work was conducted primarily by psychologists who studied animal behavior in the laboratory as a model of human cognition. By the middle of the century, ethological studies of animal behavior in the natural environment revealed an amazing array of cognitive abilities in different species, worthy of study in their own right. In many cases, scientists in these two disciplines were investigating the same process
(e.g., learning, navigation, communication) from very different perspectives. Psychologists tended to focus on developmental or mechanistic explanations, whereas ethologists and behavioral ecologists emphasized adaptive or functional ones. Eventually, it became clear that the two fields are complementary with a full description of any cognitive process, depending on both proximate and ultimate explanations. This text builds on the tradition of combining data from laboratory and field studies of animal behavior as a means of understanding the evolution and function of cognition. In keeping with contemporary terminology, cognition refers to a wide range of processes from modification of simple reflexes to abstract concept learning to social interactions to the expression of emotions, such as guilt. These are examined throughout the text in animal groups ranging from insects to great apes. A general theme across chapters is that the evolution of behavioral patterns is adaptive, thereby reflected in underlying neural structures. Many of the authors go on to examine the adaptive significance of a behavior in relation to a species’ ecological history in order to develop theories of cognitive evolution. These issues are becoming increasingly important in a world with rapidly changing environments to which all animals, including humans, must adjust. A primary goal of this volume is to introduce the exciting field of animal cognition to a new group of young scientists. The editor also hopes to encourage experienced researchers to expand their ideas of what constitutes animal cognition and how it can be studied in the future. From the editor’s own reading, one area of potential growth is the possibilities of persistence in colonized sites, as well as the proposed developments of more formal models of cognition to guide quantitative predictions of behavior. Although no chapter focuses exclusively on humans, readers should have no difficulty extrapolating research findings and theories from other species to those of our own. Differences are clearly based on degree, not kind.

**Crustaceans: Physiological Characteristics, Evolution and Conservation Strategies**

**Victor Alvarado**


Softcover: 978-1-63484-890-9. $82.00.
e-book: 978-1-63484-910-4. $82.00.

Crustaceans are key organisms in aquatic ecosystems. Today crustaceans of Ponto-Caspian origin have become important faunal constituents in many European water bodies, including the Baltic Sea. In this book, Chapter One reviews the causes, consequences and prospects of Pont-Caspian crustaceans in the Baltic Sea. Chapter Two examines the physiological causes and ecological implications of extra and "intermediate" larval stages in decapod crustacean life. Chapter Three discusses a comparative study of liposoluble vitamin effects in decapod crustaceans. The final chapter is a commentary on the possible management and conservation strategies of crustaceans from temperate sandy beaches.

**Endangered Species: Threats, Conservation and Future Research**

**Melinda Quinn**


Hardcover: 978-1-63484-404-8. $110.00.

This book provides research on the threats and conservation of endangered species. Chapter One reviews the causes of extinction, the possibilities of persistence in colonized sites, as well as the proposed method of conservation of populations of selected rare plant species such as Dianthus superbus L., Gentiana pneumonanthe L., Gladiolus imbricatus L., Iris sibirica L. as well as Trollius europaeus L. Chapter Two provides an example of the use of multivariate analyses of morphological characters and DNA analyses for assessing the taxonomic ranking of rare plant taxa. Chapter Three offers a synthetic, state-of-the-art analysis of the existing knowledge around magnolias, including their biogeographic origin, the distribution and number of magnolia species, their current and potential uses in medicine and biochemistry, the ecology of seeds and of successful pre-germinate treatments, the regeneration and restructuring of populations, and a revision of the genetic diversity of magnolia species. Chapter Four examines a case study of Cycas hainanensis, an endangered cycad species.

**Phylogeny, Molecular Population Genetics, Evolutionary Biology and Conservation of the Neotropical Primates**

**Manuel Ruiz-Garcia and Joseph Mark Shostell**

(Professor Titular-Catedrático, Coordinador Unidad de Genética, Departamento de Biología, Facultad de Ciencias, Pontificia Universidad Javeriana, Bogotá-Colombia)


Hardcover: 978-1-63485-165-7. $310.00.

The Neotropics contains the greatest abundance and diversity of primate species of any bio-region in the world. They make up an impressive and varied assemblage of species, from the small pigmy marmoset weighing one hundred grams, to the woolly spider monkey tipping the scale at 10-14 kg. Some in the group, such as the bearded capuchin, show signs of high intelligence evidenced by their use of primitive tools to open nuts and fruit, and many of these species are flagships whose very presence is crucial for the dispersal of seeds and maintenance of primary forests. Unfortunately, a large percentage of Neotropical primate species are threatened or endangered due to various anthropogenic activities including deforestation, illegal hunting, illegal wildlife trade, mining, and road construction. Moreover, there is a general paucity of data of this group because their habitats can be difficult to access and the sheer expansiveness of the Neotropical area. In this book, the authors present new research findings from sixty of the world’s leading Neotropical primate scientists in order to bridge this information gap. Specifically, the authors provide up-to-date biological, molecular, conservation, and phylogenetic information on many of these poorly understood, yet amazing creatures. It is the authors’ intention that this new information will be used as a resource by the novice and professional alike in order to improve society’s understanding of Neotropical primates and to help protect them long into the future.

**Stingless Bee's Honey from Yucatán: Culture, Traditional Uses and Nutraceutical Potential**

**Elizabeth de la Luz Ortiz Vázquez, Jorge Carlos Ruiz Ruiz, Denis Israel Magaña Ortiz, and Jesús Manuel Ramon Sierra**

(Instituto Tecnológico de Mérida, Mérida, Yucatán, México)

In series: *Insects and Other Terrestrial Arthropods: Biology, Chemistry and Behavior* 2016. 192 pp.

Hardcover: 978-1-63484-221-1. $110.00.

Chronic diseases and microbial infections are increasing threats for human health. There are numerous natural compounds that can contribute to control acute infections caused by bacteria and fungi. Also, these bioactive molecules can prevent several disorders like hypertension, diabetes and hypercholesterolemia. Honey has been reported as an antimicrobial substance in the treatment of skin injuries, stomach diseases and fungal colonization of mucosa. In this sense, the high impact of antibacterial effect in honey has been demonstrated in the inhibition of strains that have resistance to antibiotics. Some
species with antibiotic resistance that have been reported as susceptible to honey compounds are Staphylococcus aureus, Escherichia coli and Mycobacterium tuberculosis. In a similar way, honey is a natural source of antioxidant compounds that promotes several aspects of human health like blood pressure stabilization and control of reactive oxygen species, in synergy with other compounds present in honey; antioxidants can kill opportunistic pathogens that could proliferate in diverse tissues and organs. However, the current studies of honey have been focused in one bee species, Apis mellifera; this social insect is the predominant producer of honey around the world, and it is used as a pollinator of several crops. In contrast to this predominance, the study of native bees, like stingless bees, remains poorly explored. The initial reports have documented the potential of these honeys in the treatment of burn injuries, diabetic complications and cataracts. Also, this honey is highly effective in the control of several bacterial and fungal infections recalcitrant to available antibiotics. All of these results make this organic product very demanded in many nations around the globe.

The purpose of this book is to describe the ancient uses of Melipona beecheii honey in the Mayan culture before the arrival of Spanish conquerors, the present state of the melipona cultures in the inhabitants of Yucatan Peninsula, the physical, chemical and nutraceutical properties of this valuable product, relevant aspects of the quality control and the more exciting discoveries about the medicinal properties of melipona honey. Without a doubt, the information contained in this book would contribute to promote the conservation of stingless bee species and to encourage the fair trade of the honey produced by these species.

**Swine Enteric Coronavirus Diseases: U.S. Response Efforts and Root Cause Analysis**

**Martha Barnett**


Softcover: 978-1-63485-775-8. $95.00.
e-book: 978-1-63485-776-5. $95.00.

Pork is consumed more than any other meat worldwide, and there are numerous other products made with ingredients from pigs, including medical products, such as insulin to treat diabetes. The United States is the world’s third-largest producer of pork products. The U.S. Department of Agriculture (USDA) estimated that U.S. pork exports in 2014 were valued at over $6 billion. Two lethal, highly contagious diseases in pigs emerged in the United States in 2013 and 2014, causing the deaths of millions of pigs. The two emerging diseases are collectively known as Swine Enteric Coronavirus Diseases (SECD). This book examines the initial response to the SECD outbreaks, USDA’s subsequent actions to manage SECD, and steps USDA has taken to improve its future response to emerging animal diseases.

**Cellulase: Production, Applications and Health Benefits**

**Marguerite Stevenson**


Softcover: 978-1-63485-778-8. $95.00.
e-book: 978-1-63485-802-1. $95.00.

Enzymes such as cellulases have been applied as tools for research and development and in almost every industrial sector including agriculture, food, beverages and animal feed, pulp and paper, textile. Cellulases is a general term that encompasses multiple enzymes that work in synergism for cellulose degradation. This book examines the production, applications and health benefits of cellulase. Chapter One describes the isolation, screening, diversity and cellulase production of microorganisms including their applications. Chapter Two discusses the factors affecting production of cellulase enzyme by microorganisms, the potential of indigenous microorganism for the bioaugmentation process of biosolids and occurrence of catabolite repression phenomenon of cellulase production during the enzymatic degradation of biosolids. Chapter Three gives an overview on cellulase microorganism producers, cellulolytic components and mechanism of action, with a focus on fungal enzymes of Trichoderma reesei, since they are predominant on the commercial cocktails used for 2G ethanol production. Chapter Four addresses substrate factors related to enzymatic hydrolysis of cellulose and lignocellulosic materials.

**Circulating Tumor Cells (CTCs): Detection Methods, Health Impact and Emerging Clinical Challenges**

**Paresh Chandra Ray (Professor of Chemistry, Department of Chemistry and Biochemistry, Jackson State University, Jackson, MS, USA)**


Hardcover: 978-1-63484-497-0. $160.00.

Circulating tumor cells (CTCs) are the seeds for cancer metastases development, which is responsible for >90% of cancer-related deaths. Accurate quantification of CTCs in human fluids could be an invaluable tool for understanding cancer prognosis, delivering personalized medicine to prevent metastasis and finding cancer therapy effectiveness. Although CTCs were first discovered more than 200 years ago, until now it has been a nightmare for clinical practitioners to capture and diagnose CTCs in clinical settings. Our society needs rapid, sensitive, and reliable assays to identify the CTCs from blood in order to help save millions of lives. Due to the phenotypic EMT transition, CTCs are undetected for more than one-third of metastatic breast cancer patients in clinics. To tackle the above challenges, the first volume in Circulating Tumor Cells (CTCs): Detection Methods, Health Impact and Emerging Clinical Challenges discusses recent developments of different technologies, which have the capability to target and elucidate the phenotype heterogeneity of CTCs. It contains seven chapters written by world leaders in this area, covering basic science to possible device design which can have beneficial applications in society. This book is unique in its design and content, providing an in-depth analysis to elucidate biological mechanisms of cancer disease progression, CTC detection challenges, possible health effects and the latest research on evolving technologies which have the capability to tackle the above challenges. It describes the broad range of coverage on understanding CTCs biology from early predictors of the metastatic spread of cancer, new promising technology for CTC separation and detection in clinical environment and monitoring therapy efficacy via finding the heterogeneous nature of CTCs.
Docosahexaenoic Acid (DHA): Properties, Functions and Health Effects
Alfonso Vargas
Softcover: 978-1-63485-966-0. $95.00.
Docosahexaenoic acid (DHA) is an essential fatty acid of the omega-3 (n-3) series that has received substantial attention due to its pivotal roles in biological functions including brain and visual development, cognition, inflammatory responses and with decreasing risk or mortality with cardiovascular diseases. This book reviews the properties of DHA, as well as its functions and effects on health. Chapter One reviews the literature on the effects of DHA in bone health with a focus on the growth period. Chapter Two examines recent trends in research leading to the obtaining of bioactive lipids able to deliver DHA with a high bioavailability. Chapter Three discusses DHA’s protective effect on organ function and inflammatory response in burns. Chapter Four considers the effects of dietary DHA on CVD risk factors, and in particular its actions on vascular endothelial cell dysfunction.

G-Quadruplex Structures, Formation and Role in Biology
Hannah Santos
This book provides current research on G-quadruplex structures, their formation and role in biology. Chapter One summarizes the structural features of quadruplexes built by sequence extensions and site-specifically incorporated modified building blocks that have been established to induce the formation of stable, majority single G-quadruplex folding topologies, primarily from the human telomere repeat DNAs. Chapter Two discusses the G-quadruplexes and i-motifs as scaffolds for molecular engineering of DNA aptamers. Chapter Three examines the case of the natural alkaloids coptisine and chelerythrine. Chapter Four describes the G-quadruplex induced fluorescent signals that have been employed for the study of their folding and unfolding mechanism and thereby visualisation of their formation and structure. Chapter Five reviews the historical aspect of how major biological roles of G-quadruplexes have been uncovered by the use of specifically designed small molecule probes; and discusses the future applications of G-quadruplex interacting small molecules, including the development as potential drug candidates. Chapter Six focuses on the latest advances in the development of the telomerase assays and the authors further discuss the application potentiality of the assays for clinical samples.

Honey: Geographical Origins, Bioactive Properties and Health Benefits
Ruben Ramirez
Softcover: 978-1-63485-456-6. $82.00.
According to its chemical composition, honey is a complex mixture of over 70 ingredients, which enter honey in a variety of ways. Not only do the different types of honey differ, but the honey within each species differs in its composition depending on its herbal and geographical origin, climatic conditions, the type of bees, and the work of the beekeeper. In this book, Chapters One provides an assessment of geographical origins of honey by the use of chemometrics. Chapter Two presents the profile of physicochemical parameters of 40 samples of the black locust honey from Krapina-Zagorje region monitored by the season. Chapter Three examines the prebiotic and probiotic properties of honey. Chapter Four gives an updated review of traditional and modern uses of honey. Chapter Five explore the actual knowledge on honey’s properties, in terms of cellular and molecular effects induced by the bee’s products on skin care and wound management.

Isoprostanes and Neuroprostanes: Production and Role in Different Pathologies
Javier Marhuenda Hernández, Débora Villaño Valencia, Begoña Cerdá, and Pilar Zafrilla Rentero
(Catholic University of San Antonio, Murcia, Spain)
Softcover: 978-1-63485-253-1. $95.00.
e-book: 978-1-63485-942-4. $95.00.
In recent years, scientific evidence supporting the relationship between diet and health has emerged. This has led to a growing interest in full and healthy food habits, in which fruits and vegetables are abundant (particularly in the Mediterranean diet) and act as sources of natural antioxidants as well as play major roles in preventing certain diseases. It is estimated that 80% of cardiovascular disease, 90% of type 2 diabetes mellitus cases and one third of cancerous processes, could be avoided including changes in lifestyle and diet improvements. Specifically, the increment on scientific reports relating the intake of antioxidant compounds and the maintenance of health has increased noticeably. The importance of dietary antioxidants lies in its ability to preserve foods containing them, and to perform the in vivo contribution of natural antioxidants. There are several scientific studies demonstrating the positive effect of exogenous and endogenous antioxidants against degenerative diseases, various cancers and diseases related to aging caused by oxidative attacks. Lipid peroxidation is thought to be an important factor in the pathophysiology of a number of diseases and in the process of ageing, but its measurement in vivo has been difficult. The aim of this thesis was to evaluate methods for measurement of lipid peroxidation in vivo that are suitable for clinical investigations, and to apply these methods in animal and human studies investigating basal conditions and situations associated with increased lipid peroxidation. Over the course of the past 25 years, more than 3800 articles have been published in the field of IsoPs research by numerous investigators around the world. Numerous excellent reviews have been written describing the formation, chemical synthesis, and biological activities of IsoPs, as well as their potential use as biomarkers of diseases. This review will provide a brief historical perspective on the discovery of IsoPs with its primary focus on recent clinical research in the field. In conclusion, the simultaneous measurement of several biomarkers of lipid peroxidation is a promising approach for future studies investigating the possible role of lipid peroxidation in vivo under basal conditions and in the pathology of diseases.

Kaempferol: Biosynthesis, Food Sources and Therapeutic Uses
Teresa Garde-Cerdán and Ana Gonzalo-Diago
(Sección de Viticultura y Enología, Servicio de Investigación y Desarrollo Tecnológico Agroalimentario (CIDA) Instituto de Ciencias de la Vid y del Vino (ICVV), Logroño, Spain)
Hardcover: 978-1-63485-828-1. $160.00.
Kaempferol is a natural plant product known for its health promoting effects and its pharmacological and nutraceutical properties. It is common in vegetables, fruits, plants and herbal medicines. Studies
have shown that it reduces cancer, arteriosclerosis, cardiovascular disorders, and serves as an antioxidant and anti-inflammatory. This book discusses the biosynthesis of kaempferol derivatives and the other flavonols identified in grapes, and the nutraceutical characteristics of these compounds with particular emphasis for kaempferol, by reporting its contents in grapes and wines. Also, the influence of different elicitors in flavonol composition (and more specifically in kaempferol) is presented. Moreover, the antitumor and the anti-inflammatory activities of kaempferol on diverse diseases are studied together with the importance of flavonoids in co-therapy. Also, molecular mechanistic studies report that kaempferol modulates a number of key elements in the cellular signal transduction pathway linked to apoptosis, angiogenesis, inflammation, and metastasis. Additionally, this book examines different natural sources of kaempferol with its pharmacokinetics (oral availability) and safety. Finally, saffron petals can be a readily exploitable good source of kaempferol for many applications. The occurrence of kaempferol and its glycosidic patterns in different crocus species is shown. This book presents an overview of the biosynthesis, food sources and therapeutic uses of this promising compound.

L-Arginine: Structure, Dietary Sources and Beneficial Effects

Benjamin L. Soto

In series: Biochemistry Research Trends


Hardcover: 978-1-63485-329-3. $190.00.

Arginine is one of the amino acids with multiple metabolic pathways. Apart from its role in the composition of proteins, it is the biosynthetic precursor of nitric oxide, creatine, agmatine, proline, homogarginine and polyamines. In chapter One of this book, the reasons for and the possible advantages and disadvantages of nutritional arginine supplementation are critically discussed in the light of established biochemical results. Chapter Two summarizes the position and importance of the L-arginine in nitric oxide homeostasis, disbalance of which can be one of the causes of many acute and chronic diseases. Chapter Three provides a brief overview of L-arginine and cardiometabolic health. Chapter Four discusses the use of novel synthetic biodegradable arginine-rich implantable biomaterials and devices for human body repair and reconstruction. Chapter Five reviews beneficial effects of L-arginine supplementation in controlling blood pressure. Chapter Six reviews the recent information about the advantages of using L-Arginine as a dietary supplement to improve reproductive function in certain female domestic animals, such as the ewe, sow, and mare, as well as in female rats and humans.

Open Cell Foams as Substrates for the Design of Structured Catalysts, Solid Oxide Fuel Cells and Supported Asymmetric Membranes

Oleg Smorygo, Vladislav Sadykov and Ljudmila Bobrova (Minsk, Belarus)

In series: Biochemistry Research Trends

2016.

Hardcover: 978-1-63485-428-3. $190.00.

This monograph summarizes results from the international research devoted to the design of efficient structured catalysts for the transformation of fuels into syngas, intermediate-temperature solid oxide fuel cells and asymmetric supported oxygen separation/catalytic membranes based on new types of metal alloy/composite foam substrates. The comparative analysis of different porous permeable materials was performed in terms of the achievable pore size and relative density ranges, hydraulic permeability and transfer parameters. It was demonstrated that the open-cell foam provide a good combination of properties that can be advantageous in many catalytic applications. Target Audience: Professors, researchers, industry engineers, PhD and MS students involved in research of the hydrogen energy, renewable energy sources, and catalysis.

Organic Acids: Characteristics, Properties and Synthesis

Cesar Vargas

In series: Biochemistry Research Trends

2016.

Hardcover: 978-1-63485-931-8. $95.00.

Organic acids are compounds with acidic properties and occur naturally in a number of foods. They are mainly present in fermented products as a result of hydrolysis, biochemical metabolism, and microbial activity. This book provides research on the characteristics, properties and synthesis of organic acids. Chapter One reviews the application of organic acids in food preservation. Chapter Two provides a chromatographic analysis organic acids in food from animal origin. Chapter Three discusses the diversity of organic acids content in green and roasted Coffea arabica cultivars. Chapter Four studies the effects of organic acids and polyaccharides on the solubility of oyster-derived zinc digested in vitro. Chapter Five examines the evaporation of organic acids aqueous solutions through spread films of polyelectrolyte/surfactant complexes. Chapter Six discusses the influence of liquid absorption and the effect of downstream pressure on the separation performance of pervaporation of acetic acid aqueous solutions.

Perfluorooctanoic Acid (PFOA): Global Occurrence, Exposure and Health Effects

Eva Hampton

In series: Biochemistry Research Trends


Hardcover: 978-1-63484-892-3. $110.00.

Perfluorinated compounds (PFCs) are a group of organofluorine, aliphatic hydrocarbons, of which all or almost all hydrogen atoms are replaced with fluoride. They have a wide range of industrial and consumer applications such as stain, paints, hydraulic fluids, firefighting foams, production of fluoropolymers, cosmetics, insecticide formulations, textile treatments, surface coatings for carpets and furniture, cookware and water- and oil-resistant coatings for food contact materials. PFCs are extremely resistant towards thermal, chemical and biological degradation processes. There is now no evidence for their degradability and they decompose only at very high temperatures using a specially prepared furnaces. The authors of this book summarize the recent information on the occurrence, exposure and health effects caused by perfluorooctanoic acid (PFOA).

Protein-Protein Interactions (PPIs): Types, Methods for Detection and Analysis

Clyde R. Montgomery

In series: Biochemistry Research Trends

2016.

Hardcover: 978-1-63485-970-7. $95.00.
e-book: 978-1-63485-985-1. $95.00.

Protein-protein interactions (PPIs) play an important role in vital biological processes such as metabolic and signaling pathways, cell cycle control, and DNA replication and transcription. This book discusses types, methods for detection and the analysis of PPIs. Chapter One describes two key nuclear magnetic resonance (NMR) methods for the investigation of protein-protein interactions, chemical shift perturbation, and residual dipolar coupling, with practical tips on the preparation of samples, NMR measurement, and analysis. Chapter Two describes the basic principles and provides a practical description of the recent technological developments in solution NMR spectroscopy for examining protein-protein interactions. Chapter Three
focuses on identifying PPIs via many learning methods based on protein sequence information. Chapter Four examines the thermodynamics of PPIs by isothermal titration calorimetry. Chapter Five describes the general microscopic features of amyloid fibril structures and then discusses the macroscopic properties of protein aggregate with conformations such as packing, hydration, and enthalpy using thermodynamic variables in combination with densitometry and isothermal titration calorimetry. Chapter Six reviews the special case of protein self-association as a modulator of protein function.

Superoxide Dismutase (SOD): Sources, Therapeutic Uses and Health Benefits
Nancy H. Phillips
In series: Biochemistry Research Trends
2016. 207 pp.
 Hardcover: 978-1-63485-224-1. $310.00.
 Superoxide dismutase (SOD) is an antioxidant enzyme that scavenges superoxide radicals, and are found in all living cells. SODs have been studied as a therapeutic tool for very diverse pathological situations for more than 30 years and, in many animal models and a few clinical trials, their use has shown positive outcomes. In this book, Chapter One begins with an overview of the association between manganese superoxide dismutase and cardiovascular disease. Chapter Two examines the indispensable roles of superoxide dismutation in mammalian erythrocytes. Chapter Three discusses the structure, catalysis and therapeutic uses of the Fe/Mn SOD family. Chapter Four reviews several strategies of nanomedicines development that have been used to prolong the circulation time and improve the therapeutic action of SODs. Chapter Five studies the emerging role of SOD3 in controlling skin inflammation and immune responses.

Tannins: Biochemistry, Food Sources and Nutritional Properties
Cheryl Anne Combs
In series: Biochemistry Research Trends
 Hardcover: 978-1-63484-150-4. $160.00.
 Tannins constitute a heterogeneous group of polyphenolic compounds, present in a considerable number of vegetable foods. The term tannin is derived from the properties of these compounds to interact and precipitate macromolecules, such as proteins, making them able to tan animal leather. Subsequently a general definition for tannins emerged, referring them as high molecular weight polyphenols that precipitate protein from solution. The first chapter of this book begins with a discussion on the adsorbent biopolymers from tannin extracts for water treatment. The second chapter presents the influences of sensory and psychosocial factors on the intake of tannin-rich foods and beverages. Chapter three investigates condensed tannins derived from grapes and their antioxidant and antimicrobial activity. Chapter four provides a review of the latest research in the extraction of tannins from grapes and how tannin structure can influence wine astringency. The tannin chemistry diversity and its occurrence in ruminant diets, as well as its beneficial and adverse effects on ruminants will be briefly reviewed in chapter five, and aspects related to oral cavity physiology, saliva production/composition and postigestive effects will be also be referred. The final chapter evaluates milk composition of crossbred dairy goats fed Tifton 85 grass replaced by Flemingia.

The Metabolic-Psychosomatic Axis, Stress and Oxytocin Regulation
Alfred Bennun (Full Professor of Biochemistry, Emeritus - Rutgers University, NJ, USA)

In series: Biochemistry and Molecular Biology in the Post Genomic Era
 Sensory neurons activate the locus coeruleus long axons for a presynaptic Ca2+-dependent release of noradrenaline (NA). Postsynaptic adenylyl cyclase (AC) of several areas of the brain shows Mg2+-dependent responsiveness to the neurotransmitter in the absence of Ca2+ when the free Mg2+ is present in excess of substrate Mg-ATP. The brain capillary glucose uptake by red-cells leads to the endogenous generation of 2,3-DPG, and promotes intracellular 2,3-DPG discharge Mg2+ at the noradrenergic synapses. Since adrenaline cannot cross the blood brain barrier, it could not have a feedback; however, cortisol does. cAMP controls the activation of the initial voltage-gated state of the action potential, configuring nerve impulse, transcription-plasticity mechanism and long-term memory. Overall, this molecular mechanism could be used to propose a model linking environmental stimulus resulting in cAMP and the rate of gene expression. DNA-dependent RNA polymerase activation is inducible, expressed under the conditions of adaptive value by cAMP. The zipper-closure role of the enzyme functions with divalent metal for inclusion of the cyclic nucleotide cAMP and cGMP in DNA. cAMP by binding to Mg2+ ion interacts with the negatively charged phosphate groups. The latter chelated by Mg2+ opens the double chain in DNA for binding DNA-dependent RNA polymerase. The greater activity of cAMP-Me2+-DNA complex with regard to a stabilized double helix allows for the introduction of a mechanism for genetic induction vs constitutive state. The cAMP-Me2+-DNA complex by increasing a turn-on activity could consolidate cAMP stimulus, allowing genetic variance by insertion of cAMP, by adhesion of cAMP to stimulate a similar area of the DNA at different stages on the overall evolutionary/adaptive response to environmental stress. Charles Darwin discovers evolution relating the adaptive strength of the birds’ beaks conditioned by the hardness of environmental nuts. The nutritional stress increases free Mg2+. Noradrenaline-stimulated adenylyl cyclase stimulates the hypothalamus, which involves additional metabolic resources to increase the strength of the bird beak. Specific stimulus for the DNA location controlling the bird’s beak development allows for a complementary configuration for cAMP insertion into the near specific bird-beak-DNA segment involved in beak growing and development. cAMP-Me2+-DNA complex inserted in the DNA complex is continuously open for DNA transcript involved in developing a new, stronger beak. A genetic link between the induction mechanism and a transitory modification of DNA expression could enrich the relationship of induced vs constitutive templates in the reproductive cells. The balance would favor the tendency tendinduce activation and increase the DNA response to external stimuli over the constitutive remaining and more stable DNA.

Valorization of Lignocellulosic Biomass in a Biorefinery: From Logistics to Environmental and Performance Impact
Rajeev Kumar, Seema Singh and Venkatesh Balan (University of California, USA)
In series: Biochemistry Research Trends
2016.
 Hardcover: 978-1-63485-827-4. $310.00.
 Lignocellulosic biomass conversion to fuel is the only sustainable way to meet the current and future energy demands, at least in displacing a substantial amount of liquid transportation fuel, and curb detrimental effects of greenhouse gas emissions. Various routes and processes to convert lignocellulosic biomass to fuels, chemicals, and bio-based materials have been developed in the last couple of decades. This book contains eleven chapters that intend to provide readers with updates on these various processes and routes to produce fuels and chemicals
using lignocellulosic biomass. In addition, it covers the past and current developments on biomass logistics, analytical tools applied to characterize lignocellulosic biomass, environmental aspects and engine performance of various fuels, as well as techno-economical aspects of lignocellulosic biomass refinery. The following list summarizes the topics covered in this book: • The past and current developments on biomass valorization in biochemical platforms. • Developments in thermochemical conversion of biomass to fuels and chemicals including gasification, pyrolysis, and hydrothermal treatment. • Heterogeneous catalysts application in low to high temperature conversion of biomass to fuels and chemicals. • Pathways of lignin valorization to fuels and chemicals. • Production methods and the physicochemical properties of nanocelluloses. • The environmental impacts and engine performances of various bio-fuels. • Biomass logistics and their impact on bioenergy applications. • Anaerobic conversion of biomass to biogas and impacts of co-digestion on biogas yields and quality.

BIOTECHNOLOGY

Application of Phytobiotechnology in the Control of Tropical Infectious Diseases
Kenneth Yongabi Anchang (Associate Professor and Director of Research Phytobiotechnology Research Foundation Institute, Catholic University of Cameroon, Bamenda)
In series: Biotechnology in Agriculture, Industry and Medicine
2016. 96 pp.
Softcover: 978-1-63484-014-9. $82.00.
e-book: 978-1-63484-018-7. $82.00.
The application of phytobiotechnology in disease prevention, treatment and sustainable health is presented in this book. This report is based on an inventory of indigenous knowledge based on disease management in Cameroon and Nigeria using indigenous medicinal plants and the research built on this unclassified traditional knowledge. These medicinal plants are used in traditional medicines for experimentation, validation, development and application of appropriate phytobiotechnologies for cheap, low-tech disease control strategies with high efficiency and ecological acceptability. The findings generally show that most African tribes (as well as indigenous tribes worldwide) have a rich heritage of aboriginal knowledge of medicinal plants that can be utilized through product formulation using simple and cheap biotechnologies. These may aid in public health problems rather than the overdependence on synthetic drugs, with their attendant drug failure and uncomfortable side effects. Phyto-based drugs were formulated from the selected screened plant extracts based on the results of their in vitro antimicrobial activities. These natural drugs are used directly as tinctures, tisanes and/or galenical to control tropical infectious diseases such as salmonellosis, amoebiasis, tuberculosis, cryptosporidiosis, Malaria, toxoplasmosis, hepatitis, Leishmaniasis, dracunculiasis, HIV and AIDS.

Bioproduction Engineering: Automation and Precision Agronomics for Sustainable Agricultural Systems, Second Edition
Tofael Ahamed, Ryozo Noguchi, Tomohiro Takigawa, and Lei Tian (University of Tsukuba, Japan)
In series: Biotechnology in Agriculture, Industry and Medicine
Crop production varies spatially and temporally within the field boundaries depending on soil and environmental conditions. The major concern of variability for agronomic inputs addresses how best to intervene in the right place, at the right time and in the right quantity to improve the potential yield of crops and feedstock. This book addresses the important question of how large a role bioproduction and renewable energy can play in achieving sustainable agricultural practices in the present system of agricultural production. Agronomy is local, which brings the challenges to the remote optimization of agricultural machinery operations for seeding, fertilizing, crop protection, and harvesting in the field level to adopt precise agriculture technologies. Cloud computing and big data analytics bring the potential about in machine optimization and agronomy to enable the site-specific management. Understanding bioproduction engineering and development can help improve the efficiency of a sustainable agriculture system. With the aim of understanding this process, this book focuses on bioproduction and sustainability issues, covering sensors, agricultural decision-making systems and the relationship between bioproduction and sustainable practices of agriculture. The chapters are organized as follows: information oriented technology that can be implemented to address the variability of bioproduction systems, sensors and control systems, precision agricultural technology, decision support systems in agriculture, renewable energy resources and analytical hierarchy processes for agricultural management. The crop growth monitoring parameters like LAI and NDVI points were clarified in the pre-processing stage of images. The decisions and logistics that influence the market prices of agricultural products is emphasized within the revised edition of this book.

Biotechnology of Animal Reproduction
Marcelo Marcondes Seneda, Katia Cristina Silva-Santos, and Luciana Simões Rafagnin Marinho (Londrina State University, Londrina, Parana, Brazil)
In series: Recent Trends in Biotechnology
Biotechnology of Animal Reproduction is a book concerned with a strategic area of science. All topics on animal production and comparative physiology are very important to aid in the better understanding of areas related to pet companionship, health sciences and food production. Nowadays, humanity is facing breakthroughs in new technologies, genetics and environmental challenges. This book is an attempt at fulfilling the need for information about the scientific and, most importantly, applied aspects of animal reproduction. Considering the importance of many species that need assisted reproductive technologies, the authors covered the most studied models, including cattle, horses, sheep and others. The authors also exposed the main biotechnologies used in animal assisted reproduction, discussing their indications according to each species to which they are applicable. This book covers topics such as the reproductive physiology of males and females; production of embryo (in vivo and in vitro); cryopreservation of embryos; artificial insemination; control of estrous cycle; hormonal treatments; semen analysis; reproductive ultrasonography; in vitro culture of ovarian follicles; animal cloning; advances on biotechnology of small ruminants; epigenetics in animal reproduction; equine reproduction and ovum pick-up. Over twenty leading scientists from several universities and countries have contributed research to create the first single-source reference on reproductive techniques. It is hoped that this book will be convenient to all categories of people dedicated to animal reproduction, whether they are undergraduate and graduate students, teachers, scientists or practitioners.
Cellulose Composite for Electronic Devices
Sarute Ummartyotin, and Mohini Sain (Department of Physics, Faculty of Science and Technology, Thammasat University, Thailand)

In series: Biotechnology in Agriculture, Industry and Medicine
2016. 185 pp.

Tomosynthesis (DBT), an emerging and improving breast imaging technology, enhances the diagnosis of early breast cancer by providing depth information about the overlapping dense breast tissues with no ray tube angles. Tomosynthesis imaging is being actively investigated for use in a variety of clinical tasks. Chapter One of this book: 978-1-63484-173-3. $210.00.

The present book provides a state-of-the-art overview on cellulose and its application in electronic devices. It covers both cellulose from forestry and the development on cellulose for electronic devices. From the fundamental point of view, cellulose was considered as the most abundant available resource of bio-based materials. The research on cellulose was designed for forestry to industrial commercialization.

The overview of cellulose from forestry is provided along with the method for properties modification. After that, significant enhancement of cellulose properties is evaluated on an electronic device. The content of this book is involved on academic research of the author (active from 2010 to the present time) at University of Toronto, Canada, The Petroleum and Petrochemical College, Chulalongkorn University and Thammasat University, Thailand. As mentioned above, chapter contributions are made from laboratory experience and strong research publication among these institutes. The comprehensive and systematic overview provided within this book is expected to assist the reader in comprehending the importance of taking into account cellulose from forestry and its development for the electronic device. Finally, the editor would like to express sincere appreciation to the research contributors for their dedicated collaboration in cellulose for the electronic device project. We sincerely hope this book will enable readers to connect basic research principles with up-to-date knowledge, thereby encouraging future discoveries and development of cellulose for many possible applications.

Digital Tomosynthesis: Benefits, Clinical Uses and Limitations
Lucia Gutierrez

In series: Biotechnology in Agriculture, Industry and Medicine
Softcover: 978-1-63485-132-9. $82.00.
e-book: 978-1-63485-146-6. $82.00.

Tomosynthesis is a technology that enables the acquisition of three-dimensional (3D) data from a sequence of projection images acquired at different x-ray tube angles. Tomosynthesis imaging is being actively investigated for use in a variety of clinical tasks. Chapter One of this book: 978-1-63485-132-9. $82.00.
e-book: 978-1-63485-146-6. $82.00.

Tomosynthesis imaging provides a wealth of information about material properties and can offer an additional dimension of information about material composition. The impact of tomosynthesis is discussed in clinical trials of breast tomosynthesis for imaging configuration optimization.

The last chapter discusses image reconstruction and imaging configuration optimization with a multi-beam parallel digital breast tomosynthesis system.

Frontiers in Food Biotechnology
Chetan Sharma, Anil K. Sharma, and K.R. Aneja (Department of Biotechnology, Maharishi Markandeshwar Engineering College, Maharishi Markandeshwar University, Mullana-Ambala, India)

In series: Biotechnology in Agriculture, Industry and Medicine
2016. 381 pp.

Frontiers in Food Biotechnology aims to provide impetus to the emergence of new technologies positively impacting and revolutionizing the study of food biotechnology. Recent advances in the emerging areas of food science and the role of genetically modified foods, probiotics, nutraceuticals, biocatalysts, and nanotechnology in food have been greatly envisaged through this book. We anticipate that this book would be able to provide comprehensive, accessible, up-to-date information about food biotechnology and its broad spectrum implications to mankind, successfully translating the basic scientific information of food-related biotechnology into industrial and research applications. Moreover, this book offers instant access to a wealth of information for scientists in food processing industries, biochemists, microbiologists, food technologists and students from diverse streams of food science, biotechnology and food microbiology. With the outcome of such a unique book, which provides a comprehensive and deep insight into the pool of upcoming advancements in food biotechnology, students and research fraternities could benefit in relevant assignments in the food science. This book not only provides an international perspective on the discipline as a whole, but also acts as an indispensable guide for anyone who needs to understand the latest information on food production and processing from a biotechnological perspective.

High Value Processing Technologies
Aydin Berenjian, Hoda Jafarzadeh-Malmiri and Yuanda Song (The University of Waikato, New Zealand)

In series: Recent Trends in Biotechnology
Hardcover: 978-1-63484-453-6. $190.00.

High Value Processing is concerned with all the processes and activities of converting raw materials and commodity materials into valuable products required by manufacturers or the end consumer. Efficient processing of raw materials and commodity goods is of great significance for continuing economic welfare. There is a need to develop products that have high value in world markets, and therefore people must understand fully the properties of materials as diverse as food, wood, metals, plastics and fuel. Advanced technologies and knowledge are required to design, manufacture and process these materials into high-value products. It is also important to understand the properties of these high-value products and how they will interact with their environment, whether it be within the body or in the atmosphere. This book: 978-1-63484-453-6. $190.00.

High Value Processing Technologies are concerned with all the processes and activities of converting raw materials and commodity goods into valuable products required by manufacturers or the end consumer. Efficient processing of raw materials and commodity goods is of great significance for continuing economic welfare. There is a need to develop products that have high value in world markets, and therefore people must understand fully the properties of materials as diverse as food, wood, metals, plastics and fuel. Advanced technologies and knowledge are required to design, manufacture and process these materials into high-value products. It is also important to understand the properties of these high-value products and how they will interact with their environment, whether it be within the body or in the atmosphere. This book: 978-1-63484-453-6. $190.00.

Inflammasones: Mechanism of Action, Regulation and Role in Disease
Angie Mason

In series: Biotechnology in Agriculture, Industry and Medicine
2016. 90 pp.
Softcover: 978-1-63484-891-6. $82.00.
e-book: 978-1-63484-911-1. $82.00.

Inflammasones: Mechanism of Action, Regulation and Role in Disease, by Angie Mason, is a comprehensive overview of the current understanding of the mechanism of action, regulation and role of inflammasomes in human disease. The book: 978-1-63484-891-6. $82.00.
e-book: 978-1-63484-911-1. $82.00.
The term inflammosome was coined over a decade ago to describe the molecular platform activated by pathogens or stressor molecules where inflammatory caspases are triggered and cleavage of IL-1β takes place. Inflammosome regulation is critical for the maintenance of homeostasis: an imbalance in this fine-tuning is responsible for the establishment of infectious, autoimmune, metabolic and neurodegenerative diseases. This book examines the activation and function of inflammosomes during fungal infections; inflammosome involvement in carcinogenesis; and the role of inflammosomes in protozoan infections.

Innovative Bio-Products for Agriculture: Algal Extracts In Products for Humans, Animals and Plants

Katarzyna Chojnacka and Izabela Michalak (Faculty of Chemistry, Wroclaw University of Technology, Poland)

In series: Biotechnology in Agriculture, Industry and Medicine

Hardcover: 978-1-63485-558-7. $160.00.

The aim of this book is to highlight the utilization of algae for the development of useful products using environmentally friendly technologies such as supercritical fluid extraction (SFE) and accelerated solvent extraction (ASE). Each chapter is a collection of comprehensive information on the present research on algae in different applications. The primary emphasis of this book however, is concerned with the products used for agriculture. Algal extracts were presented in this book also as a biologically active component that adds value to products for humans (cosmetics), animals (pro-health supplements) and plants (plant growth biostimulants). Target Audience: This book is recommended for researchers/students working on the supercritical fluid extraction of biologically active compounds from algae. It can be used as a reference material for both early stage and established researchers.

Modern Approaches to Environmental Biotechnology

Raman Kumar and Anil K. Sharma (Department of Biotechnology, Maharishi Markandeshwar University, Mullana-Ambala, India)

In series: Recent Trends in Biotechnology

Hardcover: 978-1-63484-360-7. $190.00.
e-book: 978-1-63484-393-5. $190.00.

Modern environmental technologies are indeed designed to enhance cost efficiencies and productivity. The current proposal aims to provide a comprehensive view of modern environmental approaches for wastewater treatment, heavy metal removal, pesticide degradation, dye removal, polycyclic aromatic hydrocarbons, solid waste management, biosensor technology and the role of nanobiotechnology in the effective removal of pollutants from the environment. Biomass conservation technologies, biopesticides and microbial transformation of environmental contaminants are some other interesting titles covered in this proposed book. We anticipate that this book will be able to provide a comprehensive, accessible, up-to-date information about recent advancements in environmental biotechniques and the roles of the microbial community in bioremediation, providing instant access to environmentalists, biotechnologists, environmental engineers, and students from diverse streams of biotechnology and environmental engineering.

Natural Enemies: Identification, Protection Strategies and Ecological Impacts

Sónia A.P. Santos (CIMO/School of Agriculture, Polytechnic Institute of Braganca, Braganca, Portugal)

In series: Biotechnology in Agriculture, Industry and Medicine

2016.

The community of natural enemies that inhabits agroecosystems is complex mainly due to multiple trophic interactions established among them and their target prey/hosts. Several factors can influence the efficiency of natural enemies as biological control agents, such as the occurrence of preferred food items, supplementary food resources, shelters, agricultural practices or landscapes. In this book, scientists present recent studies in regards to the identification, protection strategies and impacts of agricultural practices on important groups of natural enemies. This core focus includes specific studies on predatory species (e.g., mites, spiders, anthocorids, nabids, carabids, and coccinellids) as well as parasitoid species (hymenopterans). The different chapters present new approaches towards the conservation of natural enemies in agroecosystems, and discusses the effects of climate change and agricultural practices on biodiversity, life history and movement of natural enemies. Target Audience: Professors, researchers and students in the area of agricultural and biological sciences; Technicians in the area of agriculture; Farmers; People interested in biological control of pests.

Personalized Medicine (Beyond PET Biomarkers)

Sushil Sharma (Professor of Pharmacology & Course Director, Saint James School of Medicine, Cane Hall, St Vincent, St Vincent & Grenadines)

In series: Biotechnology in Agriculture, Industry and Medicine


Nova Science Publishers, New York, U.S.A has now released Personalized Medicine (Beyond PET Biomarkers), which is an extension of the author’s recently published book Progress in PET Radiopharmaceuticals: Quality Control and Theranostics. In addition to recently-developed clinically-significant PET-RPs as biomarkers, this book describes various other emerging biotechnologies including: genomic medicine, nanotechnology, novel molecular biomarkers, and noninvasive imaging biotechnologies for early theranostics and personalized patient care, with minimum or no adverse effects. New therapeutic interventions including gene and cell therapies, pharmacogenomics, next generation sequencing, genome-wide association studies, proteomics, metabolomics, bioinformatics, systems biology complementing areas of pharmacodynamics, human investigations and clinical trials, pharmacovigilance, pharmacoepidemiology, and population pharmacology are some of the most significant disciplines of predictive, precision, and personalized medicine (PM) as described in this book. More specifically, different sub-specialties of omics biotechnology including: genomic, proteomic, glycomic, lipidomic, metabolomics, metalomic, and microRNA biomarkers are described to accomplish early and personalized theranostics of chronic illnesses with currently limited therapeutic options and success. Recent advances in nanotechnology and novel biomarkers to accomplish personalized theranostics of chronic diseases including, but not limited to: cancer, fetal alcohol syndrome, Parkinson’s disease, vascular dementia, amyotrophic lateral sclerosis, and multiple sclerosis. Usually, nanoparticles (NPs) are trapped in the reticuloendothelial system (RES) comprising the lungs, liver, and spleen. To prevent their entry into the RES system and enhance drug
targeting, stealth property of polyethylene glycol (PEG) as a covalent linker is utilized. However, pegylation may reduce the biological activity of the antibody or other labile molecule attached to NPs. Therefore, positively-charged chitosans and negatively charged alginites have been developed. Liposomal encapsulated Doxorubicin (Adriamycin) was approved in the early seventies for the treatment of breast cancer. In addition, enhanced permeability and retention (EPR) property of newly synthesized micro vessels of a hyper proliferating tumor is utilized to selectively invade the cancer stem cells. Various noninvasive in-vivo imaging technologies including computerized tomography (CT), magnetic resonance imaging (MRI) along with magnetic-resonance spectroscopic (MRS) capability, single photon emission tomography (SPECT), positron emission tomography (PET), only sound alone or as hybrid images to obtain precise 3D anatomical landmarks, regional physiology, and biochemistry of the human body organs at cellular, molecular, and genetic level in health and disease are described. The book also describes in-vitro methods to acquire images of tissues and cells in culture employing digital infrared imaging, digital fluorescence microscopic, confocal microscopic, and fluorescence resonance transfer (FRET) resonance imaging for detecting apoptosis and/or necrosis at the cellular, molecular and genetic level. This timely-released manuscript will attract basic scientists, researchers, and physicians interested in further developing the emerging concept of personalized medicine (PM), and will serve as a textbook for Masters, M.D., and Ph. D students, and a reference book for doctors, professors, basic researchers, scientists, and general public. The author has explained recently-discovered novel biomarkers for the personalized diagnosis and treatment of cancer, cardiovascular diseases, neurodegenerative diseases, and other chronic inflammatory diseases such as asthma, COPD, cystic fibrosis, migraine, and rheumatoid arthritis to accomplish the long quested goal of evidence-based personalized theranostics (EBPT). Recently-discovered disease-specific biomarkers can be successfully employed alone or in combination for the personalized treatment of chronic multidrug-resistant illnesses. Particularly, progressively neurodegenerative diseases such as fetal alcohol syndrome, Parkinson’s disease, drug addiction, Alzheimer’s disease, vascular dementia, amyotrophic lateral sclerosis, and demyelinating relapse and remission multiple sclerosis (RRMS) are described in detail because personalized treatment of these devastating diseases is currently a significant challenge. There are several other chronic drug resistant pro-inflammatory and infectious diseases, which could not be covered in sufficient detail owing to the lack of expertise, time, and limited space allocated to write this dedicated and clinically significant book. The author apologizes to the entire global scientific community for his own ignorance, and humbly requests readers to go through the book’s interesting and most recent contents to enhance their basic knowledge regarding personalized medicine beyond PET biomarkers, which is one of the most demanding disciplines of modern medicine.

CHEMICAL ENGINEERING

Antibacterials: Synthesis, Properties and Biological Activities

Erika Collins

In series: Chemical Engineering Methods and Technology

2016.


This book examines the synthesis, properties and biological activities of antibacterials. Chapter One focuses on the recent development of biomass antibacterials. Chapter Two provides comprehensive overview on smart materials based on structured noble metals covering its various forms from ultrathin layers over discrete metal islands up to isolated nanoparticles having exceptional properties applicable in prevention of bacterial infections. Chapter Three discusses general aspects regarding lectins and their purification and then reviews the state-of-art on antibacterial lectins, their action mechanisms, defensive roles and current efforts regarding their effective biotechnological application. Chapter Four reviews natural antibacterials for technical applications. Chapter Five studies antimicrobial activities of natural products from Libidibia ferrea (Mart. ex Tul.) L.P. Queiroz var. ferrea. Chapter Six discusses redox-active metal complexes with cycloamoimethyl derivatives of diphenols. Chapter Seven analyzes recent progress in the discovery and development of novel antibiotics during the first fifteen years of the 21st Century.

Application of Electrospun Fibers in Tissue Engineering

Xiumei Mo, Dawei Li, B. Minden-Birkenmaier, and Gary L. Bowlin (College of Chemistry, Chemical Engineering and Biotechnology, Donghua University, Shanghai, China)

In series: Chemical Engineering Methods and Technology


Hardcover: 978-1-63463-629-2. $110.00.

The process of electrospinning has experienced decades of development for a variety of applications including air filtration and tissue engineering. However, it has not been until the past decade that this process has been a focus in the field of tissue engineering. The unique properties of electrospun fibers have drawn remarkable

BOTANY

Technological Advancements in Plant Sciences

Raghvendra Pratap Narayan, Durgesh K. Tripathi and R.K. Gaur (Department of Botany, S C B Government Girls PG College Aliganj Lucknow, Uttar Pradesh, India)

In series: Plant Science Research and Practices

2016.

Hardcover: 978-1-53610-004-4. $190.00.

Botany is a forerunning field of study that could address the foremost disputes facing humanity in the 21st century; coupled with the development of new tools and techniques, it could aid in finding solutions to diagnose these unsolved questions. The present book summarizes the recent technological advances of plant science. This is a succinct, up-to-date, and relevant compilation based on the techniques used in plant science: this book embodies the recent knowledge of advanced techniques frequently being used from last few decades. There are twelve chapters summarized systematically that demonstrate: the suitability of Laser Produced Plasma Spectroscopy; potential of NMR spectroscopy in plant metabolomics; recent developments and applications of novel analytical techniques for the analysis of plant materials; chlorophyll as a fluorescence analysis and a technique to explore the photochemistry of photosystem II; drought stress and metabolomics in plants; heat shock on Bipolaris sorokiniana in cereal crops; salt stress on crops plants and their mitigation strategies; plant cell death by rumen-induced stress on plant in ruminant herbivores; the role of diazotrophs in maintaining plant health in agricultural fields; population biology of Rhizoctonia solani AG-1 IA from India; and biofilms as a home for microorganisms and genetically modified organism. This book will be helpful for researchers, academicians and students working on the related fields.
attention within the field of tissue engineering due to its capacity to mimic the native tissue structural element, the extracellular matrix, and its ability to promote cell proliferation and enhanced tissue regeneration. Herein, we have summarized some different applications of electrospun fibers in tissue engineering while demonstrating the cellular interactions between various cells and electrospun fiber scaffolds. The key aspect is a focus on the potential use of electrospinning in tissue regeneration. The hope is that this book will be beneficial to students and researchers in developing a general knowledge of the tissue engineering and regeneration application of electrospun fibers. We hope it will also inspire their curiosity and creativity to allow for the fabricating of advanced tissue engineering scaffolds for use in developing successful products that will allow for improving the quality of life.

Continuous Process Dynamics, Stability, Control and Automation
Kal Renganathan Sharma
In series: Chemical Engineering Methods and Technology
2016. 618 pp.
Softcover: 978-1-63484-574-8. $89.00.
This is a modern first course on process control, instruments, process dynamics and stability. MS Excel spreadsheets are used in order to obtain solutions to non-linear equations when needed and closed form analytical solutions are obtained using Laplace transforms and other methods. The solutions are presented in 210 figures and the book has 1319 equations. With an industrial controls market size of about 150 billion dollars and a chemical process industry market size of three trillion dollars, the practitioners can use this book to master techniques to obtain solutions to non-linear equations when needed and closed form analytical solutions are obtained using Laplace transforms and other methods. This is a modern first course on process control, instruments, process dynamics and stability. MS Excel spreadsheets are used in order to obtain solutions to non-linear equations when needed and closed form analytical solutions are obtained using Laplace transforms and other methods. The solutions are presented in 210 figures and the book has 1319 equations. With an industrial controls market size of about 150 billion dollars and a chemical process industry market size of three trillion dollars, the practitioners can use this book to master techniques.

Molybdenum Disulfide: Synthesis, Properties and Industrial Applications
Jeremiah McBride
In series: Chemical Engineering Methods and Technology
Softcover: 978-1-63485-032-2. $110.00.
e-book: 978-1-63485-051-3. $95.00.
Molybdenum disulfide (MoS2) is a semiconductor which is composed of Mo atoms sandwiched between two layers of hexagonal close packed sulfur atoms in a structure similar to graphene. Traditionally, it has been used as a solid lubricant due to its low friction properties and as a hydrodesulfurization catalyst to lower the sulfur content in natural gas and fuels. Bulk MoS2 were first examined as a possible hydrogen evolution reaction electrocatalyst as early as 1977 by Tributsch et al. However, it was not until about 20 years later that its potential in the hydrogen evolution reaction was fully unveiled. This book discusses the synthesis, properties and industrial applications of molybdenum disulfide.

Chemistry

Advances in Chemical Modeling, Volume 6
Mihai V. Putz (Laboratory of Computational and Structural Physical Chemistry, Biology-Chemistry Department, West University of Timișoara, Romania)
In series: Chemistry Research and Applications
Hardcover: 978-1-63485-030-8. $310.00.
In today’s modern economy, and in strategic management more precisely, which is often driven by scientific and technological research-development and innovations, the best position in a market is held by the so called advantage - competitive, sustainable, or perennial! Competitive associates are in the so called “red oceans” where firms, products, and organizations offer and compete for the same customer segment. Perennial advantage associates, in contrast, create “blue oceans” by which new products and markets couple and create “peaceful waves” and a no-competition landscape! But what about sustainability? Sustainability may be regarded as a subclass of perenniality and might eventually end the disruptive innovation that potentially attracts and converts non-customers to actual customers in a “blue ocean” enterprise! However, sustainability is not necessarily related to durability – that is a measure of time after all; it instead address a strategic development by which a product or service, once created, can be returned to its original components without affecting the environment, whenever it is necessary, by present of future generations! It is therefore a two sided attribute of products, services and processes, with a high degree of “cybernetics” inside, in the sense of inverse-connections, feed-back, and integrated-parts-in-whole construct. In modern chemistry, the so called nano-chemistry, sustainability means: controlling design, controlling synthesis, atomic- and molecular memory, intelligent materials that are able to reverse their entropy at certain stimulus and triggering points, etc. This is what we may call sustainable nano-chemistry! It is still a large idealization of most chemical processes, yet it is fulfilled by certain parts of chemical research, especially those involved in nano-science and technology with sustainable degrees! Aiming to document this desirable and sustainable future of nano-chemistry, the present volume, while continuing the precedent in the series, contains world class chapters in the allied fields of Structural Physical Chemistry, Structural Modeling Chemistry, Nano-chemistry by Graph Theory, Nano-chemistry by Molecular Topology, Q SAR (Quantitative-Structure-Activity Relationships), and Frontier Theories in Physical-Chemistry.

Advances in Chemistry Research, Volume 30
James C. Taylor
In series: Advances in Chemistry Research
Hardcover: 978-1-63484-183-2. $190.00.
The authors of this latest volume discuss recent advances in chemistry research. The chapters include discussions on a novel approach to developing a reliable optimized model for the estimation of PVT properties at various reservoir conditions; diverse dye removal technologies and recent progress in dye adsorption using activated carbon; the unique synthesis, properties and functions of mono- and di-
nuclear ruthenium(II) aquo complexes; the detection of glycoproteins by widely used classical methods such as SDS-PAGE and Western blot; the predictability of the solubility of supercritical CO2 in ionic liquid; the impact of sucrose, stevia and xylitol on mechanical characteristics of gels prepared with different commercial chestnut flours; separated XRD analysis and non-linear optics for the interaction in composite materials of chiral cyanide bimetallic complexes and LiMnO2; and the oxidation of some sulphated macromolecules using various oxidizing agents.

Advances in Chemistry Research. Volume 31
James C. Taylor
In series: Advances in Chemistry Research

The authors' of this latest volume discuss recent advances in chemistry research. Chapter One reviews the role of liquid chromatography-mass spectrometry for the analysis of carbonated beverages in both beverage quality and safety control. Chapter Two determines the effect of the agitation speed on the mass transfer coefficient of the water phase in a stirred cell. Chapter Three provides a vapo-liquid equilibrium investigation of the ethanol-cyclohexane system. Chapter Four implements the quantitative structure–property relationship (QSPR) strategy to predict the freezing point of pure chemical compounds. Chapter Five studies the effects of kinetic inhibitors including L-Tyrosine (4-hydroxyphenylalanine), Poly Vinyl Pyrrolidone (PVP) and Polyethylene oxide (PEO) on methane hydrate formation rate. Chapter Six provides a better understanding of the crystal metals impacting secondary aliphatic amine aerosol formation in the atmosphere. Chapter Seven discusses the thermodynamic properties and structures of gaseous borates. Chapter Eight reports the study of monovacancy resistivity of some dilute alloys of the different groups of the periodic table on the basis of well-known single parametric model potential formalism. The final chapter has the objective to develop new plasmono-resonance NPs of noble metals (gold and its alloy with silver) stabilized and functionalized with a MA copolymer, as well as to study a possibility of application of obtained organo-mineral colloids containing or containing no specific enzyme in catalysis for the selective aerobic oxidation of glucose to gluconic acid.

Advances in Chemistry Research. Volume 32
James C. Taylor
In series: Advances in Chemistry Research
2016. 207 pp.
Hardcover: 978-1-63485-466-5, $250.00.

The authors' of this latest volume discuss recent advances in chemistry research. Chapter One evaluates the reality of the countries that use palm oil for biodiesel production and food industry taking into account socio-economic and environmental aspects. Chapter Two reviews an analysis of technical and economic viability, based on biorefinery concepts, of the production of food biomolecules and other value-added products that together with bioenergy production can be used to improve the supply chain of palm oil in Colombia, Mexico, Peru and Tanzania. Chapter Three analyzes and compares the residence time distributions of a continuous stirred-tank reactor, a plug flow reactor and a tubular plug flow reactor. Chapter Four discusses ternary cyclopentadienes and cyclopentadienyl complexes with per-and polyfluoroalkyl substituents. In Chapter Five, the progress in the cyclization reactions starting from perfluoroalkyl radical addition is described. Chapter Six aims to revise the standard model of chemical bonds applying gravitational interaction. Chapter Seven analyzes the operation of fluidized beds under gas and liquid fluid flow conditions.

Advances in Chemistry Research. Volume 33
James C. Taylor
In series: Advances in Chemistry Research
2016.
Hardcover: 978-1-53610-060-0, $190.00.
e-book: 978-1-53610-070-9, $190.00.

The authors of this latest volume discuss recent advances in chemistry research. Chapter One reports the commissioning of an external loop airlift reactor (ALR). Chapter Two reviews several pitfalls in tandem mass spectrometry analysis and the employment of alternative confirmatory methods, some of them also attainable with low resolution mass analyzers, to guarantee the unequivocal identification and confirmation of contaminants. Chapter Three shows that high-temperature electrochemical synthesis in ionic melts is a very promising method for obtaining tungsten carbides. Chapter Four provides an investigation into the performance of a shell and tube heat exchanger. Chapter Five discusses the characteristics of gamma radiation and its various uses. Chapter Six reviews the intercalation of poly(bis-(2-methyloxyethoxy)phosphazene) (MEEP) into vanadium pentoxide xerogel. Chapter Seven focuses on the thermodynamics of complex formation between Ag(I) ion and 18-crown-6 in methanol-acetonitrile mixed solvent. Chapter Eight studies the assay of the hydration shell dynamics on the turnover of the active site of CFI-ATPase.

Advances in Natural Products Discovery
Ana Rita Gomes, Teresa Rocha-Santos and Armando Duarte (Department of Chemistry, University of Aveiro, Campus de Santiago, Aveiro, Portugal)
In series: Chemistry Research and Applications
2016.

The largely unexplored natural world harbors great biodiversity, and provides a unique and rich source of natural products with interesting pharmaceutical activities as well as potential applications for environmental protection. Over the last few years, much attention has been paid to unraveling the structural, compositional and sequential properties of bioactive compounds, but the exploration of new natural resources needs to be developed wisely while keeping sustainability principles in mind. With the help of some developed isolation techniques, researchers have been able to elucidate new extraction methods applicable to both aquatic and terrestrial organisms. Natural products have often been used in medicine, food, fragrances, and pest control. Most likely due to their easy accessibility, terrestrial plants have been the major source of medicinal products, especially for traditional or folk medicine. However, only 10% of over 250,000 plants have been investigated for biological activity. On the other hand, aquatic environments contain over 80% of world’s plant and animal species. In recent years, several bioactive compounds have been extracted from various marine organisms, such as tunicates, sponges, starfish, soft corals, bryozoans, and sea cucumbers, among others. The search for new metabolites from marine organisms has resulted in the isolation of more than 10,000 metabolites, many of which are endowed with pharmacodynamic properties. These natural products are of high commercial value due to their natural source, complete biodegradable properties, lower or no toxicity, and in most cases lower cost compared to synthetic chemicals. Despite the biodiversity in the marine environment overcoming that of the terrestrial environment, the research into the use of natural marine products as pharmaceutical agents and for environmental applications is still in its early stages. In this context, this book highlights some of the most recent advances in natural product discovery over the past few years.

Asphaltene: Fundamentals, Applications and Future Developments
Suzanne R. Pittman
In series: Petroleum Science and Technology
Corrosion Inhibitors: Principles, Mechanisms and Applications
Esther Hart
In series: Chemistry Research and Applications
2016.
Softcover: 978-1-63485-791-8. $95.00.
e-book: 978-1-63485-804-5. $95.00.

This book discusses principles, mechanisms and applications of corrosion inhibitors. Chapter One focuses on organic corrosion inhibitors and their industrial applications. Chapter Two explores the application of polymer composites and nanocomposites as corrosion inhibitors for different metal substrates in different corrosive media. Chapter Three provides a review of corrosion inhibitors and a progress towards use of environmentally friendly corrosion inhibitors in the amine-based CO2 absorption process for acid gas treatment and carbon capture. Chapter Four studies the effectiveness of copaiba oil loaded on microemulsion systems as green corrosion inhibitors. Chapter Five addresses the mechanism of corrosion for APMMCs, and discusses different methods of inhibition to corrosion for APMMCs. Chapter Six focuses on the eletrochemical study of 1,3,4-thiol as a corrosion inhibitor of mild steel in saline medium.

Disinfectants: Properties, Applications and Effectiveness
Ana Sofia Cardoso, Cristina Maria Martins Almeida, Telma Costa Cordeiro, and Vanessa de Jesus Gaffney
(Charneca de Caparica, Lisbon, Portugal)
In series: Bacteriology Research Developments
2016.
Hardcover: 978-1-63485-958-5. $230.00.

Antisepsics and disinfectants are extensively used at home, in occupied buildings, recreational areas, industries (the water industry, food processing industry and pharmaceutical industry, among others), hospitals and other healthcare settings for a variety of topical and hard-surface applications. They play a critical role in controlling the spread of environmentally transmitted pathogens in healthcare and food-processing environments, as well as at home. A wide variety of active chemical agents are found in these products, many of which have been used for hundreds of years for antisepsis, disinfection, and preservation. Although its main purpose is to control human exposure to microorganisms through preventive action, its use should also be carefully controlled in order to prevent healthcare problems that may consequently emerge due to their toxicity. The problems regarding the use of disinfectants are not new, although unquestionably tangible and pertinent, due to its broad application in the referred economical activities, as well as due to the development and emerging of new compounds with this activity. This book aims to address the various scenarios regarding the use of disinfectants. Accordingly, through its eleven chapters it is possible to become aware of the wide range of disinfectant applications, as well as the concerning advantages and limitations of its use. This book is divided into two main sections. The first section, after an overview regarding the use of disinfectants in society, addresses questions related to its toxicology and health repercussions along with microbiological mechanisms. In the second section, a far-reaching exploration of the application of disinfectants in a set of specifically selected economic activities, alongside issues concerning their environmental impact and regulatory matters is addressed. This section also includes two case studies on novel disinfection methods. Target Audience: This book aims to address the various scenarios regarding the use of disinfectants. Accordingly, through its several chapters it is possible to connect with the wide range of the disinfectant’s applications, as well as the concerning advantages and limitations. Due to its mentioned multiple approaches, this book can be a useful tool for professionals from hospitals and other healthcare institutions, food industry, pharmaceutical industry, higher education institutions, water distributors, and the general public.

Essential Oils: Historical Significance, Chemical Composition and Medicinal Uses and Benefits
Miranda Peters
In series: Chemistry Research and Applications
Hardcover: 978-1-63484-351-5. $190.00.

The use of essential oils by civilizations constitutes a common practice since antiquity. In earlier times, China, India and the Middle East used herbs and oils in cooking, cosmetics, medicine and in religious rituals. These substances come from a secondary metabolism of plants and are associated with several functions necessary for their survival, such as the defense against microorganisms, predators and attraction of pollinators. Essential oils are composed of a complex mixture of biologically active substances, lipophilic and volatile, and in most cases derivatives of terpene compounds and in a lower occurrence -phenylpropanoids. They have been long recognized for their medicinal uses: antibacterial, antifungal, antiviral, insecticidal and their antioxidant properties. The increased interest in alternative natural substances is driving the research community to find new uses and applications of these substances. This book provides research on the historical significance, chemical composition and medicinal uses and benefits of essential oils. Some of the topics discussed include extraction methods of essential oils; an overview of the most relevant essential oil changes regarding plant phenotype and plant development; the antibacterial properties of some essential oils; essential oils applications in agriculture; and the use of essential oils as additives in broiler diets.

Glucosides: Sources, Applications, and New Research
Irving Boyd
In series: Chemistry Research and Applications
2016.
Softcover: 978-1-63485-841-0. $82.00.
e-book: 978-1-63485-861-8. $82.00.

This book reviews sources, applications and new research of glucosides. Chapter One introduces the source (where and how mycotoxins are glucosylated), history (how the researchers recognize...
and identify mycotoxin glucosides), and recent research (screening of new mycotoxin glucosides conducted by the authors and risk assessment research of mycotoxin glucosides). Chapter Two summarizes the information available on the field of steryl glucosides from different perspectives. Chapter Three examines recent developments in the phase behavior of n-Alkyl glucosides in arid systems.

Introduction to Mass Spectrometry of Biomolecules: Problems and Practical Aspects
Marko Jovanović (Assistant Professor, Department of biotechnology, University of Rijeka, Croatia)
In series: Chemistry Research and Applications 2016
Hardcover: 978-1-63484-664-6. $190.00.
e-book: 978-1-63485-141-1. $190.00.
The theses, lectures and solved problems within this book give an introduction to principles of mass spectrometry related to the analysis of biomolecules. The book focuses on MS and MS/MS analysis of peptides, oligosaccharides, lipids, glycoconjugates and polyphenols. The basic properties of modern MS ionization techniques and mass analyzers are presented, as well as appropriate MS methods for each class of biomolecules in modern biomedical scientific research. The biggest part of this book is focused on MS/MS analysis of biomolecules: how the MS and MS/MS data are generated, what are the basic strategies for their structural analysis, as well as how to interpret the respective MS and MS/MS data. This book also covers principles and examples of advanced MS/MS analyses, serving as a platform towards an intermediate level of understanding scientific research carried out in the field of structural MS analysis of biomolecules. It is the author’s hope that the reader will be able to understand principles of MS analyses related to their scientific and/or analytical interest, as well as design/help to propose MS and MS/MS experiments, as well as interpret the obtained data. This book is primarily written for students with basic knowledge of general, organic and analytical chemistry, and who are interested in applying MS-based methodologies in biomedical research fields, as well as interested in pursuing a career in mass spectrometry. Therefore it is best suited for senior undergraduate students and first/second year Ph.D. students. However, since MS instrumentation is rapidly adopted on all levels of scientific as well as analytical laboratories, the book should prove useful to scientists — as well as analysts — interested in applying MS in their upgraded laboratories. The author hopes that the reader, after studying the content presented, will be able to read primary scientific literature containing MS data to learn more about specific topics of interest, as well as be more capable of choosing a MS-related career path. For senior scientists, this book can offer some basic insights related to choosing a post-doc laboratory, or simply easier and more fruitful cooperation with mass spectrometrists.

Metal-Organic Frameworks (MOFs): Chemistry, Technologies and Applications
Priscilla Reeves
In series: Chemistry Research and Applications 2016. 142 pp.
Softcover: 978-1-63485-031-5. $95.00.
e-book: 978-1-63485-051-3. $95.00.
Metal-organic frameworks (MOFs) are porous crystalline materials, consisting of inorganic metal nodes and organic linkers. These materials possess many merits, such as light weight, high specific surface areas, well-defined porosities and open site structures. The first chapter of this book focuses on the major breakthroughs of MOFs reported to date for nanomedicine applications followed by a short commentary addressing deficient areas in the field and the future direction of MOF based therapeutics. Chapter Two provides an overview of the current state of MOFs in solid-phase microextraction (SPME) together with future expectations in the field. Chapter Three reviews the methods used to fabricate MOFs and discusses the use of MOFs in sensor development. The last chapter focuses on newly emerging MOFs, MOFs-supported and MOFs-derived materials. It discusses the recent progress of preparation and applications of these MOF-based materials in the electrocatalysis for oxygen reduction reaction (ORR) and/or oxygen evolution reaction (OER).

Microemulsions: Systems, Properties and Applications
Taylor Torres
In series: Chemistry Research and Applications 2016.
Softcover: 978-1-63485-890-8. $82.00.
e-book: 978-1-63485-906-6. $82.00.
In this book, Chapter One summarizes novel observations regarding physicochemical properties, physical and chemical stability, and drug delivery potential of microemulsion hydrogel drug delivery systems, based on comprehensive reviews of the research results from relevant scientific publications. Chapter Two discusses the synthesis and investigation of the properties of hexaferrites obtained by microemulsion techniques. Chapter Three focuses on manufacturing solid lipid nanoparticle dispersions using a microwave assisted microemulsion approach.
Nafion: Properties, Structure and Applications
Alyssa Sutton
In series: Chemistry Research and Applications
2016. 159 pp.
Hardcover: 978-1-63484-199-3, $110.00.
e-book: 978-1-63484-200-6, $110.00.
Nafion is a well-known polymeric material widely used in commercial applications, being the most common material for polymer exchange membranes (PEMs), which can be used in both proton-exchange fuel cells (PEMFCs) and direct methanol fuel cells (DMFCs) due to its high ionic conductivity as well as its good mechanical, chemical and thermal stability. This book studies the properties, structure and applications of Nafion. Chapter one reviews the state-of-the-art of the several chapters, describing Nafion's morphology and provides a wide overview of their implication in the synthesis of NPs. Chapter two discusses separated electrode solutions as a tool to reach closer steady state in isoelectric focusing. Chapter three examines a study on the kinetics of neutralization and exchange reactions of Nafion. Chapter four discusses surface modification of a Nafion membrane due to phenyltrimethylammonium cation doping. Chapter five describes the positioning control method of Au-Nafion IPMC. The last chapter analyzes the progress of multifunctional spin crossover complex film based on Nafion.

Nanocellulose, Cellulose Nanofibers and Cellulose Nanocomposites: Synthesis and Applications
Md. Ibrahim H. Mondal (Professor, Dept. of Applied Chemistry and Chemical Engineering, Rajshahi University, Rajshahi, Bangladesh)
In series: Chemistry Research and Applications
Hardcover: 978-1-63483-860-3, $310.00.
e-book: 978-1-63483-885-6, $310.00.
Nanocellulose, due to its nanosize, offers a large surface area with new functionalities. These open a wide range of possible properties, as well as new applications, in many fields. The growing interest in renewable, biocompatibility, biodegradability, and unsurpassed physical and chemical properties of nanocellulose has resulted in increased academic and industrial interests towards development of nanocellulose-based materials and cellulose nanocomposites. However, there are still some issues to overcome, and the main challenges in the field are related to efficient preparation and isolation of nanosize cellulolic materials from their natural sources. This book reviews some vital issues and topics concerning the latest scientific and technological advances in nanocellulose, cellulose nanofibers and cellulose nanocomposites. Some subjects included are nanocellulose, covering synthesis, characterization and applications of nanocellulose, extraction of nanocellulose from natural sources and synthesis of bacterial nanocellulose for medical applications. Cellulose nanofibers are devoted to advances in production, derivatization and utilization of micro- and nanofibrillated cellulose. Cellulose nanocomposites, covering the production and characterization for smart applications of cellulose-based nanocomposite, cellulose composite-based electrosyn nanofibers for high-tech applications and the application of peptide-nanocellulose as a biosensor for human neutrophil elastase are also discussed. This book will provide an essential source of information to readers in the exploration of possible applications of nanocellulose in the above-mentioned fields. Let us hope that it also will help in the generation of new ideas for new applications and product development. A book like this, covering the above-mentioned vital issues and topics, should be useful to chemists, scientists, research scholars, polymer engineers and researchers in the industry.

New Research on Dihydropyridines
Jacquelyn Morales
In series: Chemistry Research and Applications
Hardcover: 978-1-63485-604-1, $160.00.
Dihydropyridines (DHPs) are one of the most important nitrogen-containing heterocycles which are widely recognized in the scaffold of various biologically active compounds and natural products. DHPs are also utilized as medicines and useful building blocks for the complex molecules. On the other hand, some DHPs exhibit blue fluorescence in organic solvents and have potential to apply as functional materials. Based on the novel utility of DHPs in both medicinal chemistry and material sciences, development of efficient and robust synthetic methods for DHPs has been paid much attention and a large number of synthesis of DHPs have been reported. The first chapter in this book summarizes recent progress in synthetic methodologies for the construction of DHP scaffolds both in catalytic and stoichiometric manners (particularly from 2000 to present), which are classified by the reaction patterns as 1) Multi-Component Coupling Reactions, 2) Pericyclic Reactions, 3) Regioselective Transformation of Pyridines, and 4) Miscellaneous. Chapter Two focuses on the synthesis of 1,4-DHPs and derivative compounds by using different routes of synthesis and greener alternatives. Chapter Three describes a mild and efficient protocol for the synthesis of 1,4-dihydropyridines via four component reactions of aromatic aldehydes, dimedone, ethyl acetocetate or methyl acetocetate and ammonium acetate using Fe(ClO4)3/SiO2. Chapter Four reviews the synthesis of chiral dihydropyridines.

New Trends in Sample Preparation Techniques for Food Analysis
Oscar Núñez and Paolo Lucci (Department of Analytical Chemistry, Faculty of Chemistry, University of Barcelona, Barcelona, Spain)
In series: Analytical Chemistry and Microchemistry
Hardcover: 978-1-63485-072-8, $190.00.
e-book: 978-1-63485-089-6, $190.00.
Nowadays, there is a growing need for applications in food control and safety analysis to cope with the analysis of a large number of analytes in a very complex matrix. New analytical procedures are demanding sensitivity, robustness, effectiveness and high resolution within a reduced analysis time. Most of these requirements may be met to a certain extent by the total or partial automation of the conventional analytical methods, including sample preparation or sample pretreatment coupled on-line to an analytical system. Despite the advances in chromatographic separations and mass spectrometry techniques, sample preparation is still one of the most important parts in any analytical method development and an effective sample preparation is essential for achieving good analytical results. Obviously, ideal sample preparation methods should be fast, accurate, precise and must keep sample integrity. For this reason, and over the last years, considerable efforts have been made to develop modern approaches in sample treatment techniques that enable the reduction of the analysis time without compromising the integrity of the extraction process. The aim of this book is to discuss new trends in sample preparation techniques applied to food analysis, and it will address not only the principles of each technique, but the most relevant applications in food control and safety analysis published over the few last years.

Polyoxometalates: Properties, Structure and Synthesis
Aaron P. Roberts
In series: Chemistry Research and Applications
2016.
Hardcover: 978-1-53610-007-5, $190.00.
e-book: 978-1-53610-028-0, $190.00.
Polyoxometalates (abbreviated as POMs), also known as early-transition metal-oxygen anion clusters, is a large and rapidly growing
series of inorganic compounds. POMs can be generally divided into two subclasses: isopolyoxometalates (IPOMs) and heteropolyoxometalates (HPOMs). The former refers to a class of isopoly compounds which contain the skeletal transition metal cations and oxide ions of the same metal element. In contrast, the latter one, known as heteropoly compounds (HPCs) as well, contains both heteroatom and coordination atoms. This book reviews properties of POMs, their structure and also their synthesis.

**Rare Earth Elements: Supply Chain Risks and National Defense Issues**

**Kristin Waters**

In series: *Chemistry Research and Applications*

2016. Softcover: 978-1-53610-120-1. $95.00.

e-book: 978-1-53610-121-8. $95.00.

The Department of Defense (DOD) depends on rare earths that contain one or more of 17 similar metals which have unique properties, such as magnetism at high temperatures, to provide functionality in weapon system components. Many steps in the rare earths supply chain, such as mining, are conducted in China, a situation that may pose risks to the continued availability of these materials. The Joint Explanatory Statement accompanying the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for 2015 included a provision for the United States Government Accountability Office (GAO) to review DOD efforts to identify and mitigate risks in its rare earths supply chain. This book assesses the extent that DOD determined which rare earths, if any, are critical to national security; and has identified and mitigated risks associated with rare earths, including the effects of a potential supply disruption.

**Regeneration of Spent Catalyst and Impregnation of Catalyst by Supercritical Fluid**

**Farid Gumerov and B. Le Neindre (KNRTU, Head of Dept. "Theoretical Foundations of Heat" KNRTU, Kazan, Russia)**

In series: *Chemistry Research and Applications*


Hardcover: 978-1-63484-309-6. $110.00.


A catalyst is a material of constant composition, which accelerates the rate of a chemical reaction by providing a suitable reaction pathway with the lowest activation energy. As the activation energy is lower, more reaction products are formed in the same period of time. Most catalytic reactions encountered in hydrocarbon processing are carried out with porous catalysts to provide a sufficient surface area for the metal dispersion and the ensuing reaction. These catalysts gradually lose their catalytic activity, usually through structural changes, poisoning, or the deposit of extraneous material. A catalyst which can no longer exhibit the necessary activity and/or is specificity required by the user is referred to as a "spent catalyst". Catalysts are critical to the chemical industry and are now used in most industrial chemical processes. Along with the rapid development and wide application of catalysis technology, the amounts of different spent catalysts are increased from year to year. The physical properties of spent catalysts, as well as their composition, are generally different from those of fresh catalysts. For example, spent hydrotreating catalysts contain metal sulfides and coke, and may have additional contaminants that were not present in the fresh catalyst. Catalyst regeneration involves the processing of spent catalysts in order to make them reusable. This is done by restoring the initial properties of spent catalysts and thus restoring their efficiency through a process called regeneration of catalysts. Traditional methods of vapor-air regeneration are energy-consuming and severely limit the number of regeneration cycles. Using supercritical fluid CO2-extraction process, according to some estimates, provides a two-fold energy savings and an increasing number of regeneration cycles possible. This book gathers a series of studies describing new methods for the regeneration of heterogeneous catalysts for important industrial chemical processes. In this book we propose new extraction techniques using supercritical fluid extraction (SFC), which seems to be one of the most promising as a green reaction medium. The feasibility of using supercritical fluid CO2 extraction process was investigated in particular for spent catalyst regeneration. The low regeneration temperature of supercritical carbon dioxide eliminates the risk of thermal deterioration of the catalyst (namely the collapse of the pores), prevents the reduction of the surface area and the sintering, and allows regeneration of catalysts with an activity close to that of fresh catalysts. The results of the implementation of the supercritical fluid CO2 extraction process with respect to samples of industrial deactivated catalysts are provided. A comparison of the characteristics of the regenerated catalyst samples by traditional approaches and the SC-CO2 extraction process is carried out. The possibility of using a supercritical fluid CO2 impregnation technique in the synthesis of a palladium catalyst is also studied.

**Superconductivity: Applications Today and Tomorrow**

**Muralidhar Miryala (Shibaura Institute of Technology, Toyosu, Koto-ku, Tokyo, Japan)**

In series: *Chemistry Research and Applications*


This book consists of sixteen chapters, each covering in depth a particular subject and surveying recent developments in the field. Challenging issues, like high quality control, uniform superconducting bulk materials production by infiltration growth (IG) process, flux pinning, mechanical properties, Maglev, bearing and flywheel, trapped field magnets, magnetic shielding, and pulsed field magnetization will appear in this book. Some other issues will be Superconducting Quantum Interference Device (SQUID) based on cryogenic current compartments and its utilization in particle accelerators in scientific or medical applications, cryogenic system requirements and design considerations for superconducting devices. Additionally, vortex pinning by artificial pinning centers in thin films and coated conductors, development of new class of superconductors by low cost, high performance thick film technology by solid state (REEbO4) and liquid phase (BaCuO2) reaction are discussed. Finally, MgB2 superconductor fabrication by sintering, spark plasma sintering, flux pinning, the electric and magnetic characterization, trapped field performance and wires towards commercial applications are presented for the reader to analyze. The team of authors and the editor hope that the presented ideas and information in this book will be helpful for interested readers, scientists, upcoming young researchers, and master and bachelor students, and will encourage further development in the field.

**Supramolecular Systems: Chemistry, Types and Applications**

**Charlotte Pena**

In series: *Chemistry Research and Applications*

2016. Softcover: 978-1-63485-885-4. $95.00.


Supramolecular chemistry provides ingenious strategies for the elaboration of functional systems from readily available molecular components. These methodologies have been used for the development of sensors, catalysts, energy or electron transfer systems, agents for photodynamic therapy and so forth. This book reviews the chemistry, types and applications of supramolecular systems. Chapter One discusses the design and applications of supramolecular systems based on (thia)calixarene ammonium derivatives. Chapter Two gives an overview of the methods of stabilization of the elusive bare {V6O19}
structure by different capping moieties and substituents, illustrates the main synthetic strategies toward the formation of fully-oxidized (VV6), mixed-valence (VV/VI6), and “fully reduced” (VI/V6) trisalkoxohexavanadates, describes bis- (trisalkoxo)hexavanadates obtained by post-functionalization reactions, and details their reactivity towards transition metals and lanthanoid complexes. Chapter Three emphasizes the suitability of supramolecular interactions to provide porous materials which have been called Supramolecular Metal-Organic Frameworks (SMOFs). Chapter Four discusses self-assembly of porphyrins in the context of its relevance to photosynthesis.

Vegetable Oil: Properties, Uses and Benefits
Brittany Holt
In series: Chemistry Research and Applications
Hardcover: 978-1-63485-128-2, $190.00.
Vegetable oils are hydrophobic compounds, such as tryacylglycerols and essential oils extracted from plants that have been used by humans for centuries in many different areas. The use of isolated enzymes and microorganisms applied to vegetable oils has been shown to be very interesting from an industrial viewpoint, due to the broad variety of products that may be obtained from it. This book provides current research on the properties, uses and benefits of vegetable oils.

COMPUTERS
An Expressive Conversational-Behavior Generation Model for Advanced Interaction within Multimodal User Interfaces
Matej Rojc and Izidor Mlakar (Researcher, Panevropa d.o.o., Maribor, Slovenia)
In series: Computer Science, Technology and Applications
Hardcover: 978-1-63482-955-7, $190.00.
e-book: 978-1-63484-084-2, $190.00.
The aim of the book is to represent a flexible and efficient algorithm and a novel system used for the planning, generation, and realization of conversational behavior (co-verbal behavior). Such behavior is best described as a set of moving body parts, which are meaningful. In terms of prosody, it is synchronized with the accompanying speech. The movement and shapes generated as a co-verbal behavior represent a contextual link between a repertoire of independent motor skills (shapes, movements, and poses that conversational agent can reproduce and execute), and the intent/meaning of spoken sequences (context).
The actual intent/meaning of spoken content is identified through language-dependent linguistic markers and prosody. The knowledge databases used to determine the intent/meaning of text are based on the linguistic analysis and classification of the text into semiotic classes and subclasses achieved through annotation of multimodal corpora based on the proposed EVA annotation scheme. The scheme allows for capturing features at a functional (context-dependent), as well as at a descriptive (context-independent) level. The functional level captures high-level features that describe the correlation between speech and co-verbal behavior, whereas the descriptive level allows us to capture and define body-poses and shapes independently of verbal content and in high-resolution. The annotation scheme, therefore, not only interlinks speech and gesture at a semiotic level, but also serves as a basis for the creation of a context independent repertoire of movement and shapes. The process of generating the co-verbal behavior is, in this book, divided into two phases. The first phase deals with the classification of intent and its synchronization with the verbal content and prosody. The second phase then transforms the planned and synchronized behavior into a co-verbal animation performed by an embodied conversational agent (ECA). In order to be able to extrapolate intent from arbitrary text-sequences, the algorithm for the formulation of behavior deduces meaning/intent in regard to the semiotic intent. Furthermore, the algorithm considers the linguistic features of arbitrary and unannotated text and select primitive gestures based on semiotic nuclei, as identified by semiotic classification and further modeled by the predicted prosodic features of speech to be generated by a general text-to-speech system (TTS). The output of the phase for formulation of behavior is represented as a hierarchical procedure encoded in XML format, and as a speech sequence generated by TTS. The procedural description is event-oriented and represents a well-defined structure of consecutive movements of body-parts, as well as of body-parts moving in parallel. The second phase of the novel architecture transforms the procedural descriptions into a series of coherent animations of individual parts of the articulated embodied conversational agent. In this regard a novel ECA-based realization framework named EVA-framework is also represented. It supports a real-time realization of procedural animation descriptions and plans on multi-part mesh-based models, by using skeletal animation, blend shape animation, and the animation of predefined (pre-recorded) animated segments. This book, therefore, considers a complete design and implementation of an expressive model for the generation of co-verbal behavior, which is able to transform un-annotated text into a speech-synchronized series of animated sequences.

Artificial Neural Networks: New Research
Gayle Cain
In series: Computer Science, Technology and Applications
2016.
Hardcover: 978-1-63485-964-6, $190.00.
e-book: 978-1-63485-979-0, $190.00.
This current book provides new research on artificial neural networks (ANNs). Topics discussed include the application of ANNs in chemistry and chemical engineering fields; the application of ANNs in the prediction of biodiesel fuel properties from fatty acid constituents; the use of ANNs for solar radiation estimation; the use of in silico methods to design and evaluate skin UV filters; a practical model based on the multilayer perceptron neural network (MLP) approach to predict the milling tool flank wear in a regular cut, as well as entry cut and exit cut, of a milling tool; parameter extraction of small-signal and noise models of microwave transistors based on ANNs; and the application of ANNs to deep-learning and predictive analysis in semantic TCM telemedicine systems.

Computer Vision and Simulation: Methods, Applications and Technology
Sherri Alexander
In series: Computer Science, Technology and Applications
2016. 188 pp.
Hardcover: 978-1-63485-790-1, $160.00.
This book provides current research on computer vision and simulation. Chapter One studies and compares the representation capability of several different layers in convolutional neural network (CNN) showing that they contain more accurate information about the face image than to believe. Chapter Two finds, empirically, the best methods for describing a given texture using an ensemble to harness the discriminative power of different texture approaches. Chapter Three provides a computer study of the interaction of mercury with graphene. Chapter Four discusses the influence of yttrium(III) ion on calcium(II) and zinc(II) biospeciation in human blood plasma by computer simulation. Chapter Five reviews the simulation of diffraction gratings in the Fresnel diffraction regime using the ab-initio iterative Fresnel Integral Method (IFIM). Chapter Six introduces an
example of a simple visual feedback control system of a mobile robot with an axisymmetric shape for mechatronics education.

**Federal Cybersecurity: Strategy and Implementation for Research and Development**  
*Cory Medina*

In series: *Computer Science, Technology and Applications*  
Hardcover: 978-1-63485-395-8. $150.00.  

Computers and computer networking provide major benefits to modern society, yet the growing costs of malicious cyber activities and cybersecurity itself diminish these benefits. Advances in cybersecurity are urgently needed to preserve the Internet’s growing social and economic benefits by thwarting adversaries and strengthening public trust of cyber systems. On December 18, 2014 the President signed into law the Cybersecurity Enhancement Act of 2014. This law requires the National Science and Technology Council (NSTC) and the Networking and Information Technology Research and Development (NITRD) Program to develop and maintain a cybersecurity research and development (R&D) strategic plan (the Plan) using an assessment of risk to guide the overall direction of Federally-funded cybersecurity R&D. This plan satisfies that requirement and establishes the direction for the Federal R&D enterprise in cybersecurity science and technology (S&T) to preserve and expand the Internet’s wide-ranging benefits. This book reviews the strategy and implementation for research and development of federal cybersecurity.

**Fuzzy Control Systems: Design, Analysis and Performance Evaluation**  
*Wendy Santos*

In series: *Computer Science, Technology and Applications*  
Hardcover: 978-1-63485-889-2. $190.00.  

This book reviews fuzzy control systems. Chapter One presents a new class of fuzzy logic systems named type-2 fuzzy logic systems (T2FLS). Chapter Two discusses DSP based hardware and software implementation of a sliding mode control for high performance IM drive. Chapter Three examines fuzzy logic based encoder-less speed controls of permanent-magnet synchronous motors (PMSM) for hub motor drives. Chapter Four presents the development and research of fuzzy control system of floating dock docking operations. Chapter Five examines the problem of a robust H∞ fuzzy control design for a class of nonlinear Markov jump systems via a LMI-based approach.

**Machine Vision and Human-Machine Interface: Technologies, Applications and Challenges**  
*Simon T. Yates*

In series: *Computer Science, Technology and Applications*  
Hardcover: 978-1-63483-876-4. $160.00.  

Free online Machine Translation (MT) is known to provide instant access to information in multiple language pairs. This is why MT has proved to be extremely useful in various spoken and written text applications in reducing language barriers and facilitating cross-lingual information search as well as commerce and communication. The first chapter of this book explores the connections between free online Machine Translation, mobile learning via a wide array of easily accessible apps, and the future of language learning as we know it. Chapter two describes the use of the Web as a content generator for experimenting with human-machine language interaction. Chapter three provides issues and strategies for multimedia text processing in the domain of international affairs. Chapter four introduces several machine vision-based methods for measuring the cross-sectional geometric parameters of microdrills and their comparisons. Chapter five mainly serves to introduce the research into, and the development and application of, machine translation technology at research institutes and universities in China. The last chapter analyses existing systems, extracts the relevant information from an interaction point of view, and proposes and describes interaction abstractions for public displays.

**Soft Computing: Developments, Methods and Applications**  
*Alan Casey*

In series: *Computer Science, Technology and Applications*  
Hardcover: 978-1-63485-123-6. $160.00.  
e-book: 978-1-63485-151-0. $160.00.

This book discusses developments, methods and applications of soft computing. Chapter One depicts the increasing efficiency of the soft computing algorithms and fuzzy information processing models by developing a library of universal analytic models for fuzzy arithmetic operations with asymmetrical triangular fuzzy numbers (TiFNS). Chapter Two examines the determination of stability number of layered slope using Adaptive Neuro-Fuzzy Inference System (ANFIS), Gaussian Process Regression (GPR), Relevance Vector Machine (RVM), Extreme Learning Machine (ELM). Chapter Three discusses the intensive developing of Soft Computing systems especially Wavelet-Neuro-Fuzzy Systems (WNFS) in Dynamic Data Mining tasks, when the data are fed sequentially to the processing in on-line mode.

**Why Cyber Security is a Socio-Technical Challenge: New Concepts and Practical Measures to Enhance Detection**  
*Mils Hills (Northampton Business School, University of Northampton, UK)*

In series: *Computer Science, Technology and Applications*  
2016.  $160.00.  

This book is a provocative manifesto of disruptive thinking about cyber security. It presents cutting-edge thinking and professional reflection and is designed to be a source of ideas and approaches that can be adopted for application in the real world by those who recognize that conventional ways of defining and considering cyber-attack are insufficient. All of the authors believe that the term “cyber” must be urgently wrestled back from the technologists, cyber security professionals, consultancies and corporate silos that have hijacked it (seemingly without any resistance) and rendered the term essentially meaningless. The authors write from applied and often unique experiences in a range of commercial, consulting, state and defense environments. Many of the authors of this volume have direct experience of inflicting, reporting on and protecting organizations from such effects, and also have knowledge of taking the challenge to additional levels. Most consultancies, academics and “experts” don’t live in the real world, are content with operating in the commoditized world of cyber-technical security and don’t have the intellectual capacity to understand, engage with or monetize this more challenging reality. This book is intended to help organizations improve preparedness for the established cyber world reality.
Wireless Networks
S. Anandamurugan and P.S. Nandhini (School of Communication and Computer Sciences, Kongu Engineering College, Perundurai, Tamilnadu, India)

In series: Computer Science, Technology and Applications
Hardcover: 978-1-63485-178-7, $110.00.

Wireless Networks is a comprehensive textbook for teaching and learning wireless networks. Assuming no prior knowledge of networks on the part of the reader, this book contains a rich collection of protocols to help one master wireless networks. Features: •Student friendly; this book is written in a clear, concise and lucid manner •A sincere attempt has been made to introduce the basic concepts •Each chapter is organized into small sections that address key topics •Emphasis on in-depth coverage and good style in protocols •Aims to motivate the unmotivated •Explains the philosophy behind the creation of the networks •Covers both elementary as well as advanced networks •Helps to understand concepts by providing diagrams and definition listings wherever necessary •Logical flow of concepts starting from preliminary topics to advanced topics.

CONSTRUCTION

Construction Project Management Research Compendium. Volume 6
Faisal M. Arain
In series: Construction Project Management Research Compendium
2016. 201 pp.
Hardcover: 978-1-63485-519-8, $190.00.
e-book: 978-1-63485-555-6, $190.00.

The construction industry has for many years been criticized for not developing consistent projects that are on time, within budget, and with high quality standards. Generally, failure to deliver successful projects has been considered in relation to schisms between design and construction, lack of integration, lack of effective communication, uncertainty, changing environments, and increasing project complexity. The rapid trend of globalization and technological changes have made it challenging for organizations to survive in the competitive world. Consequently, the importance of project management has been increased many folds. It is difficult to face the challenges in the present global construction business arena without being more agile, adaptive, and efficient. With the increasing trend for off-shoring and globalization, many organizations are taking advantage of geographically distributed skills, round-the-clock operations, and virtual teams.

Construction Project Management Research Compendium. Volume 7
Faisal M. Arain
In series: Construction Project Management Research Compendium
2016. 190 pp.
Hardcover: 978-1-63485-647-8, $190.00.

The construction industry plays an important role in economic uplift, generates substantial employment, and provides an impetus of growth for other sectors through backward and forward linkages. Construction project management continues to gain headlines as demand within the construction industry escalates. The ability to deliver excellent quality standards in the most productive manner possible is the hallmark of successful construction organizations in this age of intense global competition. The book delivers a great mix of knowledge presenting various aspects of construction project management.

Specificity and Designing of Multi-Hull Ships and Boats
Victor A. Dubrovsky (“BaltTechnoProm” Ltd., Leading Science Fellow)
In series: Construction Materials and Engineering
Hardcover: 978-1-63484-615-8, $210.00.

The monograph presents the main results of the author’s sixty-year activity in science and engineering fields regarding the application of various multi-hull ships. The shown data are based mainly on the wide experimental results of the author. For fullness of description, some problems are explained in brief by the experimental results of other authors whose names are shown in the text and references. The scope of topics includes a brief history of applications, a list of types, hydrostatics and stability, towing resistance and propulsion in calm water and high seas, seaworthiness, maneuverability, external loads, structural arrangements and strength, general arrangement, and proposed concept designs. The scope of architectural types encompasses the variety of multi-hull “species” from catamarans to trimarans as well as the other triple-hull ships, and ships with a small water-plane area (SWA ships). The type and size of ship range from small fast crafts to large ferries, from passenger ships to transatlantic container-carryers, and from high-speed patrol boats to naval combat and auxiliary ships. This is a development of a kind of technical encyclopedia previously published as three books: Multi-hull Ships by V. Dubrovsky and A. Lyakhovitsky (2001), Ships with Outriggers, by V. Dubrovsky (2004), Ships with Small Water-Plane Area, by V. Dubrovsky, K. Matveev, S. Sutulov, with detailed explanations of the newest data. In this respect, the book is unique and the most universal one written in English today. A brief history of applications is given as the base for future developments. The introduction contains a list of ship types and full terminology. Chapter One describes the specificity of general arrangement. Chapter Two speaks of how stability and non-sinkability differ clearly from the same qualities of mono-hulls. Chapter Three delves into resistance in calm water (major specificity and its use, series test results of catamarans with low-lengthening hulls, and twin- and triple-hull SWA models). Chapter Four is about seakeeping and performance on high seas (specifics of motion and the universal method of comparative evaluation). Chapter Five teaches readers about controllability and maneuverability specificity. Chapter Six shows structural strength (external loads, hull girder stress analysis and design, and simplified methods). Chapter Seven deals with d esign (basic factors, specific design algorithms and limitations, some new concepts: super-fast wave-piercing trimaran; “semi-gliding” ships with small water-plane area, S/P SWA ships, feeder and fast container-carryers, motor yachts, carriers of helicopters and unmanned aircraft; transatlantic container-carriers, cruise ships, passenger ships for unequipped coasts, ships for seismic researching, multi-purpose pleasure and inexpensive research vessels, some small-sized vessels, and combat ships from corvettes to aircraft-carryers).

EARTH SCIENCES

Horizons in Earth Science Research. Volume 15
Benjamin Veress and Jozsi Szigethy
In series: Horizons in Earth Science Research
2016.
Hardcover: 978-1-63485-696-6, $250.00.
This book explores the most recent developments in earth science research. Chapter One discusses the geologic and ancient history of Dahr Safra, Syria. Chapter Two reviews the geographical distribution and geological occurrence of diatom ooze to diatomaceous sediments (diatomite) around the Japanese Islands, the Bering Sea and the Pacific coastal side of Peru and Chile, South America. Chapter Three explores the nature of tectonics and of axial tilt of the Earth. Chapter Four examines the major defects in the Toledo Bend Dam. Chapter Five proposes a projected-Gradient method for joint nonnegative matrix factorization to pansharpen multispectral data. Chapter Six discusses the main types of uranium deposits formed in a variety of geological and tectonic environments. Chapter Seven studies the unmixing of geological events by Gaussian deconvolution on Th-U-Pb age multicomponent data of monazite crystals of granite from São Francisco Craton (Brazil). Chapter Eight focuses on the properties and uses of the lanthanide series. Chapter Nine discusses concurrent design optimization of satellites and reconfigurable constellations. Chapter Ten assesses and compares vegetation indices, surface emissivity models and split-window algorithms used to estimate surface temperature from satellite images.

**ECOLOGY**

**An Ideal Ecosystem and Several Problems of Our Time**

*Yury Kamenir (Marine Ecology Lab., Bar Ilan Univ., Ramat-Gan, Israel)*

In series: *Environmental Research Advances*


Hardcover: 978-1-63117-300-4. $160.00.


The general aim of this book is to explain the development of several types of models using an extremely small number of parameters in an attempt to find consistent properties of integral living matter within aquatic ecosystems. Starting from a minimal model of the whole study [i.e. the ideal minimal ecosystem (IMES)], the authors developed a series of statistical models (size spectra, rank distribution, and regression models, including allometries). They then proceeded from ataxonomic to taxonomic size spectra to demonstrate and explain the high consistency of natural communities. Several types of species size-frequency distributions or “taxonomic size spectra” were applied, diminishing the importance of rare species and the assemblage time-space heterogeneity. A series of original studies written during the last thirty years to develop condensed, formalized models and empirical comparisons has demonstrated general patterns and the model’s drawbacks; hence, several cycles of modernization were fulfilled, revealing both the stability of natural aquatic communities and small-scale variability of the general pattern. Comparisons of several taxonomic hierarchy levels speak in favor of the whole-assemblage origin of the statistical mechanisms, supporting the long-term consistency of phytoplankton taxonomic size structure. Specific changes in the taxonomic size spectrum fine structure were evident and may be helpful for diagnostics, while the spectrum general pattern consistency can be helpful for monitoring and modeling the aim of this study. The consistency difference between several levels of the phytoplankton taxonomic hierarchy was demonstrated as a new phenomenon important for modeling, monitoring, and ecological forecast. Though stochastic dynamics of abundances and biomasses often emerge from experiments and mathematical models, some predictable patterns and indices emerged from large-scale studies of natural aquatic assemblages. Mathematical models demonstrated the formation of long-tail distributions produced by metabolic webs. Such consistency phenomena lead to explanatory ecological models based on concepts of the living whirl (G. Cuvier), living matter (V. Vernadsky), dissipative structures, and biochemical cycles. Aquatic (marine and freshwater) ecosystem management could be sufficiently strengthened, applying reliable patterns and descriptors suitable for forecasting and diagnostic purposes.

**Ecological Restoration: Global Challenges, Social Aspects and Environmental Benefits**

*Victor R. Squires* (International Dryland Management Consultant, Formerly University of Adelaide, Adelaide, Australia)

In series: *Environmental Remediation Technologies, Regulations and Safety*

2016. 335 pp.

Hardcover: 978-1-63484-611-0. $210.00.


This book consists of fourteen chapters covering important aspects in regards to various terrestrial ecosystems, wetlands, river systems, mine site rehabilitation, marsh ecology and heavy metals pollution. The authors were carefully selected from multiple countries, and this edited book aims to fill some of the information gaps in ecological restoration, particularly in under-researched ecosystems around the world. Our intended readership includes: planners of projects to restore and manage degraded ecosystems; practitioners who implement those plans; resource managers who oversee the sites; land management consultants; environmental authorities; and conservationists and students of natural resource management. We also hope that researchers and the public can find valued information for their future use and efforts. We hope that our work can bring scientists and policymakers together to envision a sustainable future for ecosystem health and productivity management.

**Poplars and Willows: Cultivation, Applications and Environmental Benefits**

*Madeline V. Desmond*

In series: *Plant Science Research and Practices*

2016. 188 pp.

Hardcover: 978-1-63484-038-5. $160.00.


Different species of the genus Populus, also known as poplars, are of great economic importance as major sources of timber, pulp and fiber. Salix species, or willows, have become very important sources of biomass for bioenergy. Both are characterized by their fast-growing nature, being asexually propagated, and having several species growing in riparian areas prone to flooding. This book studies the cultivation, applications and environmental benefits of poplars and willows. The first chapter begins with a review of the ecological importance and sustainable development of poplar forests in NE China and possible influences on soil properties. Chapter two reviews the properties and practical purposes of willows. Chapter three outlines an experimental project for growing, harvesting, and utilizing willow trees in Japan. Chapter four studies the responses of poplars and willows during flooding. The last chapter examines the application of organic wastes from industry and municipalities at short-rotation willow and poplar plantations.

**The Promising Future of Jatropha curcas: Properties and Potential Applications**

*Maira Rubi Segura-Campos and David Betancur-Ancona* (Universidad Autónoma de Yucatán, Yucatán, México)

In series: *Plant Science Research and Practices*


Hardcover: 978-1-63484-989-0. $190.00.


J. curcas L. is a small or large shrub tree, up to 5–7m tall, belonging to the Euphorbiaceae family which consists of around 800 species and
belongs to around 321 genera. Jatropha is a drought resistant crop that has a life expectancy of up to fifty years. It is also known as Ratnajayot and the “physic nut”. It can grow in arid, semi-arid and wasteland climates. The plant has its native distributional range in Mexico, Central America, Africa, Brazil, the Indian subcontinent, Peru, Argentina and Paraguay. J. curcas offers many benefits. Some of these benefits include: It costs almost nothing to grow; it is perennial, drought resistant and adapted for marginal land, and seems to be adequate for land reclamation; it can be grown almost anywhere — even in sandy, saline, or otherwise infertile soil; it is easy to propagate; it is capable of stabilizing sand dunes, acting as a windbreaker and combating desertification; it naturally repells both animals and insects; it does not exhaust the nutrients in the land; it does not require expensive crop rotation; it does not require fertilizers; and it grows quickly and establishes itself easily, among many other beneficial qualities. Currently, J. curcas can produce 2,000 L/ha oil annually. Presently, the production and usage of J. curcas oil is no longer confined to a specific geographic region or a limited number of end-products. Large quantities of J. curcas oil are consumed all over the world as ingredients of numerous products manufactured by a large number of industries. J. curcas was found to be suitable as a non-edible vegetable oil feedstock in oleochemical industries (biodiesel, fatty acids, soap, cosmetics, paraffin, fatty nitrogenous derivatives, surfactants and detergents, etc.). To supply J. curcas oil and its derived ingredients to these industries and their customers, an integrated J. curcas oil production has been developed over the years. Globally, J. curcas has created an interest for researchers because it is a non-edible oil, does not create a food versus fuel conflict, and can be used to produce biodiesel with same or better performance results when tested in diesel engines. For the above mentioned, the purpose of this book is to provide an insight into the possibilities of applying J. curcas for commercial purposes. Emphasis will be placed on the biology, chemistry and potential uses of J. curcas and its derivatives.

**ELECTRICAL ENGINEERING**

**Applications of Various Fuzzy Sliding Mode Controllers in Induction Motor Drives**

Ali Saghaainia (Electrical Engineering Department, Majlesi Branch, Islamic Azad University, Esfahan, Iran)

In series: *Electrical Engineering Developments*

Hardcover: 978-1-63485-179-4. $190.00.
E-book: 978-1-63485-234-0. $190.00.

The book Applications of Various Fuzzy Sliding Mode Controllers in Induction Motor Drives contains publications on various fuzzy sliding mode speed controllers (FSMCs) based on the boundary layer approach in the area of an indirect field-oriented control (IFOC) for Induction Motor (IM) drive, which include development and implementation FSMCs and related fields. The publications within Applications of Various Fuzzy Sliding Mode Controllers in Induction Motor Drives cover significant and recent developments of both foundational and applicable character in the field. With the exception of some basic notions in sliding mode control (SMC), field-oriented control (FOC), and fuzzy theory, the book is completely self-contained. Important concepts in FSMCs and its use in high performance IM are carefully motivated and introduced. Specifically, the authors have excluded any technical material that does not contribute directly to the understanding of SMC, FOC or fuzzy theory. Many other excellent textbooks are available today that discuss fuzzy, FOC and SMC in much more technical detail than that which is provided here.

**Case-Based Reasoning: Strategies, Developments and Applications**

Tao Lin (Director, Power System Automation Research Institute, Assistant Dean, School of Electrical Engineering, Wuhan University, Wuhan, Hubei province, China)

In series: *Electrical Engineering Developments*

Hardcover: 978-1-63482-952-6. $160.00.

This book systematically discusses Case Based Reasoning (CBR) in the views of theories, methods, and related problems and experiences. The book can be used as a reference in actual applications, in which the research of a few scholars and engineers in the field are introduced. The book is divided into nine different chapters, mainly discussed in the following three aspects: 1) Advances and developments in strategies and specific areas of CBR theory, such as the research of semantic similarity, are introduced in Chapters One, Two and Three in detail. 2) Related research achievements of the applications of CBR in power system analysis, operation and control. These applications include small signal stability early warning, multiple power disturbance recognition, transient stability assessment, fault diagnosis expert system of power transformer, and fault diagnosis and reliability prediction of high-speed railway traction power supply system, which are concretely given out in Chapters Four, Five, Six, Seven and Eight. 3) Applications of CBR in other fields, such as food science, automatic control and mechanical industry, are specifically presented in Chapters One, Three and Nine, respectively.


Alexander Yu. Khrennikov (Scientific & Research Centre of Federal Grid Company, United Energy System, Moscow, Russia)

In series: *Electrical Engineering Developments*

2016. 188 pp.
Hardcover: 978-1-63484-159-7. $190.00.

This book presents theoretical aspects of short-circuit performance of power transformers, transformer testing experiences, short current testing laboratories and high-voltage thyristor valves for electrodynamic testing. The questions of the original application experience of LVI-testing, Frequency Response Analysis (FRA) to check the condition of transformer windings, infra-red control, ultraviolet control, and Partial Discharges (PD) for the insulation monitoring of electrical equipment are examined in this book. The LVI method and short-circuit inductive reactance measurements are sensitive for detecting such faults as radial and axial winding deformations, a twisting of low-voltage or regulating winding, a loss of winding pressing, etc. The most important elements of “intellectual networks” (Smart Grid) are the systems for monitoring the parameters of electrical equipment. Information-measuring systems (IMS), which are described in this paper, were proposed to be used together with rapid digital protection against short-circuit regimes in transformer windings. Short-circuit performance of power transformers, transformer testing experience, short current testing laboratories and high-voltage thyristor valve for electrodynamic test of power transformer are examined in this book. High-voltage electrical equipment with the SP6 (sulfur hexafluoride) gas insulation, analysis, estimation of the technical condition state of substation electrical equipment with the use of software and information tools allows for increasing the effectiveness of technical diagnostics and reliability of electrical
equipment in service. The following diagnostic models for evaluating the technical condition state of electrical equipment are examined: model of the electrodynamic stability (mechanical state) of the transformer and reactor windings, multi-frequency diagnostic model of n-layer paper-oil insulation and model of the drift of temperatures of the bus arrangement of transformer. Monitoring, control and analysis of breakdowns of overhead transmission lines (6 – 500 kV) in the Middle Volga region have been analyzed. The book is based on the previous author’s researches. The author has more than 200 scientific and technical publications. The main research interests concentrate on the field of transformer short-circuit testing, transformer winding fault diagnostic, Frequency Response Analysis, mart Grid and information-measuring systems.

**Electricity Markets: Impact Assessment, Developments and Emerging Trends**
*Randy Douglas*

Hardcover: 978-1-63485-603-4. $190.00.
This book reviews electricity markets’ impact assessments, developments and emerging trends. Chapter One deals with types of electricity market organizational models and provides an analysis of electricity market models all over the world by presenting their main features, strength and weaknesses. Chapter Two discusses the impact of demand elasticity on electricity market. Chapter Three undertakes an empirical analysis of long-term changes in the rules governing the determination of wholesale electricity spot prices in the NEM, including minimum (floor) and maximum (ceiling) prices, yielding useful findings for the design of new electricity markets and the redesign of existing markets. Chapter Four analyzes the equilibrium in network-constrained electricity markets under three CO2 emission allocation policies.

**ENERGY**

**Advances in Energy Research. Volume 23**
*Morena J. Acosta*

Hardcover: 978-1-63484-836-7. $190.00.
This latest volume includes contributions on the latest advances in energy research. Chapters include an overview of the production and recovery advancements of coal bed methane (CBM) reservoirs; an overview on the advancements in numerical and experimental studies of natural gas hydrate reservoirs; a discussion on the present state of the art of geothermal desalination, principles of operation for various desalination processes, and their applications and case studies around the world; an examination of ionic liquid applications as innovative electrolytes for fuel cells; a comparative study of the energy efficiency of a conventional ventilating and air conditioning (VAC) systems with three configurations; an assessment of desiccant assisted exergy recovery in air-conditioning systems; a technical and economic assessment of the Homer-pro environment simulations; and a study of an online in situ method for the monitoring of supercapacitor aging.

This latest volume includes contributions on the latest advances in energy research, Chapter One introduces photovoltaic-green (PV-green) roofing systems according to three different approaches: critical review about crucial factors which influence the performance of a PV-green roof; experimental; and environmental/Life Cycle Analysis (LCA). Chapter Two discusses the benefits of green roof systems. Chapter Three provides an introduction to the composition and the functioning of building management systems (BMS), as well as shows some of the available systems in the market, specifically those that are related to the automatic control of lighting and shading devices according to sunlight intensity, climate control and the monitoring of energy consumption in a service building. Chapter Four reviews both the experimental and numerical work that has been conducted on encapsulated phase change material (EPCM) thermal energy storage (TES) systems with applications in concentrating solar power (CSP) plants. Chapter Five presents the effect of thermal energy storage on the performance of combined heat and power (CHP) systems under different operational strategies. Chapter Six studies the effects of different levels of water flow rate and temperature on the performance of an induced draft cooling tower. Chapter Seven reviews the harvesting of power from bamboo charcoal. Chapter Eight investigates the magnetosphere-ionosphere-atmosphere coupling and the effect of geomagnetic activity on meteorological processes in the atmosphere.

**Advances in Energy Research. Volume 25**
*Morena J. Acosta*

In series: *Advances in Energy Research* 2016.
Hardcover: 978-1-53610-012-9. $190.00.
This latest volume includes contributions on the latest advances in energy research. Chapter One discusses stability assessment using direct methods. Chapter Two focuses on the geopolitical implications of the energy reserves in the Caspian Basin. Chapter Three reviews an investigation into the effect of various parameters on the evaporator performance. Chapter Four helps to understand the vapour compression cycle in which heat is absorbed from a low temperature region and released in a high temperature region. Chapter Five examines static voltage stability enhancements by incorporating voltage-sourced based converters in continuation power flow.

**Africa’s Power Sector: Needs, Challenges, Development**
*Wayne Roberson*

Hardcover: 978-1-63484-547-2. $120.00.
e-book: 978-1-63484-548-9. $120.00.
Sub-Saharan Africa is the most electricity-poor region globally, which has had profound impacts on economic growth and development prospects. In recent years, U.S. policymakers have sought to help increase access to electricity in sub-Saharan Africa in order to spur economic growth, reduce poverty, and for socio-economic development generally in the region; and to expand U.S. and other international trade with and investment in Africa. Efforts to achieve these goals have taken the form of Power Africa, a major, multi-agency Obama Administration initiative to increase African access to electricity; and two congressional bills. The latter seek to establish as a U.S. policy priority a benchmarked, multi-year, market-driven and strategy-based program of power capacity-building aid and development partnership. It would be broadly analogous to that pursued under Power Africa, but extend beyond the five-year duration of Power Africa and differing in scope. They also set out mechanisms to support congressional oversight of all such activities, among other ends. This book reviews the challenges of and U.S. aid for electrification in Africa. It also discusses concrete progress made on projects, on critical policy reforms, as well as lessons learned.
Alternative Fuel Investments by the Department of Defense: Aspects and Considerations
Loren Murphy
In series: Energy Policies, Politics and Prices
Softcover: 978-1-63484-549-6. $62.00.
The Department of Defense (DOD) is the single largest consumer of energy in the federal government, spending billions of dollars annually on petroleum fuels to support military operations. One of DOD’s strategic operational energy goals is to expand its energy supply options. Investing in alternative fuels—liquid fuels, derived from non-petroleum feedstocks, whose use does not necessitate any modifications to platforms and equipment—represents one means of potentially achieving this goal. This book reviews the extent to which DOD has purchased alternative fuels, and has demonstrated these fuels can meet its safety, performance, and reliability standards; has a process for purchasing alternative fuels for military operations that takes into consideration any cost differences between alternative and conventional fuels; and has used the DPA authorities to promote the development of a domestic biofuel industry.

Energy Harvesting: Technology, Methods and Applications
Renee Williams
In series: Energy Science, Engineering and Technology
2016. 190 pp.
In the last decades the increasing need to produce energy in nontraditional ways has led to researchers searching for cheap and environmentally safe sources of energy. This has caused a growing interest in Energy Harvesting, which is a science that tries to capture energy provided by wind, rain, or other natural vibrations to convert it into a different more useful form of energy. The first chapter of this book studies a model which simulates a ‘small cantilever beam’, and evaluates the optimal thickness for the cantilever, comparing the reaction to wind force of difference devices with the same shape but different thickness of piezoelectric layer. Chapter two discusses three energy conversion schemes with special emphasis placed on micro electret-based electrostatic energy conversion mechanisms. Chapter three studies modeling on piezoelectric energy harvesting from pavements under traffic control. Chapter four investigates the Aero/hydro elastic phenomena such as Fluttering, Galloping, Buffeting, and Vortex Induced Vibration for energy harvesting. Chapter five introduces the concept of energy harvesting from water systems, and the established technologies and projects under development to recover energy from water networks are presented. Chapter six examines a piezoelectric power supplier for underwater applications, which is optimized to feed magnetic sensors. The final chapter describes a novel power generation from algae based on the combination of exergy recovery and process integration technologies.

Energy Sector Use of Fresh Water: Technology Assessment and Reduction Opportunities
Ramon Osborne
In series: Energy Science, Engineering and Technology
2016. 150 pp.
Hardcover: 978-1-63484-731-5. $120.00.
e-book: 978-1-63484-732-2. $120.00.
Many regions within the United States experience moderate to exceptional drought forcing state officials to make difficult choices regarding energy and water. Competition for freshwater continues to increase due to industrial, municipal, and especially agricultural and energy sector demand. This book assesses advanced and emerging technologies that can reduce water use in hydraulic fracturing and thermoelectric power plant cooling. It also examines the impact of regional differences in thermoelectric power generation on water use in water-stressed versus unstressed areas of the United States. Furthermore, this book addresses how the U.S. energy sector uses and relies on water.

EPA’s Clean Power Plan: Highlights and Implications
Joshua T. Graham
In series: Green Research, Developments, and Programs
Softcover: 978-1-63484-862-6. $62.00.
On August 3, President Obama and the United States Environmental Protection Agency (EPA) announced the Clean Power Plan—a historic and important step in reducing carbon pollution from power plants that takes real action on climate change. Shaped by years of unprecedented outreach and public engagement, the final Clean Power Plan is fair, flexible and designed to strengthen the fast-growing trend toward cleaner and lower-polluting American energy. With strong but achievable standards for power plants, and customized goals for states to cut the carbon pollution that is driving climate change, the Clean Power Plan provides national consistency, accountability and a level playing field while reflecting each state’s energy mix. It also shows the world that the United States is committed to leading global efforts to address climate change. This book discusses the highlights and provides a review of the Clean Power Plan’s implications.

Federal Income From Crude Oil and Natural Gas: Issues and Options
Nelson Holloway
In series: Energy Policies, Politics and Prices
2016.
Softcover: 978-1-63485-869-4. $95.00.
e-book: 978-1-63485-870-0. $95.00.
The production of oil and natural gas in the United States has increased rapidly over the past decade. As of 2014, domestic production of crude oil had grown to about half of total consumption, and domestic production of natural gas represented almost 95 percent of total consumption. Domestic oil and gas production occurring on federal lands or in federal waters off the coast of the United States represented about one-fifth of total U.S. production in 2014. The Energy Information Administration (EIA) projects crude oil prices to average in the lower to upper $50 per barrel range through 2015. This lower price, if sustained, may impact long term oil development and lower production volumes. This book focuses on issues and options for federal income from crude oil and natural gas. It discusses potential budgetary effects of immediately opening most federal lands to oil and gas leasing, reviews U.S. crude oil and natural gas production in federal and non-federal areas, and provides a legal framework for offshore oil and gas development.

Heat Exchangers: Characteristics, Types and Emerging Applications
James K. Cooper
In series: Energy Science, Engineering and Technology
Softcover: 978-1-63485-749-9. $95.00.
In recent years, thermal control systems performance has improved in numerous ways due to developments in control theory and information technology. Efforts have been made to produce more efficient heat exchangers by employing various methods of heat transfer enhancement. This book discusses the characteristics, types and emerging applications of heat exchangers. Chapter One presents a short review of advanced heat exchangers thermal designs and
the integration of various RES technologies with international competitiveness. There is a very important issue of concern concerning scientific and technical progress, as well as the improvement of educational systems and scientific research. The second focus is on the motivation of RES technologies of the next period, which affects the expectations of investors and the extent of these uses. This type of energy is not produced, it is perpetuated; thus, natural RES, such as wind and solar energy, may consider the implications of these factors. The use of year long, renewable and non-renewable energy systems. The use of liquids as electrolytes in electrochemical devices is an emerging field due to their high conductivity, as well as their thermal, chemical and electrochemical stability under anhydrous conditions. Readers will encounter five chapters in this book on recent applications of ionic liquids in capacitors and fuel cells. Solar cells, Li-ion batteries, and solar cells. Modern trends and perspectives are discussed. This book attempts to give a general overview of ionic liquids, identifies the key factors for future research and summarizes the recent progress in the use of ionic liquids as an innovative type of energy storage systems.

Justification of Long-Term Economic Policy of Renewable Energy Sources Valentinias Klevas (Chief Research Associate at Lithuanian Energy Institute, Professor at Kaunas University of Technology, Lithuania) In series: Energy Policies, Politics and Prices 2016. 200 pp. Hardcover: 978-1-63483-203-8. $160.00. E-book: 978-1-63484-020-0. $160.00. Recommendations for the establishment of unified principles for the efficiency estimation of renewable energy sources (RES) technologies and long-term incentive system are presented. The first focus is on a developed method for the evaluation of RES use impact on macroeconomic indicators. Analysis of RES was done according to natural RES, such as wind and solar energy. Inexhaustibility of such resources is one of the main accents of sustainable development of energy, ensuring a reliable supply of energy resources for future generations. This type of energy is not produced, it is perpetuated; thus, the extent of the use of one period does not affect the extent of the use of the next period, which affects the expectations of investors and consumers. The second focus is on the motivation of RES technologies demand. Review of support schemes and measures of RES technologies financing, lending, pricing, etc. used in foreign countries is presented. In the long-term, the main emphasis should be given to the improvement of educational systems and scientific research concerning scientific and technical progress, as well as the formation of various measures and assumptions that affect the country’s international competitiveness. There is a very important issue of balancing various forms of RES. The main approach is organized by the integration of various RES technologies within the programs of a city’s energy systems.

Multiscale Thermal Transport in Energy Systems Yuwen Zhang and Ya-Ling He (Department of Mechanical and Aerospace Engineering, University of Missouri, Columbia, MO, USA) In series: Energy Science, Engineering and Technology 2016. Hardcover: 978-1-63485-692-8. $230.00. E-book: 978-1-63485-710-9. $230.00. During energy utilization and conversion, thermal energy is either an intermediate product or a byproduct; that is, thermal transport plays a critical role on efficiency, reliability, and safety of the energy systems. Recent development in nanotechnologies enabled significant improvement of the thermal energy storage performance, fuel cell, battery and thermoelectric devices. To meet the ever increasing challenges posed by energy systems, innovative and transformative measures must be taken to significantly improve the performance of these devices. Such measures will not be possible without a thorough understanding of thermal transport at molecular, nano- and microscale levels because physical phenomena occurring at the molecular, nano- and microscale will have profound effects on the performance at the system level. Understanding of multiscale thermal transport in the energy system is essential to improve their performance. Target Audience: Engineers, scientists, graduate students, and professors working in the area of mechanical, chemical and electrical engineering.

New Nukes: Assessments of Light Water Small Modular and Advanced Reactor Concepts Darnell Walters In series: Energy Science, Engineering and Technology 2016. 105 pp. Hardcover: 978-1-63484-553-3. $120.00. E-book: 978-1-63484-554-0. $120.00. Energy demand in the United States is expected to continue to grow over the coming decades, and the Department of Energy (DOE) considers nuclear energy to be one way to help meet this increased demand without producing air pollution. However, the current domestic commercial nuclear reactor fleet, consisting of 99 large light water reactors (LWRs) that provide about 20 percent of U.S. electricity is aging, and some reactors have shut down in recent years. LWRs use light, or ordinary, water to cool the reactor. New reactor concepts are under development as alternative energy options. Light water small modular reactors (SMRs) have some similarities, including the coolant used, to the existing large LWRs, and advanced reactors differ more from the large LWRs. Both new reactor concepts differ from the existing large LWRs in potential applications. This book discusses the status of light water SMR and advanced reactor concepts under development; the intended benefits of these new reactor concepts; and the challenges associated with developing and deploying these new types of reactors. Furthermore, the book describes DOE’s Office of Nuclear Energy’s (NE) approach to advanced nuclear reactor research and development (R&D) and examines how NE plans and prioritizes its advanced reactor R&D activities, including deploying an advanced reactor.

deployment of renewable energies. Chapter Two discusses green nanotechnology in bioenergy. Chapter Three explores the position of waste-to-energy in the UK, as one key part of the UK’s response to the wide range of energy, sustainability and climate change challenges it is facing. Chapter Four proposes a methodology that includes tangible and concrete steps, customized in a region/country’s specific energy profile, characteristics and objectives, towards the formulation of an optimal strategy for the promotion of renewable energy. Chapter Five explores the history and implications of the use(s) of solar power at a time of limited natural resources and the threat of climate change. Chapter Six offers a comprehensive and consistent overview of solar-assisted heat pump (SAHP) systems. Chapter Seven presents intelligent adjustable solar panel and hydrogen cars. Chapter Eight argues the case for the prioritized demonstration and implementation of low carbon technological innovations in the Pacific region.

Syngas: Production, Emerging Technologies and Ecological Impacts
Rudy Myers
In series: Energy Science, Engineering and Technology
Hardcover: 978-1-63484-790-2, $110.00.
To reduce the dependence on dwindling crude oil reserves, the rational design of heterogeneous catalysts for the selective conversion of syngas into valuable fuels and chemicals is considered a principal scientific and industrial target. Syngas is an important intermediate for manufacturing clean fuels and chemicals, which can be derived from a variety of carbonaceous resources such as coal, natural gas, shale gas, municipal solid waste (MSW) or lignocellulosic biomass feedstocks through gasification or reforming technologies. The use of biomass feedstock and its derivatives (biomass-derived syngas) to produce renewable energy, carbon neutral and clean fuels and chemicals is gaining increasing interests because these resources can supplement existing supplies of raw materials and have less net environmental impact. This book provides recent research on the production, emerging technologies and ecological impacts of syngas.

The DOD's Energy Conservation Investment Program: Background and Assessments
Emma Benson
In series: Energy Policies, Politics and Prices
2016. 85 pp.
Softcover: 978-1-63485-873-1, $62.00.
The Department of Defense (DOD) collects information on how Energy Conservation Investment Program (ECIP) projects are expected to perform when operational, including anticipated returns on investment and energy or water savings. DOD established ECIP, which funds projects at military installations that are designed to conserve energy or water, generate electricity from renewable sources, promote energy security, or accomplish a combination of these goals. This book assesses the extent to which DOD has reported anticipated returns on investment or reduced energy use from ECIP-funded projects; found that completed ECIP projects have resulted in cost savings or lower energy use; and developed and implemented a strategic vision for ECIP.

The Natural Gas Sector: Life-Cycle Greenhouse Gas and Air Quality Issues
Arnold Reed
In series: Energy Science, Engineering and Technology
Softcover: 978-1-63485-528-0, $95.00.
Recent expansion in natural gas production has made the resource an increasingly significant component in the U.S. energy market. Further, a number of policies recently proposed and/or promulgated at the federal, state, and local levels may serve to accelerate this development. Examples of federal policies include U.S. Environmental Protection Agency air standards for power plants and vehicles, as well as bills introduced in the 114th Congress to promote increased natural gas production on federal lands, amend provisions in the tax code to incentivize natural gas production and use, and streamline the approval, permitting, and/or construction of natural gas infrastructure. Many of these proposals promote technology and infrastructure investments that could be significant and long lasting. For this reason, some stakeholders recommend a thorough analysis of the costs and benefits of these proposals as well as a full assessment of the economic and environmental impacts of increased natural gas development. Fuel-switching strategies from other fossil fuels to natural gas have the potential to impact many segments of the general economy, including jobs, investments, infrastructure, national security, human health, safety, and the environment. The net climate impact of replacing other fossil fuels with natural gas depends upon a number of analytic assumptions, including the choice of fuel, end-use sector, equipment, and processes modeled. This book presents a comparative analysis of the potential climate implications of switching from coal to natural gas in the domestic electric power generating sector. Furthermore, this book provides information on the natural gas industry and the types and sources of air pollutants in the sector. It examines the role of the federal government in regulating these emissions, including the provisions in the Clean Air Act and EPA’s regulatory activities. It concludes with a brief discussion of the aforementioned outstanding issues.

U.S. Liquefied Natural Gas Exports: Expectations and Potential Effects
Marjorie Hansen
In series: Energy Policies, Politics and Prices
2016. 85 pp.
Softcover: 978-1-63485-495-5, $62.00.
According to Department of Energy (DOE) and industry expectations, in the next few years the United States is expected to change from a net importer of natural gas to a net exporter, with those exports destined for different regions of the world, especially Asia. More than 30 companies have received approval from DOE for large-scale exports of U.S. liquefied natural gas (LNG)—natural gas cooled for transportation—beginning in 2015 or 2016 via specialized LNG carriers. Congress is considering whether to propose legislative language that would require U.S. LNG be exported via U.S.-built-and-flagged carriers with the goal of supporting U.S. shipbuilders and mariners. This book discusses DOE and industry expectations for the market for U.S. LNG exports and how the proposed requirement could affect jobs in the U.S. maritime industry and the broader U.S. economy.

Vulnerabilities of the U.S. to an Electromagnetic Pulse Attack: Threat Assessments and Mitigation Recommendations
Maryanne Schneider
In series: Energy Policies, Politics and Prices
The physical and social fabric of the United States is sustained by a system of systems; a complex and dynamic network of interlocking and interdependent infrastructures (“critical national infrastructures”) whose harmonious functioning enables the myriad actions, transactions, and information flow that undergird the orderly conduct of civil society in this country. The vulnerability of these
infrastructures to threats — deliberate, accidental, and acts of nature — is the focus of greatly heightened concern in the current era, a process accelerated by the events of 9/11 and recent hurricanes, including Katrina and Rita. This book presents the results of the Commission’s assessment of the effects of a high altitude electromagnetic pulse (EMP) attack on our critical national infrastructures and provides recommendations for their mitigation. Moreover, as of July 2015, the Department of Homeland Security (DHS) reported taking several actions that could help address electromagnetic threats to the electric grid. This book also addresses the extent to which DHS has: taken action to address recommendations from the 2008 EMP Commission Report and coordinated with other principal federal agencies, such as DOE and industry stakeholders to mitigate risks to the electric grid from electromagnetic threats.

**Wind Energy: Developments, Potential and Challenges**

*Desiree Fleming*

In series: *Energy Science, Engineering and Technology* 2016. 182 pp.

Hardcover: 978-1-63484-229-7. $110.00.


Renewable energy, such as sunlight, wind, rain, tides, waves, and geothermal heat, is the type of energy that can naturally replenish on a human timescale. Renewable energy can replace conventional fossil fuels in several distinct areas and can eliminate the need for fossil fuels. This book presents current research on the developments, potential and challenges of wind energy. The first chapter provides research on potential wind sites, the impacts of wind installation, and thermo economic modeling. The following chapter makes a comparative study of the dynamic behavior of an aero-generator with a double fed induction generator (DFIG) connected to the grid through two controller techniques: SMC and PI Controller. Chapter three discusses the policy and promotion strategy of wind energy developments between Taiwan and Japan. Chapter four looks at the current status of wind power in South Africa, prospects for growth in integrating wind energy in the South African grid and discusses possible challenges that may arise due to high penetration of wind power and outline some possible solutions. The last chapter provides an inventory of challenges for the deployment of wind energy in a 2030 timeframe in the EU.

**Wind Farms: Performance, Economic Factors and Effects on the Environment**

*Marian Dunn*


Hardcover: 978-1-63484-841-1. $110.00.


This book provides current research on the performance, economic factors and effects on the environment of wind farms. The first chapter provides a technical review of wind farm improved performance and environmental development challenges. Chapter Two explores a variety of methods to be used for assessing noise from wind farms. In Chapter Three, the potential impact of wind farms on radio devices in civil aviation and a review of the impact assessment procedure and methods of our research group is presented. Chapter Four discusses the measurement, analysis and improvement in the power quality of offshore wind farms.

**ENGINEERING**

**Advances in Engineering Research. Volume 12**

*Victoria M. Petrova*


Hardcover: 978-1-63484-458-1. $160.00.


This book focuses on the latest developments in the field of engineering. The first chapter presents the implementation of Lean philosophy and Lean tools in coal mining. Chapter Two describes numerical and experimental analyses of milling bifurcations, or instabilities. Chapter Three examines metabolic engineering strategies in the production of aromatic amino acids. Chapter Four outlines the concept of wave digital networks (WDNs) and its use for the efficient modeling and analysis of microstrip circuits. Chapter Five discusses flutter computation based on ground vibration test results and mass data.

**Advances in Engineering Research. Volume 13**

*Victoria M. Petrova*


Hardcover: 978-1-63485-416-0. $190.00.


This book focuses on the latest developments in the field of engineering. The first chapter presents trajectory planning for robots with rigid bodies. Chapter Two explores image tracking of a humanoid robot based on visual servoing. Chapter Three describes a project in the area of Ambient Assisted Living (AAL), in particular for the continuous care of the elderly. Chapter Four reviews how widely combat robots will be used in the future. Chapter Five tackles the problem of diagnosing complex systems composed of units capable of executing tests on each other (so-called, mutual testing). Chapter Six demonstrates how data from learning processes can be extracted, semantically prepared, and transformed into mining executable formats to enable prediction of individual learning patterns and outcomes through further semantic analysis of the discovered models. Chapter Seven explores ways to make TSHD more dredging efficiency. Chapter Eight discusses personalized thermal comfort.

**Advances in Engineering Research. Volume 14**

*Victoria M. Petrova*


Hardcover: 978-1-63485-930-1. $190.00.


This book focuses on the latest developments in the field of engineering. The first chapter presents software engineering and ontology development. Chapter Two discusses metal rapid prototyping technologies. Chapter Three presents a complete description of the Scalable High Efficiency Video Coding (SHVC) architecture and its application scenarios; comprehensively analyzes the recent efforts toward an improved SHVC compression efficiency; and introduces two novel SHVC improvement solutions, notably an improved SHVC Merge mode and a novel SHVC Joint Layer mode. Chapter Four examines a refined analytical-experimental modal testing method for polymeric damping materials. Chapter Five focuses on the recent published advances in biometrics to date, considering them not only in terms of their relative contributions but also in referral to relevant government and industry authentication frameworks and guidelines. Chapter Six discusses control of a class of 1D Bose-Einstein Condensate (BEC) condensate via linear-type feedback.
Advances in Engineering Research. Volume 15
Victoria M. Petrova
In series: Advances in Engineering Research
2016.
Hardcover: 978-1-53610-057-0, $160.00.
This book focuses on the latest developments in the field of engineering. Chapter One reviews an extensive study on the design of experiment methods. Chapter Two presents controller designs using the traditional proportional integral derivative (PID) control algorithm to control a planar two-link flexible manipulator. Chapter Three presents an active vibration control (AVC) system for trailed two-wheeled implements (TTWI) avoiding instruments damage. Chapter Four reports on the kinematics of a series-parallel manipulator whose architecture is based on the topology of the 3RPS tangential parallel manipulator where R, P and S stand, respectively, for Revolute, Prismatic and Spherical joints. Chapter Five discusses the estimation of saturated hydraulic conductivity. Chapter Six proposes a new and robust model to predict the dynamical behavior of the Liquid Diffusion Phenomenon (LDP).

Development of Research in Microscale and Nanoscale Thermal and Fluid Sciences
Lixin Cheng (Department of Engineering and Mathematics, Faculty of Arts, Computing, Engineering and Sciences, Sheffield Hallam University, Sheffield, UK)
In series: Mechanical Engineering Theory and Applications
2016. 301 pp.
Applications of microscale and nanoscale thermal and fluid transport phenomena are involved in traditional industries and highly specialized fields such as bioengineering, chemical and biochemical engineering, micro-fabricated fluidic systems, microelectronics, aerospace technology, micro heat pipes, chips cooling etc. The research in the relevant subjects has been becoming especially important since the late 20th century. However, microscale and nanoscale thermal and fluid transport phenomena are quite different from those at conventional scale or macroscale. Research on the thermal and fluid transport phenomena at microscale and nanoscale has extensively been conducted to understand the very complex phenomena in the past decades. New instrumental methods have been applied to measure the basic physical parameters at microscale and are continuously under development. New test data have been obtained through state-of-the-art experimental facilities. New prediction methods and mathematical models have also been developed to cover both macroscale and microscale channels and are being continuously under investigation. However, there are quite contradictory results in the available research. Furthermore, new theories and mechanisms are also urgently needed for the fluid flow and heat transfer phenomena at micro and nanoscale. There are many issues to be clarified from both theoretical and applied aspects. In recent years, interdisciplinary research areas are also rapidly under development. For example, as a new research frontier of nanotechnology, the research of nanofluid two-phase flow and thermal physics is rapidly growing. However, it has also posed new challenges as there are quite contradictory results in the available research. There are still a number of issues needed to be solved in the practical applications.

Systems Engineering: Concepts, Tools and Applications
Marlene Hopkins

In series: Systems Engineering Methods, Developments and Technology
2016.
Softcover: 978-1-63485-752-9, $95.00.
e-book: 978-1-63485-771-0, $82.00.
This book discusses the concepts, tools and applications of systems engineering. Chapter One presents the implementation of automated measuring system for measuring chromatic dispersion (CD). Chapter Two discusses the results regarding the optimization of phase based EOM (electro optical modulator) as the most important component in CD measurement setup, then investigates the results of CD measurement characterizations based on different lengths of fiber, different wavelengths and different RF frequencies. Chapter Three provides a review on optical waveguide sensor using ion-exchange technology. Chapter Four examines silver nano particle ion-exchanged glass waveguide technology. Chapter Five highlights the major advantages of using graphical modelling languages in a Model-Based Systems Engineering (MBSE) context and describes the main features of SysML, the modeling language that the authors believe to be “the dialect” for MBSE. Chapter Six provides a complex system analysis for engineering of systemic failures.

The Cutoff Plan: How a Bold Engineering Plan Broke with U.S. Army Corps of Engineers Policy and Saved the Mississippi Valley
Damon Manders (Contract Historian, Harvest, AL, USA)
In series: Natural Disaster Research, Prediction and Mitigation
2016.
Hardcover: 978-1-63485-497-9, $230.00.
The Cutoff Plan is a story about the triumph of engineering in finding a solution to manage flooding on the greatest American river. For a century, men had tried to manage the Mississippi River to reduce flooding, but most engineering efforts had limited effect. When the Great Flood of 1927 revealed the insufficiency of these efforts, the U.S. Army Corps of Engineers developed a plan to provide flood protection to the Mississippi Valley that relied mostly on the diversion of flood down side channels. This plan proved fatally flawed. Not only did it not use all possible solutions, it did not take property owners in the proposed floodways into account. Rammed through Congress by the political machinations of Chief of Engineers Maj. Gen. Edgar Jadwin, the plan was on the verge of failure as litigation halted its implementation, leaving the valley vulnerable to the next flood. Only when Col. Harley B. Ferguson presented a new plan for lowering floods through cutoffs (cutting across the meandering loops of the river) was the Mississippi River Commission able to reduce flooding by shortening and realigning the river. By going against the grain of accepted engineering theory, Ferguson was able to develop a plan that ultimately saved the Mississippi River project, preserved the reputation of the Corps, and protected the valley from potential destruction.

ENVIRONMENT

Advances in Cleaner Production. Volume 2
Biagio F. Giannetti, Cecilia M. V. B. Almeida and Feni Agostinho (Paulista University, São Paulo, Brazil)
In series: Environmental Remediation Technologies, Regulations and Safety
Hardcover: 978-1-63463-848-7, $210.00.
Cleaner Production is an emerging field of research that comprises concepts and methodologies from different disciplines in a problem-oriented manner. Research efforts are often concentrated in a variety of sectoral domains; and, for understanding the global change which embraces a variety of processes on several scales, a variety of environmental and sustainability aspects can be addressed. This book brings contributions from researchers that participated in editions of the International Workshop Advances in Cleaner Production (www.advancesincleanerproduction.net) held in São Paulo, Brazil. The book includes contributions from researchers from various countries for the development of Cleaner Production. Divided into three sections, the book addresses national experiences for the implementation of CP programs, research related to the metrics used to assess the effects of CP initiatives in the production sector and discussions that emerge before and after the implementation of these programs. Methodological approaches presented can be useful in the design and management of production systems, for policy development, environmental risk reduction, and prevention/mitigation strategies.

Advances in Environmental Research. Volume 47
Justin A. Daniels
In series: Advances in Environmental Research
Hardcover: 978-1-63483-758-3, $190.00.
This book provides readers with the latest developments in environmental research. Topics covered include an overview of present and future use of biomass as an industrial feedstock for production of fuels, chemicals and other materials; energy sources for the future; sustainable development and management for water resource systems; fuzzy mathematical programming and its potential applications in agricultural planning; a review of eco-friendly products produced from the biodegradation of fishery waste and an identification of the challenges to enhance the reutilization value of fishery wastes; an update on environmental stressors and their effects on oxidative parameters in limpets; the role rhizosphere microbes play in maintaining the pathogen population and a comparative study on gamma attenuation coefficients of soil samples by MCNP simulation and XCOM.

Advances in Environmental Research. Volume 48
Justin A. Daniels
In series: Advances in Environmental Research
Hardcover: 978-1-63484-748-3, $190.00.
e-book: 978-1-63484-775-9, $190.00.
This book provides readers with the latest developments in environmental research. Topics covered include the results of various approaches that have been applied to assess the susceptibility of the Greek coasts to long term sea-level rise; water quality vulnerability in Yucatán, Mexico at the end of the International Decade for Action “Water for Life”; toxic and potentially toxic diatoms blooms in Tunisian waters; acidic waste rock and tailing remediation in Australia; polycyclic aromatic hydrocarbons associated with the massive mortalities of pearl oysters at the Al-Khiran coast in Kuwait; the employment of the microalgae Chlorella vulgaris as a biosorbent for the extraction of chromium and mercury species from aqueous solutions; the utility of chloroplast petB&D and trnK intron in DNA barcoding of plant species; the future of Zimbabwe’s small farm peasant sector in relation to changing climatic conditions and recurrent harvest deficits, and the lack of development in small water bodies (SWBs) and irrigation systems to assist farmers to cope with changing precipitation patterns and droughts; and migration caused by climate change in the Shyammagar region of Bangladesh.

Advances in Environmental Research. Volume 49
Justin A. Daniels
In series: Advances in Environmental Research
Hardcover: 978-1-63484-990-6, $190.00.
e-book: 978-1-63485-018-6, $190.00.
This book provides readers with the latest developments in environmental research. Topics covered include methods for the production of resins using biological materials such as food crops, agri-food wastes, and non-edible materials, along with the versatility of its applications; the extinction reasons of the Atlantic salmon in the Elbe River; the possible use of spider webs as environmental pollution indicators; the production of synthetic wastewater; the growth and development of switchgrass managed for biofuel production; the variations in social discount rate policies of various countries around the world; the Mole National Park experience in Ghana; and the physical planning implication of informal sector activities on built environments in Nigeria.

Advances in Environmental Research. Volume 50
Justin A. Daniels
In series: Advances in Environmental Research
2016. 221 pp.
Hardcover: 978-1-63485-464-1, $250.00.
This book provides readers with the latest developments in environmental research. Chapter One is an exertion providing up-to-date information on mass concentration levels, sources, different types of particles associated with particulate matter (PM) and their effects on human health, climate and natural environment along with controlling methods. Chapter Two evaluates the impact of the foliar applications of seaweed extract (SWE) obtained from Ulva rigida species on salt stress tolerance in wheat plants (Triticum durum L.). Chapter Three addresses polychlorinated biphenyl (PCB) origins, uptake dynamics, biotransformation, bioaccumulation and documented impacts over these marine animals, approaching a ‘state of knowledge’ and setting an integrated basis for future tiered studies to estimate the actual human exposure risk through seafood consumption and giving support for future conservational measures. Chapter Four uses the Delphi method, analytical hierarchy process (AHP) and fuzzy logic theory to establish a system of multi-criteria decision making (MCDM) to illustrate the influence of community resident participation on the effectiveness of sustainable green community development. Chapter Five reviews an empirical analysis on the factors influencing energy efficient residential renovations in Taiwan by using the Delphi method, analytical hierarchy process, and utility theory. Chapter Six focuses on dental caries, enamel hypoplasia and dental wear, which were observed in the populations of the Syrian lower Euphrates valley representing six cultures dated from the Early Bronze Age to the modern Islamic period. Chapter Seven discusses perfluoroalkylation of organic compounds by photoredox catalysis with organic dyes.

Advances in Environmental Research. Volume 51
Justin A. Daniels
In series: Advances in Environmental Research
2016.
Hardcover: 978-1-63485-786-4, $250.00.
This book provides readers with the latest developments in environmental research. Chapter One presents the strongest wind erosions of the Sinjsko polje, a karst field situated in the Dalmatia, Croatian south region. Chapter Two provides an analysis for sediment formation by model experiments in karstic depressions. Chapter Three presents the effects of different water pollutants on different assays, biomarkers and biomarkers to evaluate the aquatic environment, as well as justify the importance of inclusion of mutagenicity and genotoxicity tests in water monitoring programs. Chapter Four focuses upon the role of spatial analysis in informing water management into the future and reviews the spatial analysis literature in water resources.
management/economics from a global and local scale. Chapter Five discusses the impact of climatic variation on reference crop evapotranspiration in the North-East hydrological region of Bangladesh. Chapter Six reviews the causes and impacts of land degradation in Pakistan and devises some improvement measures. Chapter Seven evaluates the impact of partially harvesting the lavender biomass. Chapter Eight introduces benefits and cost of green roof installation, and also gives a new insight into the cost-related issues of green roof installation from owners’ developers’ and governments’ perspectives. Chapter Nine examines the potential environmental risk of food waste management. Chapter Ten discusses the ecophysiologe of entomopathogenic fungi used against insect pests of storage maize.

Advances in Environmental Research. Volume 52
Justin A. Daniels

In series: Advances in Environmental Research
2016.
This book provides readers with the latest developments in environmental research. Chapter One reviews different toxicological and ecotoxicological tests applied to different types of textile effluent treatments and their efficiency in detecting potential toxicity in treated effluents. Chapter Two illustrates that in properly leveraging green marketing through sustainability strategic initiatives, a firm can simultaneously become more profitable, promote quality environmental issues, and enhance corporate reputation. Chapter Three investigates drinking water recarbonization process based on a combination of experimental and mathematical modelling. Chapter Four discusses improving the management of ecosystem services by means of stakeholder perceptions. Chapter Five examines community involvement in river management for ecosystem services and livelihood. Chapter Six focuses on the effect of some environmental factors on milk production of primiparous Holstein raised in the Souss-Massa region in Morocco. Chapter Seven studies the El Niño-Southern Oscillation (ENSO) influence on precipitation in Argentina. The final chapter discusses kinematics of ice-cores near divides and inferences from age/depth data.

Air Pollution: Management Strategies, Environmental Impact and Health Risks
Gerald L. Burns

In series: Air, Water and Soil Pollution Science and Technology
Hardcover: 978-1-63485-374-3, $160.00.
This book provides new research on the management strategies, environmental impacts and health risks of air pollution. Chapter One analyzes historical air pollution data via linear regression and the time-series technique. Chapter Two provides a spatial analysis of air pollution from road transport within urban areas and its relation to health risks. Chapter Three presents the findings on the effects of short- and long-term exposure to air pollution on death rates in Belgrade, Serbia, based on a 6-year regular pollutant monitoring and the corresponding administrative records on mortality. Chapter Four discusses how bioaerosols impact the environment, and provides methods for reducing health risks. Chapter Five reviews a case study on heavy metals air pollution of mines in the Bregalnica River Basin.

Analysis of the Life Cycle of a Built Environment
Arturas Kaklauskas (Vilnius Gediminas Technical University, Vilnius, Lithuania)

In series: Urban Development and Infrastructure
Hardcover: 978-1-63485-500-6, $210.00.
A thorough description of a built environment’s life cycle (brief; design; raw material extraction, transport and processing; construction materials production and distribution; construction; use, repair and maintenance; demolition and disposal, reuse, or recycling analysis) is difficult to procure. A building and its environment comprise a complex system based on its technical, technological, economical, social, cultural, ecological and other aspects. All sub-systems influence the total efficiency performance. The interdependence between subsystems also plays a significant role. This monograph’s research objective is the life cycle of a built environment along with its interested parties striving to attain their goals in the micro-, meso- and macro-environments that make an integral whole. Comprehensive research of this required development of new methods for the multiple criteria analysis of a project that would enable a user to assess its quantitative and qualitative aspects totally. The diversity of the factors under assessment corresponds to various ways for presenting data needed for decision making. Various researches on the life cycle of a built environment and/or its composite parts at micro-, meso- and macro-levels are under global development. Such researches analyze energetic, technical, technological, economic, legal/regulatory, innovative and microclimatic aspects. However, they ignore the social, cultural, ethical, psychological, emotional, religious and ethnic aspects of a built environment’s life cycle. It is notable that not one researcher from different countries analyzed the life cycle of a built environment and its stages in the way the authors of this investigation have considered them. Here, the authors also involve the stakeholders in the life cycle as well as the micro-, meso- and macro-environments that have particular impact on making an integral whole. This monograph contains detailed revisions of the research along with theoretical and practical tasks for analyzing the life cycle of a built environment and includes presentations of distinctive examples. The concept of a modern life cycle of a built environment as a model is discussed. The theoretical and practical analyses presented in this monograph verify that intelligent decision support systems allow different stakeholders to achieve improved work quality results and productivity. An organized creative team of interested groups can produce a life cycle of a built environment that considers qualitative societal aspects to a greater degree. Realistically, most of a built environment life cycle will have both positive and negative features. The mission is to arrive at an equilibrium of pros and cons to optimize the life cycle of a built environment by a system of qualitative and quantitative criteria. Integration of intelligent decision support systems in the life cycle of a built environment is undoubtedly one step in the right direction. Here, the knowledge relevant to the development of a built environment life cycle appears by its economic, legal, technological, technical, organizational, social, cultural, ethical, psychological, emotional, religious and environmental terms, as well as its managerial implications. References to the most modern sources of scientific literature worldwide are also included. The readers targeted for this monograph include researchers, MSc and PhD civil engineering students and parties involved in construction management and real estate development. Additionally, the book could be useful for other scholars along with MSc and PhD students of economics, management and other areas of expertise. Target Audience: The readers targeted for this monograph include researchers, MSc and PhD civil engineering students and parties involved with construction management and real estate development. Additionally the book could be useful for other scholars along with MSc and PhD students of economics and management and other areas of expertise.

Aquatic Ecosystems: Influences, Interactions and Impact on the Environment
Marvin Snyder

In series: Environmental Health - Physical, Chemical and Biological Factors
Hardcover: 978-1-63484-686-8, $110.00.
The seagrass meadows of the Northeast Coast of Brazil have the greatest area, biomass, biometrics and diversity of the Brazilian Coast. In this region, the seagrass diversity and plasticity may vary due to differences in environmental factors. Some natural aspects of the coastal environment or that which affect the coastal zone, mainly climatic (seasons of rains and winds) and geomorphological (bathymetry and substrate type), cause variations in seasonality and plasticity of the species, respectively. Chapter One in this book on aquatic ecosystems summarizes the available information concerning how seagrass vary along the Northeast Coast of Brazil, as well as other ecological information. Chapter Two presents a brief historical overview of biological indicators, considering the assessment of water quality through microalgae from an environmental perspective and their role as natural bioindicators of the effects of eutrophication. Chapter Three provides a mixing zone analysis of surface brine discharges in coastal waters. Chapter Four studies the effect of low salinity on intertidal blue mussels from the White Sea.

**Biodegradation: Properties, Analysis and Performance**  
**Jaime Alvarez**  
In series: *Air, Water and Soil Pollution Science and Technology*  
2016.  
Hardcover: 978-1-63485-751-2, $190.00.  
e-book: 978-1-63485-762-8, $190.00.  
This book provides an overview of biodegradation. The first chapter provides a detailed description on the ability of Rhodococcus UKMP-5M to act as a biological tool to remediate phenol, chlorinated compounds, nitrile, oil spillage and cyanide which selection was primarily based on their large-scale presence in industrial wastewater. Chapter Two presents advances made in recent decades on the understanding of the metabolic capabilities of sulfate reducing bacteria (SRB) from marine and other types of sediment (i.e., freshwater, estuarine) for the biotransformation of carbon compounds and sulfate that are present as pollutants in several types of waters and soils. Chapter Three concentrates on the different parameters that influence biodegradation speed and energy release potential. Chapter Four reports and discusses several examples on biodegradation with bacteria and fungi of organochlorides, organophosphates, and more recently of pyrethroid pesticides. Chapter Five discusses heavy metals as biodegradation inhibitors of the forest litter in contaminated areas. Chapter Six introduces ecologically feasible ways of treating environments contaminated by BTEX (a mixture of benzene, toluene, ethylbenzene and xylene) based on efficient microbial metabolism.  

**Carbon Dioxide Capture: Processes, Technology and Environmental Implications**  
**Jonathan Albo Sánchez** (Department of Chemical Engineering, University of the Basque Country (UPV/EHU), Bilbao, Spain)  
In series: *Environmental Science, Engineering and Technology*  
Hardcover: 978-1-63485-321-7, $190.00.  
The large scale consumption of fossil fuels for the production of energy has raised CO2 levels up to 400 ppm over the last decades. These high atmospheric CO2 concentrations are linked to severe environmental problems such as the undesirable effects of global warming. In the 21st century, the world will be still searching for strategies to re-balance the natural carbon cycle and decoupling the economic growth from CO2 emissions. The transition to a low-carbon economy emerges as a priority to sustain socio-economic progress in a world of finite resources. In this sense, Carbon Capture and Storage (CCS) and Carbon Capture and Utilisation (CCU) are different approaches aimed at mitigating greenhouse gas impacts from fossil fuels combustion in industrial and energy-related processes. With the rapidly growing energy demand as countries develop, the CCS and CCU may be considered as an interesting mid-term solution to mitigate environmental impacts and allow humans to continue using fossil energy until renewable energy technologies have matured. In both processes, the CO2 capture seems to be one of the main bottlenecks steps where the efforts have to be applied. Thus, the development of new processes and technologies for CO2 capture in energy production is under research in order to maximize their cost-efficiency in this CO2-emission constrained framework. The book Carbon Dioxide Capture: Processes, Technology and Environmental Implications aims at presenting the recent developments for CO2 capture processes in fossil fuel power plants (i.e. pre-combustion, post-combustion, and oxy-combustion). Besides, new and prospective breakthrough technologies for CO2 capture for CCS and CCU approaches are examined.

**Carrageenans: Sources and Extraction Methods, Molecular Structure, Bioactive Properties and Health Effects**  
**Leonel Pereira** (MARE - Marine and Environmental Sciences Centre/IMAR, Institute of Marine Research, Department of Life Sciences, Faculty of Sciences and Technology, University of Coimbra, Coimbra, Portugal)  
In series: *Environmental Science, Engineering and Technology*  
2016. 304 pp.  
This book aims to report on the status of one of the most important phycocolloids in the food industry (E407 - carrageenan). The natural resources (carrageenophytes) used in its production, methods of extraction, species with great potential, its marine cultivation on the world (Kappaphycus, Eucheuma, etc.), the new chemical analysis techniques of this colloid, the potential of the carrageenan as composing ingredient of nutritional value and therapeutic properties are some of the topics discussed within this book. The information set provided in this book comes from very recent scientific results obtained by research groups of several countries. This information set is useful not solely for the academic community (undergraduate or graduate students, staff and faculty personnel), but also to those individuals involved in the industrial, commercial and medical business of carrageenan. The contributing authors are renowned scientific leaders in the field. This feature associated with the new type of information provided in this book contributes significantly to the high-quality of this publication. Target Audience: Researchers (chemists, biochemists, biologists, phycologists, chemical engineers), nutritionists, professionals of the extractive industry and food industry, hoteliers and catering.  

**Case Applications of Statistical Models in Ecology and Evolution**  
**Youhua Chen** (University of Alberta, Edmonton, Canada)  
In series: *Environmental Science, Engineering and Technology*  
2016. 208 pp.  
Hardcover: 978-1-63484-876-3, $190.00.  
Since the 20th century, there have been many exciting achievements in the field of ecology and evolution, many of which were formulated using statistical and mathematical functions. In particular, statistical
and mathematical models are a necessity for developing some sub-disciplines and theories like population genetics and ecology, neutral theory of molecular evolution and biodiversity, and machine-learning techniques for species distribution modeling. This book serves as an elementary guide to showcase some statistical and mathematical models that have been applied and used in contemporary ecological or evolutionary research. Some models may be old-fashioned, whilst some others have been further extended or developed so as to better address special research questions presented in each chapter of the book. Technical aspects of each statistical model are presented in detail to allow readers to follow and apply their own research and practices.

Chemical Risk Assessment Activities in the U.S. with Overviews of Canada, Australia, and the WHO
Naomi Sutton
In series: Environmental Remediation Technologies, Regulations and Safety
Softcover: 978-1-63485-058-2. $95.00.
With thousands of chemicals in commercial use in the United States, decision makers rely on toxicity assessment information to examine the risks these substances may pose. Several key federal agencies—including the Agency for Toxic Substances and Disease Registry (ATSDR), the Environmental Protection Agency (EPA), the National Institute for Occupational Safety and Health (NIOSH), the National Toxicology Program (NTP), and the Occupational Safety and Health Administration (OSHA)—as well as state agencies, assess the toxicity of chemicals. This book describes the chemical toxicity assessment activities selected federal and state agencies undertake; assesses the extent to which these federal agencies’ chemical toxicity assessment activities are fragmented, overlapping, or duplicative; and assesses the extent to which these federal and state agencies coordinate their chemical toxicity assessment activities and challenges in doing so.

Climate, Energy, and Environment: Issues, Analyses, and Developments, Volume 4
Jake S. Diaz
In series: Climate, Energy, and Environment: Issues, Analyses, and Developments
Hardcover: 978-1-63484-752-0. $145.00.
The first chapter in this fourth volume of "Climate, Energy, and Environment: Issues, Analyses, and Developments" presents current topical research in the study of green building services, which include construction, architecture, engineering, and related activities aimed at creating sustainable structures using environmentally responsible processes and materials. Chapter Two discusses industry trends, global competition, and federal support of U.S. solar photovoltaic manufacturing. Chapter Three identifies the mechanisms behind the surprising decline in U.S. petroleum consumption relative to both recent levels and past projections. Chapter Four discusses the scientific understanding of the effects of ocean acidification; the extent to which federal agencies have implemented the Federal Ocean Acidification Research and Monitoring Act of 2009 (FOARAM); and additional actions, if any, that could be taken to advance the federal response to ocean acidification. Chapter Five provides a summary of recommendation for carbon dioxide storage in unconventional reservoirs workshop. Chapter Six concludes this volume with a description of the issues facing corrections policy and leadership as the impacts of climate change and its related consequences confront departments, agencies, and facilities in coming years.

DDT: Properties, Uses and Toxicity
Kathleen Sanders

In series: Environmental Remediation Technologies, Regulations and Safety
e-book: 978-1-53610-026-6. $95.00.
Dichloro-diphenyl-trichloroethane (DDT) is the world famous synthetic organochlorine broad-spectrum insecticide used in the control of mosquito vectors of malaria and insect pests of agriculture in developing countries, due to its low cost and high efficiency. This book discusses properties, uses and toxicity of DDT. Chapter One reports the empty-orbital electronic structure and experimental data of dissociative electron attachment (DEA) to the gas-phase molecules DDT and its principal metabolite DDE, which possesses good electron-withdrawing abilities. Chapter Two reviews the past, present and future of DDT and pyrethroid resistance in Aedes aegypti (L.) and Aedes albopictus (Skuse). Chapter Three studies the photocatalytic selective oxidation of DDT.

Environmental Degradation: Types, Causes and Impacts
Alice Marsh
In series: Environmental Remediation Technologies, Regulations and Safety
The earth is a dynamic arrangement of synergistic and interrelated systems that has throughout its existence experienced cataclysmic and devastating events. The earth has had long periods of ice and snow to mass extinctions and occasional hothouse loads of carbon dioxide into the atmosphere and the oceans. The main difference between then and now is that this latest dynamic period is primarily if not solely anthropogenic in nature. At the same time, we have put in place a global economic system that sees the earth as a cornucopia of infinite natural resources to be exploited with little regard for the environmental and social consequences of such actions. Modern society has witnessed an alienation from the natural world with consumers losing a sense of the relationship between the consumption of things and consequent environmental degradation. Chapter One summarizes the nature of urban environmental degradation, and its ideological and institutional roots. Chapter Two examines the relationship between cultures and environmental use within various adaptive strategies for exploiting natural resources. Chapter Three focuses on illegal dump sites as degraded landscape elements. Chapter Four evaluates the extract and translocate natural radionuclides by volunteer plants that grow under phosphogypsum stack as a potential phytoremediation technique. Chapter Five concludes with a review of an island biogeography of vultures and environmental variation in the Caribbean.

EPA Cleanup Approaches to Contaminated and Hazardous Waste Sites: The National Priorities List and the Superfund Alternative
Allan R. Payne
In series: Waste and Waste Management
Under the Superfund program, the Environmental Protection Agency (EPA) places some of the most seriously contaminated sites on the National Priorities List (NPL). At the end of fiscal year 2013, nonfederal sites made up about 90 percent of these sites. At these sites, EPA undertakes remedial action projects to permanently and significantly reduce contamination. Remedial action projects can take a considerable amount of time and money, depending on the nature of the contamination and other site-specific factors. This book examines,
for fiscal years 1999 through 2013, the trends in the annual federal appropriations to the Superfund program and EPA expenditures for remedial cleanup activities at nonfederal sites on the NPL; and the number of nonfederal sites on the NPL, the number of remedial action project completions, and the number of construction completions at nonfederal NPL sites. Furthermore, the book examines how EPA addresses the cleanup of sites it has identified as eligible for the NPL; how the processes for implementing the Superfund Alternative (SA) and NPL approaches compare; and how SA agreement sites compare with similar NPL sites in completing the cleanup process.

Federal Management of Wildland Fire: Key Changes and Perspectives on Policy
Rebecca Salazar
In series: Environmental Remediation Technologies, Regulations and Safety
2016. 139 pp.
Hardcover: 978-1-63484-864-0. $120.00.
e-book: 978-1-63484-865-7. $120.00.
Wildland fire plays an important ecological role in maintaining healthy ecosystems. Over the past century, however, various land management practices, including fire suppression, have disrupted the normal frequency of fires and have contributed to larger and more severe wildland fires. Wildland fires cost billions to fight each year, result in loss of life, and cause damage to homes and infrastructure. This book examines key changes the federal wildland fire agencies have made in their approach to wildland fire management since 2009; how the agencies assess the effectiveness of their wildland fire management programs; and how the agencies determine the distribution of their wildland fire management resources.

Forest Ecosystems: Management, Impact Assessment and Conservation
Deborah Elliott
In series: Wildlife Protection, Destruction and Extinction
e-book: 978-1-63485-808-3. $95.00.
This current book reviews and analyzes forest ecosystems. Chapter One begins with a discussion of radioactivity in forest ecosystems. Chapter Two discusses how litter chemistry has significant effects on soil biogeochemistry and looks into the relationships between litter chemistry, soil chemistry and microbial activity. Chapter Three summarizes information about short- and long-term study of the relationship between soil nematode communities as bioindicators of soil health and different types of disturbance forest soil (fallen trees, fire-damaged) and management (cleared and non-extracted windstorm plot). Chapter Four studies the organization of boreal forests in insular volcanic landscapes of the north-west Pacific. Chapter Five concludes the book with an analysis of the changes of snow moisture balance in logging areas in dark-needles forests of the Yenisei Ridge of Central Siberia.

Forest Management: Applications, Challenges and Strategies
Candace Buchanan
In series: Environmental Remediation Technologies, Regulations and Safety
2016. Softcover: 978-1-63485-883-0. $95.00.
e-book: 978-1-63485-903-5. $95.00.
This book discusses the applications, challenges and strategies of forest management. Chapter One reviews topics on the adaptation of forest management to climate change. Chapter Two focuses on the management of forests in Cameroon and in doing so, it exposes the fundamental problems arising from forest exploitation in the country, discusses the various challenges faced and proposes strategies to remedy the situation. Chapter Three studies the structure of understory plant communities in hinoki cypress plantation forests in Japan. Chapter Four introduces and discusses the basic principles behind the assessment of sustainability in forest management planning.

Freshwater Resources of the Tropical North of Australia: A Hydrobiological Perspective
Dilwyn J. Griffiths (Professor Emeritus in Biological Sciences, James Cook University, Townsville, Queensland, Australia)
In series: Water Resource Planning, Development and Management
Hardcover: 978-1-63484-808-4. $190.00.
e-book: 978-1-63485-007-0. $190.00.
The tropical north of Australia covers almost half of the country’s total land area, is occupied by no more than about 5% of the total population, and yet has been estimated to account for close to 70% of the country’s potential freshwater resources. The region experiences strong climatic variability, both spatially and seasonally, with large areas subject to long dry periods interspersed by short periods of torrential rain. This book presents an overview of the freshwater resources of a region that has undergone a period of intense development (agricultural, industrial and social) over recent decades and for which is predicted a continuing period of development into the future. The author describes how the availability of surface, groundwater and stored freshwater, in terms of both quantity and quality, will continue to be the major factor influencing such development. It will also highlight how the emphasis on ensuring year-round water supply has, in recent decades, shifted to one of management to ensure sustainability of this vital resource and maintenance of the ecological health of what is known to be a fragile ecosystem. This book draws on the author’s 25+ years of experience as a professional biologist living and working (as a teacher/researcher) in the tropical north of Australia, a region which in light of strengthening trade and other links between Australia and its neighbouring south-east Asian countries, is likely to become of increasing international significance in the future.

Geophysics: Principles, Applications and Emerging Technologies
Gemma Aiello (Institute for Coastal Marine Environment (IAMC), Italian National Research Council (CNR), Calata Porta di Massa - Porto di Napoli, Naples, Italy)
In series: Environmental Remediation Technologies, Regulations and Safety
Hardcover: 978-1-63484-831-2. $190.00.
This book presents current research in the field of geophysics, particularly referring to some principles, applications and emerging technologies. Topics discussed comprehend environmental geophysics, with an explanation of geophysical methods (“seismic refraction and reflection techniques”, “seismic analysis of surface waves”, “electrical methods”, “gravimetric and microgravimetric methods”, “magnetic and electromagnetic methods”) and new methodologies of processing and interpretation with examples in the area of Greece; applications of innovative geophysical techniques in other coastal areas, showing a new approach to seismic data acquisition, joining up land and marine seismic data through a marine streamer connected to a land cable with examples in Procida and Ventotene islands (Southern Italy); marine geophysics of Naples Bay focusing on seismic and magnetic data
Glaciers: Formation, Climate Change and their Effects

Nicholas Doyle

In series: *Climate Change and its Causes, Effects and Prediction*
Hardcover: 978-1-63484-941-8. $110.00.

This book provides research on the geological formation of glaciers, as well as the effects of climate change to glaciers. The first chapter reviews recent and old applications of first principles physics to the modelling of glaciers and ice sheets. Chapter Two focuses on the physical-geographical factors of the development and evolution of the Debeli Manet glacier in Montenegro. Chapter Three studies high altitude temperature changes in the Tropical Andes over the last 15,000 years. Chapter Four summarizes the current knowledge of the biodiversity and ecology of microbial communities from glaciers. Chapter Five presents the results of investigations of mountain glaciers within the southeastern part of Russian Altai (SE Altai). The last chapter reports a continuation of direct field investigations, aiming to reveal whether supraglacial debris is increasing or decreasing in mass balance and glacier evolution with the course of time.

Industrial Waste: Management, Assessment and Environmental Issues

Stanley N. Barton

In series: *Waste and Waste Management*
Hardcover: 978-1-63485-600-3. $95.00.

Conventional wastewater treatment processes are expensive and require complex operations and maintenance. They also generate large volumes of secondary waste that must be appropriately disposed. This book discusses management options, assessment and environmental issues of industrial waste. Chapter One focuses on a new method to treat wastewater containing acrylic acid in petrochemical industries. Chapter Two covers topics on nutrient cycling in wastewater treatment plants, the characteristics of industrial pollution, the industrially consolidated processes for wastewater treatment, the concept of process intensification applied to wastewater treatment, the emerging processes to wastewater treatment and the concept of biorefinery applied to wastewater treatment, summarizing a range of useful techno-economic opportunities to be applied on wastewater treatments plants. Chapter Three studies the residual material in order to determine its suitability for reuse as fine aggregate in clay mixtures. Chapter Four explores the feasible utilization of orange peels arising from juice production as biosorbent for removal of water pollutants.

Invasive Species: Ecology, Management Strategies and Conservation

Jane Sutton

In series: *Environmental Research Advances*
Softcover: 978-1-63485-654-6. $95.00.

Invasive species constitute a significant environmental and economic threat worldwide, acting as a key driver of biodiversity loss and ecosystem function disruption globally. Biological invasions have the potential to dramatically affect species composition, guild structure and alter interspecific interactions within the invaded community. This book provides the reader with new research on invasive species. Chapter One reviews the adaptive responses of Phalaris arundinacea, an invasive wetland grass, to water stress. Chapter Two discusses the expansion of spider species to help better understand their potential for biological control of pests in agricultural landscapes and for conservation of biodiversity within the ecosystems in which they are found. Chapter Three explores the feasibility of using Parkinsonia aculeata wood as a feedstock for the sustainable development of adsorbents targeted at pollutants removal from wastewater. Chapter Four gives background information on several origins of invasive species, how invasive species respond to environmental changes, and insights on integrated management strategies that focus on enhancing species and ecosystem adaptive capacity and reducing the risks from biodiversity degradation.

Invasive Species Management: Control Options, Congressional Issues and Major Laws

Jeanie Saunders

In series: *Environmental Research Advances*
Hardcover: 978-1-63485-064-3. $120.00.
e-book: 978-1-63485-065-0. $120.00.

An “invasive” species (alternatively known as an alien, exotic, injurious, introduced or naturalized, non-native, nonindigenous, nuisance, or noxious species) refers to an animal or plant that is introduced into an environment where it is not native. The introduction of invasive species to the United States—whether deliberate or unintentional—from around the globe can pose a significant threat to native animal and plant communities, and may result in extinctions of native animals and plants, species disruptions as native and non-native species compete for limited resources, reduced biodiversity, and altered terrestrial or aquatic habitats. This can result in a range of economic, ecologic, and cultural losses, including reduced agricultural output from U.S. farms and ranches; degradation of U.S. waterways, coastal areas, national parks, and forests; and altered urban, suburban, and rural landscapes. Very broadly, the unanswered question regarding invasive species concerns whose responsibility it is to ensure economic integrity and ecological stability in response to the actual or potential impacts of invasive species, and at what cost. As this book shows, the current answer is not simple. It may depend on answers to many other questions: Is the introduction deliberate or accidental? Does it affect agriculture? By what pathway does the new species arrive? Is the potential harm from the species already known? Is the species already established in one area of the country? Finally, if the answers to any of these questions are unsatisfactory, what changes should be made? This book outlines the nature of the invasive species threat, the ability to predict invasions, methods of pest prevention or control, gaps in regulation, and options for congressional action.
Marine Toxins: Detection Methods, Chemical and Biological Aspects and Health Effects
Dominick Gray
In series: Environmental Health - Physical, Chemical and Biological Factors
Hardcover: 978-1-63483-824-5. $110.00.
In areas where toxic algal blooms occur, the main affected organisms are shellfish, which, because of their high levels of filtration (clearance rate), accumulate high concentrations of nutrients and toxic phytoplankton in their visceral tissue. This accumulation of toxins in shellfish leads to a distribution of these toxins to their different non-visceral tissues. Chapter One of Marine Toxins: Detection Methods, Chemical and Biological Aspects and Health Effects discusses the detection and quantification of lipophilic marine biotoxins by liquid chromatography tandem mass spectrometry from endemic species and gastropod shells. Two pressing methods which use the similarity analysis of paralytic shellfish poisoning toxins (PSP-toxins) profile patterns to analyze epidemiological linkage of a group of toxins contaminated bivalves collected between years 2004 and 2015. Chapter Three provide an overview of the current status of biomarker use in the assessment of the effects of marine toxins on bivalve mollusks. Chapter Four reviews the latest research on the biological and clinical effects of caulerpenynes.

Noise Pollution in Urban and Industrial Environments: Measurements and Noise Mapping
Paulo Henrique Trombetta Zannin (Department of Mechanical Engineering, Federal University of Paraná, Brazil)
In series: Pollution Science, Technology and Abatement
Hardcover: 978-1-63485-269-2. $190.00.
Urban and industrial noise pollution is present in virtually every country in the world. Noise pollution studies are therefore needed to find solutions to improve the quality of life in cities. This book contains eighteen chapters that address the problem of noise in urban and industrial environments. One of the chapters evaluates how noise is perceived by the residents of three cities with different population densities, and a methodology is presented for the assessment of road traffic noise in one of these cities, using noise maps. Noise pollution is also evaluated on a university campus and at leisure locations such as public parks. Industrial noise is discussed in two chapters, and solutions are proposed to reduce the noise levels that reach communities located in the proximities of a metal working plant and a paper mill. One of the chapters focuses on technical standards and noise assessment regulations. Another proposes a methodology aided by three-dimensional acoustic mapping to design the sound insulation of building facades. The problems caused by rail traffic noise and aircraft noise levels are discussed in two other chapters, based on measured sound pressure levels, interviews and noise maps. A prediction matrix for the assessment of traffic-related noise pollution is presented in another chapter. This matrix, which is based on noise prediction maps, allows for the qualification and quantification of the global impact of environmental noise resulting from the implementation of a road construction project and its operation. The last chapter in this book focuses on a unique problem that most people are rarely aware of; this problem is the effects of traffic noise on the acoustic signals emitted by birds in an urban environment. The analyses discussed in this book are based on field measurements of sound pressure levels and computer calculations of noise maps. Noise mapping is a highly effective technique to visualize the problem of noise in large urban centers and noise generated by manufacturing plants. This technique facilitates the search for answers to the problem of noise pollution and is helpful for comparing solutions, enabling one to select the most effective and economically feasible solution. Several case studies are described throughout the book. These are examples of real cases, which were used to assess the quality of urban and industrial environments. Based on measurements, noise maps are calculated to show the current status of noise pollution. Subsequent analyses based on noise mapping simulations indicate the urban and industrial noise abatement measures recommended for the cases in question. The target audience of this book includes undergraduate and graduate students, as well as professionals working in the areas of environmental management of cities, of factories, in architecture, urban design, in environmental, mechanical and civil engineering, urban planning, and health care professional planning.

Novel Approaches to Rainwater Harvesting and Sanitation in Developing Countries
Roman Tandlich (Environmental Health and Biotechnology Research Group, Division of Pharmaceutical Chemistry, Faculty of Pharmacy, Rhodes University, Grahamstown, South Africa)
In series: Environmental Remediation Technologies, Regulations and Safety
2016.
Hardcover: 978-1-63485-826-7. $160.00.
Rainwater harvesting has gained popularity as a measure to address the water supply shortage in rural areas in developing countries. The harvesting systems are installed in households and public buildings. They vary from above-ground to below-ground and provide water from domestic use (cooking, drinking, laundry, etc.) to non-potable purposes such as irrigation. To date, a lot of research has focused on the development of treatment technologies, and public health studies have elucidated the risk from microbial contamination. However, this has only happened in some areas worldwide and a lot of areas (such as the African continent) studies the microbial water quality and treatment options at the household level. Additionally, the modelling of storage and demand management is missing. The current publication addresses this knowledge gap partially. A similar approach is adopted for the processing and reuse of faecal sludge from ventilated improved pit latrines. A review of the current options is presented in this book, focusing on the treatment, knowledge and public health risks. A case study on the pasteurisation of the faecal sludge is also examined, and the reuse of the pasteurised leachate is presented as an option to valorise the faecal sludge for use in the growth of fresh produce for domestic consumption.

Plant Ecology and Evolution in Harsh Environments
Nishanta Rajakaruna (College of the Atlantic, ME, USA), Robert S. Boyd (Auburn University, AL, USA) and Tanner B. Harris (WRA, Inc., San Rafael, CA, USA)
In series: Environmental Research Advances
Hardcover: 978-1-63321-955-7. $250.00.
Softcover: 978-1-63484-575-5. $89.00.
Harsh environments found around the world harbor unique organisms adapted to extreme ranges in climatic, edaphic, and other environmental variables. Whether they occur in extreme climates such as alpine summits or inland deserts, in habitats frequently disturbed by fire or floods, or on edaphic islands created by unique geologies or anthropogenic contamination, the adaptations demonstrated by organisms found in such environments shed light on basic and applied aspects of ecology and evolution. This volume brings together current research on plants, fungi and microbes from harsh environments to...
reveal underlying patterns and common themes of these especially challenging habitats. Topics include the role of bedrock geochemistry and soil evolutionary processes in generating extreme habitats; the biology, ecology, and evolution of non-vascular and vascular plants, lichens, herbivores and pathogens, mycorrhizal fungi, and other beneficial microbes found in extreme environments. Habitats discussed in the book include alpine and arctic settings, fire-prone Mediterranean climates, serpentine outcrops, gypsum soils, metal-rich mine tailings, and saline soils. In addition to summarizing current research, we highlight new tools and emerging techniques in high-throughput phenotyping, genomics, and phylogenetics that are being used to develop our understanding of evolution in harsh environments. We also emphasize results gained from classical ecological approaches which have allowed us to examine adaptation to and evolution in harsh environments. In addition to discussing basic research, we cover applied work focusing on the threats posed by climate change and other anthropogenic impacts as well as efforts to restore and protect extreme habitats and the unique organisms they harbor. Finally, we discuss the uses of plant species found in extreme environments for agriculture and biotechnology, including the relatively new fields of phytoremediation and phytomining. The work highlighted in this volume demonstrates what these species and their environments have taught us about ecological and evolutionary theory, conservation, and restoration: knowledge that can be applied well beyond the habitats and species described in this book.

Pollinators and Pollinator Habitat on Federal Lands: Best Management Practices

Casey Roberts

In series: Environmental Research Advances


Hardcover: 978-1-63484-438-3, $120.00.

Pollinators are essential to the United States economy. Honey bees, native bees, birds, bats, butterflies, and other species contribute substantially to our food production systems, the economic vitality of the agricultural sector, and the health of the environment. On June 20, 2014, the President issued a memorandum directing the heads of executive departments and agencies to create a Federal strategy promoting the health of honey bees and other pollinators. The Presidential Memorandum envisioned broad engagement to improve the management of Federal buildings, landscapes, rangelands and forests to increase and improve pollinator habitat nationally. The objective of this book is to consolidate general information about practices and procedures to use when considering pollinator needs in project development and management of Federal lands that are managed for native diversity and multiple uses. This book also provides guidance and recommendations for creating and maintaining quality habitats for pollinators in new construction, building renovations, landscaping improvements, and in facility leasing agreements at Federal facilities and on Federal lands.

Pollution Status, Environmental Protection, and Renewable Energy production in Marine Systems

Ahmed El Nemr

In series: Environmental Science, Engineering and Technology

2016. 408 pp.

Hardcover: 978-1-63484-047-7, $270.00.

Pollution status, environmental protection, and renewable energy production in Marine systems are the main targets of this book that represent the contents of the third volume of the Blue Biotechnology Journal published by Nova Science publishers, New York, USA. The book is divided into 20 Chapters. The first chapter reviews the environmental protection from thermodynamic properties, the performance of refrigeration cycles and air-conditioning. The second chapter represents the pollution status along the Red Sea. During last ten years of twenty century till now, inorganic and organic pollutants has been detected in many sites of the Red Sea. The third chapter covers the adsorption of the anionic dye Direct Red 23 onto new activated carbons developed from Cynara cardunculus: kinetics, equilibrium and thermodynamics. The fourth chapter reports the Mercury as toxic metals levels in surface sediments along Alexandria west coast, Egypt. The fifth chapter investigates the effects of essential and non-essential metals on the human health. Chapter six covers a review of oceanography and topography of the Red Sea and Arabian Gulf. Chapter seven reports the marine plankton and genus Ceratium in the west coast of the Red Sea. Chapter eight covers the energy efficiency improvement utilizing high Technology: The path forward for renewable energy use in industry, buildings and sustainable development 183. The ninth chapter investigates the bioethanol production from shrimp shell waste Using Marine Alcaligenes faealis MS7 and Candida albicans ATCC 14053. The tenth chapter covers the comparison of two packages for tidal analysis and prediction: an exemplar case study of Abu-Qir Bay, Alexandria, Egypt. Chapter eleven reports the physico-chemical studies of Suez Canal water from port said to Suez for its evaluation and protection. Chapter twelve covers the morphological structure of bays and sharms as a factor affecting in distribution of marine physics parameters, the Red Sea. Chapter thirteen investigates the suitability of Lake Manzala management System (Qalaal and Unum Drains Waters) for Water Reuse. Chapter fourteen reports the water and nutrient budgets of Lake Burullus, Egypt. Chapter fifteen covers the geological model delineation of submarine system channels in west delta deep marine concession, Egypt. Chapter sixteen reports the antimicrobial of 5-(4'-bromobenzyl)-1,3,4-thiadiazole-2-amine derivatives. Chapter seventeen recorded the isolation and characterization of chitinolytic actinomycetes from estuarine origin in South India. Chapter eighteen reports the isolation of extremely halophilic bacterium Bacillus trueperi. RRJS1 optimized with physico-chemical factors and nutritional sources for protease activity. Chapter nineteen investigates the toxicological studies on the Red Sea Pufferfish Arotheta hispida (Linnaeus, 1758) and River Nile Pufferfish Tetraodon lineatus (Linnaeus, 1758). Chapter twenty reports the studies on the various allometric relationships in the intertidal horse mussel Modiolus auriculatus of the Red Sea, Egypt.

Principles and Practices of Water Resources Development and Management

M. Hossain Ali (Agricultural Engineering Division, Bangladesh Institute of Nuclear Agriculture (BINA), Principal Scientific Officer, and Head, Bangladesh)

In series: Water Resource Planning, Development and Management


Hardcover: 978-1-63485-175-6, $190.00.
e-book: 978-1-63485-205-0, $190.00.

Freshwater management challenges are increasingly common. Allocation of limited water resources between agricultural, municipal and environmental uses now requires the full integration of supply, demand, water quality and ecological considerations. Water is the scarcest resource. The importance of the resource for the survival of the modern society - sustaining agricultural and industrial growth, and the retardation of environmental degradation needs no elaboration. Sustainable development and management of the resource require scientific and systematic approaches. This book covers the major aspects of water resources development and management such as the assessment of such resources, estimation of groundwater recharge, water-well construction and groundwater hydraulics, management of the resources, water contamination, protection of the resources, economics in water resources, statistical methods in water resources, and use of models in water resource management. When necessary, workout problems are provided to explain the application of theory/methodology in practice. This comprehensive and compact...
presentation of the book will serve as a textbook for undergraduate students in Civil Engineering, Environmental Engineering, Agricultural Engineering, Water Resources Engineering, and Geotechnical/Geoscience Engineering. Students of other relevant branches such as Hydrology, Geology, Hydrogeology, Geochemistry, Bio-Science Engineering, and engineers working in the field and at research institutes will also benefit from the lessons within its pages. Although the target audience of the book is undergraduate students, post-graduate students will also learn from this book. Considering the topics and depth covered, engineers, scientists, practitioners, and educators will find this book a valuable resource as well.

**Riparian Zones: Characteristics, Management Practices and Ecological Impacts**

Oleg S. Pokrovsky (CNRS, Geoscience and Environment Toulouse, BIO-GEO-CLIM laboratory, Tomsk State University, Russia and Institute of Ecological Problems of the North, RAS, Arkhangelsk, Russia)

In series: *Environmental Research Advances*

Hardcover: 978-1-63484-613-4. $230.00.

Riparian ecosystems occur in semi-terrestrial areas adjacent to water bodies and are influenced by freshwater. Riparian wetlands are defined as land areas adjacent to perennial, intermittent, and ephemeral streams, lakes or rivers. As a result, these areas have high water tables and periodic flooding. They support a wide range of wetland vegetation including emergent macrophytes, grasses and trees. Riparian zones and wetlands are among the most vulnerable natural ecosystems to both climate change and human impact, and they are likely to represent important hot spots for climate change adaptation. The riparian ecosystems, located at the interface between water and land, are extremely dynamic environments in terms of structure, function, diversity and strength of abiotic-biotic feedbacks. Nowadays, the riparian wetlands are strongly affected by both global climate change and human activity. For these reasons, there is a steady and even abrupt increase of scientific publications linked to riparian problems. A web search of “riparian” as a topic yielded more than 16,000 papers published between 1950 and 2015, with 7,000 of them have been published over the past five years and 10,500 produced over the preceding sixty years. This rise of scientific interest is, however, strongly biased geographically. A search of “riparian” in the titles of 4,773 scientific publications (1950-2015) yields high geographical bias with papers studying all aspects of riparian zones in the United States, Brazil, China, Canada, Africa and Europe, respectively, and only one in Russia. This book is intended to partially fill this gap by presenting nine chapters describing the studies of riparian and flood plain zones of Russia. The fourteen chapters of the book, written by the experts in the field of landscape geography, biogeochemistry, GIS techniques and biology cover two of the most important riparian zones of the world: the Amazon varzea and the Ob/Irtysh floodplains. A multidisciplinary approach across wide geographical scales and various techniques presented in this book will be interesting for a large community of scholars, students, and researchers from academic and private organizations. Target Audience: Public organizations working in the field of academic science (primarily, universities and academic research units) Biogeochemists, ecologists, environmental engineers, conservational ecologists, universities.

**Rural Poverty and Degradation of Natural Resources in Ghana**

Alex Obeng Somuah and Edward Debrah Wiafe (University of Cape Coast, Cape Coast, Ghana)

In series: *Environmental Health - Physical, Chemical and Biological Factors*

Hardcover: 978-1-63485-408-5. $82.00.
e-book: 978-1-63485-424-5. $82.00.

The origin of rural poverty is complex and multidimensional. Some aspects of this origin include culture, climate, gender, markets, and public policy. Similarly, the rural poor population is quite diverse both in the problems they face and the possible solutions to those problems. This book examines nature and characteristics of rural poverty and how it develops, its persistence, and how it has caused destruction to environmental resources. The quest for global stability and peace has placed poverty issues at the centre of deliberation. In the year 2000, the eight Millennium Development Goals (MDGs) directly addressed the problem of poverty and its alleviation. Natural resources degradation is usually understood in terms of over use of scarce non-renewable and potentially renewable resources. It entails damage or destruction of key natural resources—such as soils and forests—and the subsequent production of wastes. Low-income rural dwellers have much lower levels of consumption than middle and upper income groups, but occupy much more land per person than middle and upper income groups. Yet, low income groups consume less food and generally have diets that are less energy and land intensive than higher income groups. However, low income populations deplete natural resources for settlements, farming and extraction of resources for many urban dwellers. This book has created the linkages between poverty in rural areas and environmental resources degradation. It draws conclusions from examples from all over the world and emphasizes on a case study in rural Ghana. This book is recommended for academicians, rural development professionals, environmentalists and the general public.

**Study on Persistent Organic Pollutants and Their Legal Governance in China**

Yuanyuan Zeng, Ke Zhou and Qian Zeng (Environmental and Resources Law Teaching and Research Center, Law School of Renmin University of China, China)

In series: *Pollution Science, Technology and Abatement*

Hardcover: 978-1-63482-275-6. $82.00.
e-book: 978-1-63484-255-6. $82.00.

This book includes six chapters. The first chapter introduces the characteristics and the classification of POPs; the second chapter explains the harm of POPs from the perspective of environmental science; the third chapter introduces in detail the distribution characteristics of POPs in China; the fourth chapter analyses the need for legal governance to prevent and control pollution of POPs in China from the perspective of legislation; the fifth chapter comprehensively reviews the relevant laws, regulations and rules on prevention and control of POPs in China, from the macro level and micro level; and the sixth chapter analyses the problems during the process of legal governance and offers some suggestions from four links, including legislation, enforcement, judicature and law-abiding. The authors hope this research can play a role in the legal governance of POP pollution in China and also hope readers will understand the state of legal governance of POPs in China. The authors ask that they give some valued comments for the environmental protection of China.

**Terrestrial Biomes: Geographic Distribution, Biodiversity and Environmental Threats**

Marlon Nguyen

In series: *Environmental Health - Physical, Chemical and Biological Factors*

2016. 139 pp.
Hardcover: 978-1-63484-625-7. $190.00.
Water, the most represented substance in the human body, is a trace of the primordial sea where life originated. Its virtues may be represented by the Venus of Botticelli coming out from the sea, as well as by Velasquez’s water seller and by Aristophanes’ chant of the clouds. Water has been connected with medicine from time immemorial and is a common good. For Sumerians, the physician was the man who new water. Homer’s (850-750 BC) mythical tradition made Ocean and Thetys progenitors of all gods and of the world. Hesiod (ca. 700 BC) chanted Poseidon, the sea-lake god, who could cause tempests and seakales, generate springs, and also confer the power to walk on water like on earth. For Thales of Miletus (6th-5th centuries BC), water was the basic unique cosmosic element (Arkhê) from which all matter originated. Such theory was echoed by Aristotle (4th Century BC), Cicero and Seneca (1st Century BC) among others. For Hippocrates, moist was a fundamental quality. Galen outlined a therapeutic plan based on preponderance and interaction of four humours (air, earth, fire and water) and four qualities, one being the moisture. Modern science started in Syracuse, where Archimedes discovered the hydrostatic principle. Water has an ambivalent character. It is a curse and a blessing. Floods devastated the earth in the Epic of Gilgamesh, in the Bible, in the Koran and at the end of 2004 during the Tsunami. The kidneys are an efficient water factory. Every minute, 125 ml of fluid are filtered. Everyday, a 70 kg adult man filters 180 litres of fluid, which is reabsorbed at a rate of 99.9%. So the kidneys pass yearly 65,700 litres of fluid and during an average life of 75 years it sums up nearly five million litres. Water is a substance constituted by two units of hydrogen bond covalently with one atom of oxygen. The oxygen atom has a greater attraction for electron than the hydrogen atom, the oxygen atom is more negative than hydrogen. Thus the water molecule is in a polarized state, and presents as a tetrahedron with oxygen in the center. Water boils at 100 °C and freezes at 0 °C. The maximum density is achieved at 4 °C. Water specific heat is 0.9972. Its viscosity, measured at 25°C in poise, is 0.008937. Water has the highest specific heat with the exception of liquid ammonia. Heat capacity, which can be calculated as mass times specific heat, is maximal in the nervous system. In humans, water represents 95% of the body weight in the first month of life and nearly 60% in adulthood, being a little more in males, a little less in females and in the obese. In the last century, at the time of the cold war, the information was generated in Moscow about the discovery of polywater, a new form of water, which could be produced in tiny drops in very thin tubes. Astonishingly it boiled at 200 °C and had an initial freezing point of around -30 °C. Polywater was a case for concern among states because of its potential capability to pollute normal water. Finally it was demonstrated that it was just an artefact due to contamination. Jacques Benveniste, a French immunologist of good reputation came to the conclusion that water saved the memory, being impregnated like a cast. However stringent experiments performed at suggestion of the Editor, showed that water could not act as a template for its molecule.

The Role of State Revolving Funds in Clean Water and Drinking Water Infrastructure: Overview and Sustainability Issues

Cecil Jones

In series: Water Resource Planning, Development and Management
2016. 96 pp.

The Environmental Protection Agency (EPA) estimates that more than $680 billion is needed to repair and replace water and wastewater infrastructure nationwide over the next 20 years. Under the Clean Water Act and Safe Drinking Water Act, the federal government contributes some funding to states through EPA’s Clean Water and Drinking Water state revolving funds (SRF) programs. States use this funding to make low-or no-interest loans to communities to build water and wastewater infrastructure, in addition to other assistance. These loans are repaid with interest, and these funds are then used for future loans. This book examines factors that affect selected states’ abilities to sustain their SRF funds; selected states’ actions to enhance their SRF economic viability; and the need for better coordination between SRF and other water infrastructure assistance programs.
Volatile organic compounds (VOCs) are hazardous chemicals that cause a number of environmental and human health problems. They are released during a wide range of industrial, transportation, and commercial activities and their emissions have reached high levels. This book provides a review of the occurrence, behavior, and ecological implications of VOCs. Chapter One evaluates the biogeneration of volatile organic compounds produced by microalgae. Chapter Two investigates VOC pollution from industrial complexes and wastewater treatment plants (WWTPs). Chapter Three illustrates the current knowledge of intra- and inter-organismal Microbial Volatile Organic Compounds (mVOCs)-based interactions, volatile perception, signal transduction and phenotypical responses in the receiver organisms. Chapter Four summarizes the current state of knowledge regarding the impact of emissions from gasoline powered vehicles on historical ambient VOC concentration trends, and on the current ambient urban atmosphere of the South Coast Air Basin. Chapter Five discusses the oxidation of VOCs over pyrolytic catalysts. Chapter Six studies VOCs from truffles and false truffles from Basilicata in Southern Italy. Chapter Seven discusses the removal of VOCs in the air by total catalytic oxidation promoted by catalysts.

Water Filtration Systems: Processes, Uses and Importance

**Jenesse Terrell**

In series: *Water Resource Planning, Development and Management*


Hardcover: 978-1-63484-039-2. $110.00.


Water shortages are a reality all over the world, and supplying water to urban centers is one of the challenges of modern society. This book examines the processes, uses and importance of water filtration systems. It begins with a discussion on osmosis pretreatment of seawater for thermal desalination. The following chapter reviews the Neptune Project. Chapter three demonstrates that the use of electrocoagulation coupled with microfiltration/ultrafiltration membranes is a possible technique to adjust the quality of reclaimed municipal wastewater for water reuse. Chapter four provides an evaluation of ion exchange as a pretreatment method to decrease membrane fouling. The last chapter addresses the treatment of the effluents by-produced in olive mills, generally called olive mill wastewaters.

Water Utilities Use of Asset Management Practices: Assessments and Opportunities

**Alfred Caldwell**

In series: *Water Resource Planning, Development and Management*

2016.

Softcover: 978-1-63485-937-0. $95.00.


Recent catastrophic breaks in water mains and sewer discharges during storms are indicators of the nation’s old and deteriorating water and
wastewater infrastructure. EPA estimates that small water utilities—those serving fewer than 10,000 people—may need about $1.43 billion for drinking water and wastewater infrastructure repairs and replacement over 20 years. EPA and USDA provide the three largest sources of federal funding for water infrastructure. In a March 2004 report, the United States Government Accountability Office (GAO) found that water utilities may benefit from implementing asset management—a tool used across a variety of sectors to manage physical assets, such as roads and buildings. This book examines what is known about the use of asset management among the nation’s water utilities—particularly small water utilities—including benefits and challenges and steps EPA and USDA are taking to help small water utilities implement asset management.

**FOOD SCIENCE**

*Applications of Ultrasound in the Beverage Industry*

**Juan Francisco García Martín (Department of Chemical Engineering, University of Malaga, Campus Teatinos, Malaga, Spain)**

In series: *Food Science and Technology* 2016. 164 pp.

Hardcover: 978-1-63485-069-8, $110.00.

Ultrasound is regarded as an emerging and promising technology in industrial food processing. In recent years, several applications of ultrasound in relation to the production of beverages, mainly wines and juices, have been assayed at a laboratory scale. To be specific, ultrasound has been used for enhancing heat transfer, detection of microbial contamination, reducing membrane fouling in beverage clarification, inactivation of microorganisms, equipment cleaning, process monitoring, assisted extraction, and accelerating reactions within beverages. Many of its uses are still being researched. With regard to the latter one, some researchers have focused their attention on accelerating wine aging through ultrasound in order to bring about the same effects as natural ageing on wine in a very short period.

Besides, since the beverage industry produces a million tons of byproducts per year, which represents a major disposal problem, ultrasound can be applied as an innovating and green extraction technology to recover bioactive compounds from fruit beverage-derived byproducts. This book presents an overview of the current applications of ultrasound in beverage industries. The most recent developments are discussed and future prospects for research in this field are explored. Finally, the mechanism of microbial disinfection, available ultrasound reactor designs and guidelines for important operating parameters are also discussed.

**Beer: Production, Consumption and Health Effects**

**William H. Salazar**

In series: *Food and Beverage Consumption and Health* 2016.


Beer is defined as a fermented alcoholic beverage made of malted cereals, water, hops, and yeast. This alcoholic beverage has been consumed for thousands of years, when independent events revealed that some juices fermented when left in the open air, giving as a result a completely different product. The first chapter of this book aims to examine the role of beer in medicine from around 2000 B.C. to A.D. 1000 in Mesopotamian, Egyptian, Greek, and Roman texts. Chapter Two presents the possibilities of beer fermentation with encapsulated yeast cells. Chapter Three reviews the effects of the monod addition and the yeast strain used for fermentation, on the beer chemical properties. Chapter Four focuses on the quantitative analytical methods to organic ingredients in the quality control process for beer production. Chapter Five studies the role of Saccharomyces spp. in the brewing process and its serial repitching impact. Chapter Six provides a discussion on the inactivation of beer yeast by microbubbled carbon dioxide at low pressure and quality evaluation of the treated beer.

**Citrus Fruits: Production, Consumption and Health Benefits**

**Daphne Simmons**

In series: *Food and Beverage Consumption and Health* 2016. 202 pp.

Hardcover: 978-1-63484-078-1, $190.00.
e-book: 978-1-63484-079-8, $190.00.

Citrus is the most widely produced fruit in the world and it is grown in more than 80 countries. Due to its varied and wide chemical composition as a consequence of its nature, citrus is an exceptional feedstock to the designing and assessing of biorefineries. A wide spectrum of products are obtained from citrus, which nowadays are extracted and purified into essential oils, antioxidants and other compounds. This book provides research on the production, consumption and health benefits of citrus fruits. The first chapter begins with an overview of citrus based refineries. Chapters two and three discuss hesperidin and narinutin, which are citrus flavonoids. Chapter four studies the use of citrus residues as raw materials for biomolecules and energy. Chapter five collects information from published works about the alternative use of citrus residues as efficient and promising adsorbents in clean water technology. The final chapter examines citrus genetic improvement.

**Ellagic Acid: Food Sources, Potential Role in Human Health and Antioxidant Effects**

**Edmund Brewer**

In series: *Food Science and Technology* 2016. 153 pp.

Softcover: 978-1-63485-658-4, $95.00.

Ellagic acid is a powerful bioactive polyphenolic compound showing a wide range of biological activities and potential beneficial effects on human health. In this book, Chapter One offers an overview of the main food sources of ellagic acid, its glycosides and ellagitannins. Chapter Two studies two Brazilian fruits rich in ellagic acid: the Camu-camu (M. dubia) and the Jaboticaba (M. cauliflora). Chapter Three also presents a collection of the main sources of ellagic acid, as well as structural and safety features related to its applications on diet. Chapter Four shows the effect of ellagic acid on mitochondrial related diseases with an emphasis on its mitochondrial targeting which contribute to these pathological conditions.

**Food Industry: Assessment, Trends and Current Issues**

**Doris Cunningham**

In series: *Food and Beverage Consumption and Health* 2016. 215 pp.

Hardcover: 978-1-63485-792-5, $160.00.

This book provides an assessment of the food industry. It discusses trends and current issues. Chapter One gives an overview of the main microbial enzymes in the food industry. Chapter Two focuses on trends and challenges for the hygiene of conveyor belts in food production. Chapter Three identifies energy-saving opportunities (technological, organisational or behavioural) and describes tailored energy-saving measures in the food and drink industry. Chapter Four evaluates and compares the efficiency of winemaking in two developing countries (Ukraine and Bosnia and Herzegovina) from the perspective of their development. Chapter Five makes a comparison between Denominations of Origins (DO) in Castilla y León in a determined period of time of economical crisis of the wine industry.
An increased demand for recycling has prompted the food industry to become more efficient in its handling of waste. Food waste is among the priority streams for waste prevention worldwide, as it is generated at large quantities at all levels of the food production and consumption chain, in both developed and developing countries, throughout the year. This book discusses practices, management and challenges of food waste. The first chapter discusses current agricultural development systems. Chapter Two presents a review of the works of research that have been developed in the last decade on the use of food wastes as sources of antioxidant compounds, such as polyphenols. Chapter Three provides a critical overview on the studies that deal specifically with food applications, mainly focusing on their potential as sources of fibers and associated phenolics and respective antioxidant activity. Chapter Four contributes to innovation in research on the valorization techniques that have been developed for the use of food wastes as well as examines future directions in the field. Chapter Five reviews conventional methods currently applied in Vietnam for treatment of food waste, and then proposes a promising solution using anaerobic digestion technology. Chapter Six provides an overview of the generation of food waste within households in Greece and investigates the potential for prevention. Chapter Seven investigates heat generation and oxygen levels during the storage of soy sauce squeezing residue and fish meal, by-products of soy sauce and fish production and processing, respectively, by thermal analysis and gas chromatography. The final chapter discusses sugarcane bagasse hemicellulose properties, extraction technologies and xylooligosaccharides production.

Handbook of Seafood: Quality and Safety Maintenance and Applications
İsmail Yüksel Genc, Eduardo Esteves and Abdullah Diler (Suleyman Demirel University Fisheries Faculty, Çünür, Isparta, Turkey)
In series: Food Science and Technology

Seafood and related products have an important place in the human diet; it provides for the protein needed and has a nutritional composition that has favorable health impacts on human beings. Considering the rapid increase in the world population and the demand in terms of protein needs that are provided by seafood, the necessary need to assure the quality and safety of seafood products has been prioritized. Due to nutritional composition, neutral pH, high moisture content, weak connective tissue and living environment (fresh and seawater), seafood is very perishable. Maintaining the quality and safety of seafood needs higher attention compared to other food products. This handbook compiles recent methods and applications, as well as technologies utilized to guarantee the quality and safety of various types of seafood from harvesting to the retail level. The status of emerging hurdle technology applications, genomic, mathematical and computer-based methods, quality economics together with chemical, sensory and microbiological changes, and quality/safety of seafood products are reviewed and discussed in this book. The emphasis on less-known or under-valued species from different locales was intentional. This handbook is an abridged, streamlined but relatively comprehensive reference for food engineers and technologists, producers from the industry, and undergraduate and graduate students studying this field of academia. Target Audience: Undergraduate and graduate students from the departments of Food/seafood Engineers and technicians from food industry Academicians from the institutes and universities whose research interests lie on determination of seafood quality and safety.

High Intensity Pulsed Light in Processing and Preservation of Foods
Gianpiero Pataro and James Lyng (Department of Industrial Engineering, University of Salerno, Fisciano, Italy)
In series: Food Science and Technology
2016. 301 pp.

High intensity pulsed light (PL) is one of the most appealing non-thermal technologies, due to its short treatment time and its wide range of applications in the preservation of packaged and unpackaged food products, as well as non-preservation processes for the food industry, water disinfection and medical applications. This is confirmed by the large increase in research articles published on the subject over the past years, and increasing interest from food producers concerning the use of this technology. High Intensity Pulsed Light in Processing and Preservation of Foods is the first book specifically focused on PL technology in a convenient single-source volume. It offers an incisive view on the latest developments and advances in this exciting technology from the perspective of microbiologists, biochemists, food technologists, electrical, environmental and food engineers, and medical doctors. On completion, it will provide a comprehensive overview of this field, highlighting the positive aspects of pulsed light applications as well as discussing areas of weakness and future trends. The book first provides basic information on the need for food preservation, the decontamination problems faced by the food industry and the expectations of the consumers. The most appealing current and emerging methods are briefly described, providing a general review of the applications and the efficacy of conventional UV light for the purpose of inactivating microorganisms in the food and water. Part I follows the introduction and reviews the principles of PL technology as non-thermal decontamination methods of foods while also describing equipment for generation of PL, the main critical design factors and control parameters. It also deals with the potential safety hazards when treating foods with PL. Part II critically analyzes and discusses the effect of PL on safety and quality of food products. It elucidates mechanisms of microbial inactivation, discusses critical processing factors, reviews current background on the inactivation kinetics of microorganisms and enzymes as well as the impact on bioactive molecules, nutritional properties and quality parameters in foods. The use of PL as part of a hurdle or minimal processing strategy in conjunction with other factors or techniques of preservation is also considered. Finally, the third part of the book describes applications of the PL technology past the food sector, such as for water disinfection and parts of the medical field as well as regulatory aspects. High Intensity Pulsed Light in Processing and Preservation of Foods is a valuable reference for members of both academia and industry who are interested in gaining wide and comprehensive knowledge of PL technology.

Ochratoxin A: Biosynthesis, Detection and Biological Toxicity
Wentao Xu (Beijing Advanced Innovation Center for Food Nutrition and Human Health, College of Food Science & Nutritional Engineering, China Agricultural University, Beijing, China)
In series: Food Science and Technology
Ochratoxin is a kind of secondary metabolite produced by Aspergillus and Penicillium. It mainly contains Ochratoxin A (OTA), Ochratoxin B (OTB), Ochratoxin C (OTC), 4-hydroxyochratoxin A and Oto, and among which OTA has the strongest toxicity. Ochratoxin exists widely in a variety of food products, such as wheat, corn, soybean, oats, barley, coffee beans, meat and cheese. Ochratoxin carries potential health-associated risks, and it has caused wide public concern in recent years. This book has been written with the aim of helping investigators in this field by providing information about the production, isolation, purification and the toxic mechanism of OTA. This book consists of six chapters. Section I introduces the discovery and the classification of ochratoxin. Section II describes the biosynthesis and metabolism of OTA and the ways of OTA control. Section III deals with detection methods of OTA. In the last three sections, toxicities of OTA are the emphasis of this book. The kidney and the liver are the main target organs of OTA. Nephrotoxicity, hepatotoxicity and other toxicities, such as intestinal metabolism toxicity and reproductive toxicity, are stated in section IV, V and VI, respectively. In these sections, methods of both traditional toxicology and molecular toxicology evaluation are applied to explore OTA-induced toxicity. Traditional toxicology describes the changes of OTA-induced toxicology indexes, containing blood biochemistry indexes and pathological parameters, and the molecular toxicology mainly focuses on the signaling pathways of its toxicity. A combinatorial approach encompassing miRNA, mRNA, and proteomic profiling and bioinformatics methods have also been used to study the molecule mechanisms.

Pomegranate: Chemistry, Processing and Health Benefits
Augusta Caligiani (Department of Food Science, University of Parma, Parma, Italy)
In series: Food Science and Technology 2016. 230 pp.
Hardcover: 978-1-63485-451-1. $160.00.

Pulsed Electric Fields (PEF): Technology, Role in Food Science and Emerging Applications
Shaun Lynch
In series: Food Science and Technology 2016. 230 pp.
Hardcover: 978-1-63485-451-1. $160.00.

Pulsed Electric Fields (PEF) is a method used in non-thermal food preservation. Chapter One of this book provides inactivation kinetic models for PEF treatment. Chapter Two discusses PEF in the winemaking process. Chapter Three reviews fruit juice preservation. Chapter Four investigates the effect of amplitude and treatment time of PEF on E. coli in carrot juice. Chapter Five analyzes the contribution of major electrical parameters on PEF treatment of Salmonella typhimurium in grape juice. Chapter Six reviews the effect of PEF on the quality of fresh apple fruits. Chapter Seven examines further potential of PEF treatments for the food industry. Chapter Eight discusses network simulation of the electrical response to PEF of ion-exchange membranes in electrodialysis.

Recent Advances in Wine Stabilization and Conservation Technologies
António Manuel Jordão and Fernanda Cosme (Polytechnic Institute of Viseu, Department of Food Industries, Quinta da Alagoa - Estrada de Nelas, Viseu, Portugal)
In series: Food Science and Technology 2016. 271 pp.
Hardcover: 978-1-63484-883-1. $190.00.

Red Wine Consumption and Health
Lana Soto
In series: Food and Beverage Consumption and Health 2016. 125 pp.
Hardcover: 978-1-63484-411-6. $110.00.
e-book: 978-1-63484-426-0. $110.00.

Red wine is a rich source of different phenolic compounds which contribute to sensorial wine characteristics and can exhibit various biological properties. In vitro and animal studies have suggested that phenolics present in wine may exert a wide range of potential beneficial effects to human health, which involves antioxidant, anti-inflammatory, cardioprotective, neuroprotective, anti-diabetic and anti-
cancer activity. In this book, Chapter One discusses available data concerning the most important clinical trials focused on the biological effects of wine and wine phenolics, particularly resveratrol. Chapter Two examines the benefits of the use of starter cultures in wine microbiological processes. Chapter Three reviews the antioxidant activity of Glycine max L. Merr, Hibiscus Sabdariffa L., yellow tea and red wine, and their contributions to health. Chapter Four presents the relationship between the chemical composition and the organoleptic properties of red wine.

Soybean Oil: Uses, Properties and Role in Human Health
Carol G. Henderson
In series: Food Science and Technology
In series: Agriculture Issues and Policies
2016.
Softcover: 978-1-63485-746-8. $82.00.
e-book: 978-1-63485-770-3. $82.00.
The soybean (Glycine max (L.) Merrill) has become one of the most used agricultural products in the world as an ingredient in human and animal nourishment. One important product obtained from soybean is its oil, considering that the grain contains around 18-21 wt% of oil. This book reviews the uses, properties and role in human health of soybean oil. Chapter One explores feasible spectroscopy procedures which could be handled through chemometric methods in the evaluation of soybean oils. Chapter Two describes the synthesis of plastic foams based on epoxidized soybean oil, which were further reinforced with short sisal fibers to yield completely biodegradable natural polymer foam composite material. Chapter Three reviews the uses and properties of soybean oil and describes the authors’ clinical experience in this role in human health. Chapter Four discusses the effects of fresh and heated soybean oil on cardiovascular disease which includes dyslipidemia, hypertension, and coronary heart disease.

Soybeans: Cultivation, Nutritional Properties and Effects on Health
Bruce Fletcher
In series: Food Science and Technology
2016.
Hardcover: 978-1-63485-842-7. $190.00.
e-book: 978-1-63485-866-3. $190.00
This book provides current research on the cultivation, nutritional properties and effects on health of soybeans. Chapter One examines the antioxidant defense system in foliar and seed extracts of seven soybean cultivars. Chapter Two introduces phytic acid, an anti-nutritional factor in soybean seeds, soybean mea and phytic acid in animal production, low phytic acid (LPA) soybeans, LPA soybeans in meal production, and the potential problems with LPA soybean varieties. Chapter Three explains the mechanisms that regulate the triggered responses produced by different insect pests on soybean organs. Chapter Four reviews possible risks of food chain contamination and the possibility of crop loss from soybeans being exposed to arsenic. Chapter Five focuses on the behavior of soybean plants inoculated with the mycorrhizal fungus Rhizophagus intraradius, subjected to i) a sudden and severe water stress; ii) increasing levels of arsenic (As) in soil, and iii) a biotic stress such as the fungal disease charcoal rot. Chapter Six evaluates the deoxyxynivalenol and zearalenone toxin transmission caused by several F. graminearum isolates, and their effect on seed viability and flour quality of soybean and wheat. Chapter Seven discusses the changes in the form of growing soybeans after the emergence of transgenic soybeans in Brazil, seeking to discuss their advantages and disadvantages in relation to environmental, social and economic areas. Chapter Eight focuses on the ecology, diversity and pathogenicity of the Fusarium graminearum species complex in soybean agroecosystem in Argentina. Chapter Nine describes sustainable chemical control of LSD, FLS and ASR, framed within a program of integrated disease management.

Sweet Potato: Production, Nutritional Properties and Diseases
Doris Sullivan
In series: Food Science and Technology
2016. 139 pp.
Hardcover: 978-1-63484-461-1. $110.00.
Sweet potato is a short-cycle, dicotyledonous plant in the morning glory family Convolvulaceae. It is a vegetable crop with roots that are sweet-tasting, starchy and tuberous. It is native to the tropical regions in America, from where it spread to other parts of the world. Chapter One of this book focuses on the production, nutritional patterns and diseases of sweet potatoes. Chapter Two studies boron management in sweet potato crops. Chapter Three provides a review of the food applications and health benefits related to antioxidant activity of phenolic compounds from sweet potato peels and leaves.

Tropical Fruits – From Cultivation to Consumption and Health Benefits: Guava and Mango
Svetoslav Dimitrov Todorov and Cristina Stewart Bogsan (Veterinary Dept., Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil)
In series: Food and Beverage Consumption and Health
Hardcover: 978-1-63484-674-5. $160.00.
e-book: 978-1-63484-682-0. $160.00.
Food or medicine? That is the question related to our everyday lives... Fruits are an important part of daily nutritional habits and can be recognized as a supplier of vitamins, minerals, fibers, antioxidants, etc. On the other hand, however, they can influence our GUT microflora and can have a direct and indirect impact on our health. Our ancestors had no knowledge of plant taxonomy, enzymes, antioxidants, or microbiology; they even knew nothing about the existence of the microbes and all these molecules. However, they had one very powerful piece of knowledge, and that was knowledge of traditional know-how. Based on personal experience and the knowledge transferred from parents to children throughout the centuries, they knew about the beneficial properties of fruits, vegetables, and medical plants. The longest part of this history was based on empirical knowledge gained by experience without former knowledge of either mechanisms or scientific basis. If we look back in history, we can find the use of various fruits, vegetables and medical plants in the treatment of numerous diseases; they appreciated for their nutritional value or used in everyday domestic processes. Based on empirical experience, a high number of fruits have been used in traditional medicine. Empiric knowledge, frequently transferred from one generation to the next, was the only basis for preparation and application of these products in the past. Mangos (Mangifera indica L.) and guavas (Psidium guajava) have been widely acknowledged as nutritionally valuable fruits that act excellent sources of vitamins and minerals. They have been cultivated in tropical and subtropical parts of the world. Many research investigations reveal that both plants exhibit numerous medicinal properties. They have been used to treat many ailments by acting as antioxidants, antidiabetics, anti-inflammatory agents, anti-diarrhea supplements, aiding with hypolipidaemia, and anti-cancer promoters. Mangos have been found to be widely used in food, cosmetic and pharmaceutical industries, while guavas are processed mainly into food products. However, their physical, chemical, and sensory attributes of undergo changes upon the ripening process. Thus, different methods of storage and packaging are developed to prolong the shelf life and maintain the quality of these fruits. From the viewpoint of the twenty-first century scientist, we have sufficient knowledge to address various beneficial properties to mangos and guavas. Nowadays, the application of different parts of the mango and guava plants could be seen in the preparation of numerous bioactive molecules. These molecules include enzymes, antibacterial proteins, antioxidants, and various extracts applicable in modern medicine, food industry, etc. In this book, we
have tried to collect materials covering some aspects from characterization and origin of the mango and guava plants into the taxonomical position of the plants to summarize information about the application of the fruits and other parts of their plants.

Clara Green
In series: Food and Beverage Consumption and Health
Hardcover: 978-1-63484-651-6. $120.00.
e-book: 978-1-63484-659-2. $120.00.
Most U.S. households have consistent, dependable access to enough food for active, healthy living—they are food secure. But a minority of American households experience food insecurity at times during the year, meaning that their access to adequate food is limited by a lack of money and other resources. USDA’s food and nutrition assistance programs increase food security by providing low-income households access to food, a healthful diet, and nutrition education. USDA also monitors the extent and severity of food insecurity in U.S. households through an annual, nationally representative survey sponsored and analyzed by USDA’s Economic Research Service (ERS). Reliable monitoring of food security contributes to the effective operation of the Federal food assistance programs, as well as that of private food assistance programs and other government initiatives aimed at reducing food insecurity. This book presents statistics from the survey covering households’ food security, food expenditures, and use of Federal food and nutrition assistance programs in 2014.

Xanthan Gum: Applications and Research Studies
Michelle Butler
In series: Food Science and Technology
2016.
Hardcover: 978-1-53610-010-5. $160.00.
Xanthan gum is a microbial heteropolysaccharide of high molecular weight produced through fermentation by bacteria of the genus Xanthomonas that have a wide range of applications in food and non-food industries due to their physical properties and rheological characteristics. In this book, the first chapter discusses the characteristics, properties, and the use of xanthan gum in the food industry. Chapter Two provides a review of the use of xanthan gum in the nixtamalization process. Chapter Three focuses on the application of xanthan gum to formulate sustained release tablet and floating drug delivery systems. Chapter Four interprets and models the rheological behavior of oil-in-water emulsions stabilized singly with xanthan gum or combined with different hydrocolloids, like guar gum or potato starch. Chapter Five discusses the relevance of xanthan gum to formulate chickpea flour-based gluten-free batters and muffins.

GEOLOGY

Asbestos: Risk Assessment, Health Implications and Impacts on the Environment
Dean L. Simmons
In series: Geology and Mineralogy Research Developments
Hardcover: 978-1-63485-371-2. $110.00.
e-book: 978-1-63485-386-6. $110.00.
Asbestos is the commercial name for various mineral silicates associated with numerous respiratory diseases, notably mesothelioma, asbestosis and lung cancer. This book examines risk assessments, health implications and impacts on the environment of asbestos.

Chapter One provides a summary of exposure during abatement/removal of asbestos-containing floor tile and mastic. Chapter Two discusses the epidemiological patterns of environmental asbestos-related disease. Chapter Three reviews the reduction of anti-tumor immunity caused by asbestos exposure. Chapter Four summarizes current knowledge about the putative role of asbestos exposure in intrahepatic cholangiocarcinoma carcinogenesis. Chapter Five determines the impact of malignant mesothelioma (MM) using average life years lost and lifetime healthcare expenditures in Taiwan. Chapter Six reviews recent perspectives on both asbestos-related pleuritis and anti-neutrophil cytoplasmic antibody (ANCA)-related vasculitides. Chapter Seven clarifies subjects for protective policies against asbestos disaster and the meanings of local government asbestos measures in the case of Japan. Chapter Eight includes an overview of the mineralogical and morphological characterization of asbestos in Argentina.

Research Frontiers of Sedimentary Basin Interiors: A Case Study and Methodological Review on an Oblique Convergent Margin
Yasuto Itoh, Shigekazu Kusumoto and Keiji Takemura
(Graduate School of Science, Osaka Prefecture University, Osaka, Japan)
In series: Geology and Mineralogy Research Developments
2016. 102 pp.
Softcover: 978-1-63485-250-0. $95.00.
e-book: 978-1-63485-575-4. $95.00.
In this book, the leading edge of basin research is presented in the course of a detailed case study on an oblique convergent margin. Sedimentary basins are rich in natural resources and often overlain by densely populated residential areas, then draw attention of technical experts who are engaged in the field of civil engineering, disaster prevention, natural resource exploration, and so forth. Such a pragmatic viewpoint aside, clastic materials filling basins are a good example of the developmental process of the Earth’s surface. Detailed analysis reveals paleoenvironmental changes linked to eustatic sea-level changes and the uplift and exhumation process of hinterlands governed by longstanding tectonic episodes. The authors review the latest analytical methods of the gravity anomaly. Apart from conventional gravimetric prospecting, recently developed innovative methodologies have tremendous usability to aid in comprehending the deep three-dimensional structure of the sedimentary basins. Combining stratigraphic/sedimentological data of numerous boreholes and high resolution profiles of the reflection seismic survey, the authors visualize the deep interior of a fault-related basin in the Japanese Islands as an ideal example that has been studied by many research and never been understood in a multidisciplinary way. Surely, this book provides audiences with an integrated vision of the basin evolution processes under the influence of dynamic spatial and temporal changes in tectonic regimes on active plate margins. Target Audience: Contents of this book should attract broad audiences such as corporate experts, university staffs, graduate and undergraduate students engaged in geologic/geophysical survey, and should be especially useful to professionals in the field of active tectonics and environmental analysis. The audience will really benefit from the contents therein because they encounter with a new paradigm of basin research.

INTERNET

High-Speed Internet Access on Tribal Lands: Assessments and Perspectives
Alice Chambers
resources. The Internet of things (IoT) encompasses a wide range of objects and technologies such as radio frequency identification (RFID), near field communication (NFIC) and wireless sensor and actuators networks (WSANs). Moreover, IoT encompasses different communication standards, protocols, and data formats so that the IoT environment is heterogeneous, decentralized and complex. The definition of standards and architectures in different levels of abstraction is an essential need of the IoT environments. Chapter One of this book examines architectures, technologies and applications in the Internet of Things. Chapter Two presents the development and implementation of an industrial communication system for remote monitoring and management of industrial processes. The proliferation of devices with the ability to communicate and transmit information to each other is the basis of the dynamics of IoT, enabling new communication capabilities, data processing and access to information. Perceived as a means to generate both social and economic impacts among the information society, IoT defy the current Internet Governance framework and the role of the public sector. Accordingly, Chapter Three aims to present the current IoT governance scenario, its main challenges, the role of the governments and the need to develop public-private partnerships for technical cooperation in the governance of IoT resources.

In series: Internet Theory, Technology and Applications 2016.
Softcover: 978-1-63485-936-3, $62.00.

High-speed Internet service is viewed as a critical component of the nation’s infrastructure and an economic driver, particularly to remote tribal communities. However, in 2015, the Federal Communications Commission’s (FCC) reported that the lack of service in tribal areas presents impediments. This book examines perspectives of tribes and providers on high-speed Internet access and barriers to increasing this access; the level of interrelation and coordination between federal programs that promote high-speed Internet access on tribal lands; and existing data and performance measures related to high-speed Internet on tribal lands.

Internet Governance: U.S. Role and Proposed Transition Issues
Ernestine Saunders
Hardcover: 978-1-63484-920-3, $120.00.
e-book: 978-1-63484-921-0, $120.00.
The Internet is often described as a “network of networks” because it is not a single physical entity, but hundreds of thousands of interconnected networks linking hundreds of millions of computers around the world. As such, the Internet is international, decentralized, and comprised of networks and infrastructure largely owned and operated by private sector entities. As the Internet grows and becomes more pervasive in all aspects of modern society, the question of how it should be governed becomes more pressing. This book reviews the issues, the management, and future of internet governance.

The Internet of Things (IoT): Applications, Technology, and Privacy Issues
Silvia Watts
Hardcover: 978-1-63484-626-4, $110.00.

Advances in Research Techniques for the Study of Sea Turtles
Juan M. Rguez-Baron (JUSTSEA Foundation, Bogota, Colombia), Maria Monica Lara-Uc and Rafael Riosmena-Rodriguez (Departamento de Biología Marina, Universidad Autonoma de Baja California Sur, La Paz, Baja California Sur, Mexico)
Hardcover: 978-1-63484-048-4, $190.00.

Over the last four decades, threats from anthropogenic activities – such as Bycatch, modification or destruction of critical habitats, and use or consumption of products from turtles – along with inherent life history features of sea turtles have declined severely in population sizes. Recently, through modern research techniques, we have learned some important aspects of taxonomy, ecology and biology of these animals; those findings revealed the role of sea turtles in their ecosystems, migratory patterns, habitat use and the main population hotspots and conservation units. This book aims to address the current situation on sea turtle research, to provide an overview of the newest tools and techniques for research, but at the same time provide key elements on management of sea turtles and how they can be used for conservation purposes. Through the detailed description of each technique and case studies that this book contains, students, researchers and academics can properly raise their research questions and experimental designs, which consequently enable them to obtain results comparable to those reported in studies from journals of high impact.

Aquaculture: Management, Challenges and Developments
Joanne G. Buchanan
In series: Fish, Fishing and Fisheries 2016. 150 pp.
Softcover: 978-1-63485-563-1, $95.00.

MANUFACTURING

The Manufacturing Extension Partnership Program: Overview and Assessment
Randolph S. Perkins
Softcover: 978-1-63485-193-0, $62.00.
The Hollings Manufacturing Extension Partnership (MEP) program is a national network of centers established by the Omnibus Trade and Competitiveness Act. The program’s objectives are to enhance productivity and technological performance and to strengthen the global competitiveness of target manufacturing firms, namely small and medium-sized U.S.-based firms. Under this program, National Institute of Standards and Technology (NIST) partners with 60 nonfederal organizations called MEP centers. The centers, located in 50 states and Puerto Rico, help target firms develop new customers and expand capacity, among other things. NIST awards federal funding to centers under annually renewed cooperative agreements, subject to the centers providing matching funds and receiving a positive performance evaluation. This book describes, over the past 5 years, how NIST spent federal MEP program funds and examines the basis for NIST’s cooperative agreement award spending.

MARINE BIOLOGY

Science and Technology
Aquatic Invasive Species: Federal Activities and Costs of Addressing Threats and Impacts
Ernestine Sandoval
In series: Marine Biology
Softcover: 978-1-63485-391-0. $95.00.
Aquatic invasive species—harmful, nonnative plants, animals, and microorganisms living in aquatic habitats—damage ecosystems or threaten commercial, agricultural, and recreational activities. The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 created the Task Force and required it to develop an aquatic nuisance species program. The Water Resources Reform and Development Act of 2014 includes a provision that the United States Government Accountability Office (GAO) assess federal costs of, and spending on, aquatic invasive species. This book examines how much Task Force member agencies expended addressing aquatic invasive species for fiscal years 2012–2014; activities conducted by Task Force member agencies and challenges in addressing aquatic invasive species; and the extent to which the Task Force has measured progress in achieving the goals of its 2013–2017 strategic plan.

Coastal Fishes: Habitat, Behavior and Conservation
Edward K. Martinez
In series: Fish, Fishing and Fisheries
Coasts are dynamic places with interactions between land, sea, rivers and their atmospheres and serve many important functions. Being the interface between the land and the ocean, coastal areas are affected by highly dynamic processes. Coastal spaces also support unique and especially fragile ecosystems, being areas of great environmental and aesthetic value. This book discusses habitats, behavior and the conservation of coastal fishes.

Coral Reefs: Ecosystems, Environmental Impact and Current Threats
Stewart L. Ortiz
In series: Marine Biology
Hardcover: 978-1-63485-081-0. $110.00.
This book provides current research on the ecosystems of coral reefs, as well as the environmental impact and current threats to the coral reefs. Chapter One studies proteins responsive to variable temperature exposure in the reef-building coral Seriatopora hystrix. Chapters Two and Three examine the impact of arachidonic acid’s (ArA) on coral reefs. The final chapter discusses environmental monitoring in the Gulf of Thailand, and the use of coral skeletons as metal pollution recorders.

Geographic Distribution, Ecological Impact, and Conservation Strategies for North American Crayfish
Thomas P. Simon (Indiana State University, Department of Biology, Terre Haute, Indiana, USA)
In series: Fish, Fishing and Fisheries
Hardcover: 978-1-63485-365-1. $110.00.
Geographic Distribution, Ecological Impact, and Conservation Strategies for North American Crayfish is a contribution to the conservation of members of the family Cambaridae. This book is focused on the evaluation of geographic changes caused by landscape scale and land use change that has impacted the ecology of North American crayfish species. The book includes chapters on geographic distributions, conservation strategies, and effects of contaminants on crayfish structure and function. Contributors include a variety of students associated with the Editor, as well as original contributions from the Editor’s colleagues. From the conceptual frameworks to the case studies, Geographic Distribution, Ecological Impact, and Conservation Strategies for North American Crayfish will provide important considerations to assist in the conservation and protection of crayfish, with emphasis on stressors and actions necessary to protect and restore crayfish habitats and populations. This book is necessary for environmental and natural resource managers, researchers, and governmental agencies tasked with the protection, restoration, and management of wildlife populations.

Harmful Algal Blooms and Hypoxia: U.S. Assessments, Research Plan and Action Strategy
Roberta Alvarez
In series: Environmental Health - Physical, Chemical and Biological Factors
Hardcover: 978-1-63485-399-6. $150.00.
Harmful algal blooms (HABs) and hypoxia (low-oxygen conditions) in the marine waters and freshwaters of the United States negatively impact resources across thousands of miles of the Nation’s coastal and inland waters. Their prevalence and duration encompass scientifically complex and economically damaging aquatic issues. This book assesses threats posed by HABs and hypoxia and provides a comprehensive research plan and action strategy outlining Federal agencies’ roles and responsibilities for evaluating and managing them.

Inspection and Control of Mediterranean Fishery Products and Live Bivalve Mollusks
Domenico Meloni (Department of Veterinary Medicine, University of Sassari, Sassari, Italy)
In series: Fish, Fishing and Fisheries
Softcover: 978-1-63485-123-7. $110.00.
The fishery products and bivalve mollusks sector is certainly one of the most complex in terms of sanitary and commercial topics, considering the high number of species that require a precise identification. For all these reasons, the knowledge and the skills in this field remain prerogative of a few experts on the subject and operators who, in time and for various reasons, have acquired specific knowledge and skills. On the other hand, the evolution of community legislation, and especially the growing worldwide interest for fishery products and bivalve mollusks, requires a common system of traceability and labeling aimed at increasing the transparency in commercial transactions, facilitating the identification of the fish and mollusks species and increasing consumer confidence. In this perspective, the proposed publication stands as an easy reference tool intended for all
the stakeholders involved in the Mediterranean seafood chain, and in which some essential elements of the community rules relating to inspection and control of fishery products and bivalve mollusks are revealed. The presence of illustrations will represent a quick and easy way to acquire the essential information to identify the main Mediterranean fishery products and bivalve mollusks of commercial interest.

**Jellyfish: Ecology, Distribution Patterns and Human Interactions**

Gian Luigi Mariottini *(Department of Earth, Environment and Life Sciences, University of Genova, Genova, Italy)*

*In series: Fish, Fishing and Fisheries* 2016.

Hardcover: 978-1-63485-688-1. $230.00.  
E-book: 978-1-63485-713-0. $230.00.

Cnidarian jellyfish are among the most elegant and dazzling organisms inhabiting the global aquatic environment, due to their various and sometimes striking colours as well as their long and dense tentacle structures. Despite their extreme beauty, jellyfish are also considered as a very dangerous and venomous organism. Their genetic makeup provides them with batteries of intracellular capsules (nematocysts) produced by the Golgi apparatus of specialized cells (cnidocytes) from which the whole phylum Cnidaria takes the name (from the Greek κνίδη, which means “nettle”). As a matter of fact, some of these organisms are known as “sea nettles” and present a considerable amount of danger to bathers and sea-workers in several coastal zones around the world. Therefore, the occurrence of jellyfish blooms constitutes a serious threat from a sanitary and economical point of view, preventing humans from visiting beaches, coasts, and coastal waters by interfering with bathing and other recreational and vocational activities linked to the sea. In addition, the connection between jellyfish outbreaks and global environmental changes has been taken very seriously over the past few years. Indeed, human influence and worsening environmental conditions have induced many species to adapt to new situations, bringing about physiological and behavioural modifications. Notwithstanding these negative aspects, jellyfish are considered a resource to be exploited in the fields of drug discovery and as new prospects for human nutrition in countries where the use of such creatures as a food source is not traditional. This book aims to present an up-to-date view about the research on jellyfish by taking into account their ecological role, dynamics and distribution, health aspects and global implications connected to recurrent outbreaks, and the current and future prospects for utilization of these organisms in the fields of drug discovery, ecotoxicology and human nutrition.

**Marine Benthos: Biology, Ecosystem Functions and Environmental Impact**

Rafael Riosmena-Rodríguez *(The Autonomous University of Baja California Sur, Marine Biology Department and Marine Botany Research Program, Mexico)*

Hardcover: 978-1-63484-930-2. $190.00.  
E-book: 978-1-63484-968-5. $190.00.

Marine Benthos: Biology, Ecosystem Functions and Environmental Impact is a book dedicated to show a series of case studies about how benthic habitats are organized and how they function as a tool for any environmental impact studies. The present book documents how the natural condition of these communities is and aims to expand our present knowledge about their organization. The human population growth is driving a very strong pressure over coastal areas, and now more than ever we urgently need elements to evaluate environmental impacts. One of the most striking situations is the loss of biodiversity and the increase of invasive species who modify the trophic networks as well as the community structure. Many endangered species and species related to fisheries depend on the benthic habitat for their basic life cycle stages (reproduction, recruitment, nursery and feeding grounds) who might be impacted by natural and human induced causes. Ranging from species richness studies to population and community structure chapters, this book will bring the reader many options on how to measure environmental impacts. In particular, an analysis of how these environmental studies are made in Mexico provided a good example of how the present report base model is overdue and expresses the need for another approach. Keep in mind the present model does not take into account any statistical approach and is not mandatory in terms of the synergic and accumulative impacts; the lack of this consistency makes evaluation impossible to tell if the impacts are really happening.

**Marine Sediments: Formation, Distribution and Environmental Impacts**

Shirley Williams

Hardcover: 978-1-63485-127-5. $95.00.  
E-book: 978-1-63485-147-3. $95.00.

This current book discusses the formation, distribution and environmental impacts of marine sediments. The first chapter describes the isolation, taxonomic approach, diversity, secondary metabolites and activities of actinobacteria. Chapter Two aims at the verification of anisotropy of magnetic susceptibility (AMS) usability as a textural indicator of rocks, with special emphasis on origin of fluid pathway within tight turbidite sandstones burying a foreland basin. The final chapter reviews aluminum impact on the growth of benthic diatom.

**Sea Turtles: Ecology, Behavior and Conservation**

Candace Patterson

Hardcover: 978-1-63484-981-4. $160.00.  

Modern marine turtles belong to an ancient group of reptiles inhabiting the Earth for over 110 million years, since the Cretaceous. Marine turtles depend on both marine and terrestrial habitats for their growth and development, from high energy beaches to bentic reefs, and the open waters of the seas. All seven species of sea turtles are listed on the International Union for Conservation of Nature (IUCN) Red List of Threatened Animals (IUCN 2011). The threats facing sea turtles are many, both on land and at sea, including habitat loss, predation, and human exploitation. This book examines the ecology, behavior and conservation efforts of sea turtles.

**MATERIALS SCIENCE**

**Advances in Materials Science Research. Volume 23**

Maryann C. Wythers

*In series: Advances in Materials Science Research* 2016. 246 pp.
This book provides readers with the latest developments in materials science research. Topics covered include calcium orthophosphate bioceramics; eco-friendly epoxy thermosets; polymer materials for advanced optical applications; Density Functional Theory (DFT) studies of metal-hydrogen systems for hydrogen storage; and the characterization and properties of bitumen/montmorillonite nanocomposites.

Advances in Materials Science Research. Volume 24
Maryann C. Wythers
In series: Advances in Materials Science Research
2016. 219 pp.
Hardcover: 978-1-63485-097-1. $190.00.
e-book: 978-1-63485-097-1. $190.00.
This book provides readers with the latest developments in materials science research. Topics covered include recent advances in starch based materials; multiphasic calcium orthophosphates; the influence of soft wood contents on material properties, biodegradability and thermoformability of high density polyethylene (HDPE); recent progress on multifunctional thermoplastic-based composites that incorporate carbon nanotubes (CNTs); and stationary energy partition between oscillatory modes in low-dimensional systems at ambient temperatures.

Advances in Materials Science Research. Volume 25
Maryann C. Wythers
In series: Advances in Materials Science Research
Hardcover: 978-1-63485-614-0. $250.00.
This book provides readers with the latest developments in materials science research. Chapter One reports studies using acid leaching, use of microwaves, impregnation, functionalization, and other possibilities that allow consideration of metakaolin as a good precursor to solid catalysts. Chapter Two discusses supramolecular adhesive complexes of stimuli-responsive polymers. Chapter Three reviews the preparation of biomedical materials from polycrylicanolitrile and applications of it in various fields. Chapter Four gives an overview on the recent theoretical and experimental advances concerning plasmonic excitations in thin slabs of topological insulators. Chapter Five focuses on atmospheric plasmodynamic systems for thermal spray technologies. Chapter Six discusses optical monitoring and control of powder technologies thermal processes.

Advances in Materials Science Research. Volume 26
Maryann C. Wythers
In series: Advances in Materials Science Research
2016.
This book provides readers with the latest developments in materials science research. Chapter One discusses advantages for optical applications with transparent polycrystalline ceramic materials. Chapter Two reviews K0.5Na0.5NbO3-based lead-free transparent ceramics. Chapter Three describes the operation principles and requirements for photodetector (PD) devices, followed by the latest developments in materials and device architectures. Chapter Four studies applications of infrared thermography to the analysis of steel welded junctions. Chapter Five discusses Suspension Plasma Spraying (SPS) as a method that uses liquid feedstock. Chapter Six reviews the recent studies on the structural, electronic, optical and mechanical properties of silicene-derivative structures. In Chapter Seven, the correlations between experimental and theoretical results have been established in order to gain complete insight into structural features which enable modeling and synthesis of novel APD molecules with potential usage in various industries. Chapter Eight considers the analytical capabilities of two methods for studying the composition of gold-bearing samples.

Advances in Porous Ceramics
Alan Newton
In series: Materials Science and Technologies
2016.
Hardcover: 978-1-63485-839-7. $190.00.
Porous materials are heterogeneous media with unique microstructures, leading to interesting effective properties on which many different applications are based. In particular, porous ceramics combine the generic performance features resulting from the geometry and topology of the porous microstructures with the intrinsic properties of ceramics as a specific class of materials. In this book, Chapter One reconsiders and clarifies traditional classification schemes for porous ceramics that are based on processing, microstructure, properties, and to some degree also applications, and proposes partly new classification schemes, including a curvature-based classification of microstructures, that may be useful alternatives to the more traditional schemes. Chapter Two presents a comprehensive review of microstructure peculiarities, mathematical models, methods of fabrication and measurements, as well as systematic experimental data for different types of porous ceramics and piezocomposites. Chapter Three introduces the superplastically fabricated ceramics mainly focused on the combination of 3 mol% yttria stabilized zirconia (3YSZ) and a silicon carbide (SiC) as a matrix and foam agent, respectively. Chapter Four reviews direct foaming techniques used for the preparation of cellular ceramics. Chapter Five presents a derivation of the generalized relationship between the ultrasonic attenuation and dispersion based on linear response theory. Chapter Six studies optical phenomena in porous percolating systems.

Bioglass: Properties, Functions, and Applications
Louis Cannon
In series: Materials Science and Technologies
2016.
Softcover: 978-1-63485-887-8. $95.00.
e-book: 978-1-63485-901-1. $95.00.
This book discusses properties, functions and applications of bioglass. Chapter One provides an overview and compares some glasses and glass ceramics obtained by different preparation methods by means of structural, morphological and textural properties in order to better understand the importance of selecting a certain type of biomaterial depending on its specific application. Chapter Two describes and discusses the concepts, trends and advances related to the preparation of highly textured bioglasses and the subsequent combination with biopolymers, as advanced biocomposites for tissue engineering. Chapter Three presents a new method of fabricating metal phosphates via interaction of metal oleates with tributylphosphate solution.

Cationic Surfactants: Properties, Uses, and Toxicity
Lewis Sanders
In series: Materials Science and Technologies
Hardcover: 978-1-63485-601-0. $95.00.
Cationic surfactants, comprising a positively charged hydrophilic head, have been one of the most promising compounds due to their ability to produce a range of supramolecular aggregates of various kinds through self-organization in different media. They are used often in the chemical, industrial, pharmaceutical, environmental as well as biological fields. This book provides an overview of properties, uses and toxicity of cationic surfactants. Chapter One addresses the perspective of the cationic surfactants for manifold applications through correlation of different physicochemical properties of cationic.
surfactant-based organized media with the dissolved states of the surfactants in different media. Chapter Two presents a review on recent results regarding the interactions of the cationic surfactants, cetyl trimethylammonium chloride (CTAC) and dodecyltrimethylammonium bromide (DTAB), with the Glossoscolex paulistus hemoglobin. Chapter Three provides an outlook on zeolitic nanomaterials synthesized from coal ash that are being used for environmental applications with an emphasis on color removal from dye-containing wastewaters. Chapter Four is devoted to the specific features of the acid-base and related equilibria in the reverse water-in-oil microemulsions based on cationic surfactants.

Ceramic Materials: Synthesis, Performance and Applications
Jacqueline Perez
In series: Materials Science and Technologies
e-book: 978-1-63485-980-6. $95.00.
This book discusses the synthesis, performance and applications of ceramic materials. Chapter One presents the recycling of biomass ashes in the obtaining of clay bricks for possible use as construction material. Chapter Two summarizes the use of nanostructured ceramics for the control of heat flows. Chapter Three deals with analytical modelling of thermal stresses in a multi-particle-matrix system with isotropic cylindrical particles which are periodically distributed in an isotropic infinite matrix. Chapter Four deals with analytical modelling of thermal stresses which originate during a cooling process of an elastic solid continuum. Chapter Five provides recent information on the use of zirconia in dentistry, its characteristics and indications, with a particular emphasis on surface conditioning methods to promote adhesion of resin-based materials to zirconia.

Conductive Materials and Composites
Vera Mitchell
In series: Materials Science and Technologies
The authors of this book provide recent research on conductive materials and composites. Chapter One studies the electromagnetic properties of microwire composites CoFeNiB5Mo, CoFeSiB and CoFeB5SiCr, in the X and Ku band frequency. Chapter Two presents the results of the investigation of microstructure, electrical conductivity of nanocarbon-polymer composites, and the parameters of interaction with microwave electromagnetic radiation (EMR). Chapter Three reviews the shielding effectiveness of conductive materials and composites. The final chapter provides insight in the procedures of dispersion, distribution, and network formation during the melting processes of carbon black-filled nanocomposites.

Heavy Metals: Sources, Toxicity and Remediation Techniques
Deepak Pathania (Professor & Head, School of Chemistry, Shoolini University, Solan, Himachal Pradesh, India)
In series: Materials Science and Technologies
This book is concerned with heavy metals, which are considered to be the most hazardous pollutants present in the water system. Heavy metals are extensively studied and their effects on human health are reviewed here. Although several adverse health effects of heavy metals are known for a long time, exposure to heavy metals continues and is even increasing in some parts of the world. This book deals with the source of heavy metals in the environment and possible mitigation measures for metal recovery. The technology available for the detection of heavy metals and the latest remediation techniques are also discussed in detail. In this way, the book also addresses general background to polymers and their composite materials for removal of specific toxic heavy metals from waste water. The different adsorption isotherm models and adsorption mechanism using biosorption methods are also described. The widespread applications of low-value agricultural products, ion-exchange, coagulation, precipitation, flocculation, ultra-filtration and electrochemical methods are mentioned. The book reviews the essential issues and will be of interest to academicians, research scholars and industries. It will be the precious resource for all undergraduate and postgraduate students at institutes and universities.

Monitoring of Thermal Stresses and Heating Optimization Including Industrial Applications
Jan Taler, Piotr Dzierwa, Dawid Taler, Magdalena Jaremkiewicz, and Marcin Trojan (Cracow University of Technology, Cracow, Poland)
In series: Materials Science and Technologies
2016. 245 pp.
Hardcover: 978-1-63485-367-5. $160.00.
Wind farms and other renewable energy sources are characterized by the high unpredictability of generated power as a function of time. When the wind velocity decreases, the power generation diminishes rapidly. To offset the loss of power in the energy system, thermal power plants should be designed for quick start-ups and shutdowns, i.e., the flexibility of thermal power units should be improved. The pressure and temperature of the working fluid in the boiler should be increased quickly, so as to shorten the start-up of the boiler. The subject of the book is inverse heat transfer problems occurring in the monitoring of thermal stress in pressurized thick-walled components. New methods of determining the optimum time variations of fluid temperature during heating and cooling of the pressure parts in thermal power plants are presented. A new technique for measuring the transient temperature of fluid flowing in the pipeline are also presented. Numerous examples that illustrate the practical application of theoretical methods developed are presented as well. The book is meant for engineers, researchers, and scientists. It can also benefit the students of technical universities. The book may be helpful to manufacturers of large power boilers and users of thermal power plants, both conventional and nuclear.

Polypropylene: Properties, Uses and Benefits
Paula Garcia
In series: Polymer Science and Technology
2016.
Hardcover: 978-1-53610-008-2. $160.00.
Polypropylene (PP) is a typical polymeric polymer with α-form, β-form, γ-form, and mesomorphic smectic form modifications, and crystallizes into diverse morphologies. In this book, Chapter One comprehensively reviews the kinds of self-assembly β-nucleating agents and the manipulation strategies in the practical processing to control the crystal structure and prepare high-performance PP products. Chapter Two discusses the molecular structure at the cross-linking point of stereoregular isotactic polypropylene (iPP) and syndiotactic polypropylene (sPP) gels in comparison with the crystal formed in the solid state such as film. Chapter Three investigates the thermal insulation performance of polypropylene as thermal insulator for a solar air collector in comparison with coconut fiber. Chapter Four reviews the mechanical properties, crystallization and degradation of polypropylene due to nucleating agents, fillers and additives. Chapter Five examines polypropylene biodegradation. Chapter Six addresses...
the potential utilization of different lignocellulosic biomasses for the development of green materials based on polypropylene, with the objective to elucidate the possibility of using the bio based materials for various industrial applications.

Polyurethanes: Properties, Uses and Prospects
Frederick L. Hope
In series: Materials Science and Technologies
2016. 207 pp.
Hardcover: 978-1-63484-129-0, $160.00.
e-book: 978-1-63484-130-6, $160.00.
Polyurethanes are commonly prepared from polyols, diisocyanates and chain extenders. The polyols are polyesters, polyethers or polycarbonates, while the chain extenders are low molecular weight diols or diamines. In general only a limited number of diisocyanates are used, such as toluene disocyanate, methylene diphenyl diisocyanate (MDI), hydrogenated MDI and hexamethylene diisocyanate. The first chapter of this book examines functional polyurethanes based on blocked isocyanates. Chapter two reviews the research and the most relevant advances in the investigation of thermoplastic polyurethane elastomers, TPU, and provides a comprehensive source of information on their synthesis, structure, properties and applications. Chapter three presents a short review of some ideas employed to make polyurethanes more compatible with human body, and other biotic, or even abiotic forms of nature. Chapter four reviews the state of the research on shape memory polyurethane structure and its thermo-mechanical as well as mechanical properties. Chapter five reviews the use of polyurethane-coated implants for breast augmentation.

Porous Media: Theory, Properties and Applications
Doris Wolfe
In series: Materials Science and Technologies
Hardcover: 978-1-63485-452-8, $160.00.
This book provides research on theories, properties and applications of porous media. Chapter One considers non-standard models of multi-component adsorption with applications to gas adsorption processes in coalbeds. Chapter Two discusses the influence of temperature dependent thermal conductivity on non-darcy flow and heat transfer in a vertical rectangular duct. Chapter Three investigates the effects of different modes of evaporation on the time-dependent wicking behavior of liquids into a porous strip. Chapter Four deals with the study of dispersion of a solute for porous medium in a vertical double-passage channel with first order chemical reaction. Chapter Five investigates the effect of partial slip viscous flow over a stretching sheet with suction/injection in a porous medium. In Chapter Six, the onset of nano-fluid convection in a Walters B fluid-saturated horizontal porous layer is studied.

Thermal Stresses: Design, Behavior and Applications
Alfred R. Webb
In series: Materials Science and Technologies
Hardcover: 978-1-63485-373-6, $190.00.
Thermal stresses which originate as a consequence of different thermal expansion coefficients of components of multi-component materials represent an important phenomenon in multi-component materials. These stresses are usually investigated by computational and experimental methods, and are of interest to materials scientists and engineers. In this book, the design, behavior, and applications of thermal stresses are discussed. Chapter One introduces a full three-dimensional, non-isothermal computational fluid dynamics (CFD) model of an operating PEM fuel cell which was developed to simulate the thermal stresses inside the cell. Chapter Two deals with mutual comparison of different analytical models of thermal stresses in a multi-particle-matrix system with isotropic spherical particles which are periodically distributed in an isotropic infinite matrix. Chapter Three deals with an analytical model of thermal stresses originating during a cooling process of an anisotropic solid elastic continuum. Chapter Four provides an analysis on thermal loads of nozzle in low-temperature reactor piping. Chapter Five investigates the influence of the thermal stresses on the performances of the integrated-planar solid oxide fuel cell IP-SOFC and essentially the durability of the cell elements which is a major technical barrier to the commercial viability. Chapter Six studies the amino nitrogen metabolism of Saccharomyces cerevisiae as it is protected by SO2 under thermal stress.

**MATHEMATICS**

A Note on Inheritance and Generalizability Properties in Optimal Control Problems
Iraj Sadegh Amiri (Senior Lecturer, Photonics Research Centre (PRC), University of Malaya (UM), Pantai Hillpark, Pantai Murni, Kuala Lumpur, Malaysia)
In series: Mathematics Research Developments
2016.
Softcover: 978-1-63485-784-0. $95.00.
e-book: 978-1-63485-796-3. $95.00.
This research consists of two parts. The first part focuses on the development of the proposition that “if there exists a function of type”, then there exists a functional with the same type” based on the proposition of the Inheritance and Generalizability properties of the function in a functional. This study presents the abstract convex, increasing positively homogeneous convex-adjoint functions via this proposition. The second part is on the investigation of the global search optimization algorithm used the Cutting Angle Method (CAM) on Optimal Control Problems (OCP). Many algorithms are available for solving OCP, but they are basically local search algorithms. To overcome the problem associated with local searches, most OCP are modelled as Linear Quadratic Regulator (LQR) problems. In order to solve the global search problem, the present work is based on the theory of optimization. In this work, it is shown that the solution found estimates the true global solution of the original problem. However, in doing so, a lot of information carried by the original problem might be lost in its translation into LQR models. CAM being a global search algorithm is expected to overcome this problem. It can be used alone or in combination with a local search to find the global solution. CAM has been successfully used on functions, however, OCPs are functionals. To do this, a model has been introduced based on Inheritance and Generalizability properties to demonstrate that the optimization algorithms which are used for functions can also be extended for use in functionals. Based on these properties, the study discovered that with the Unit Vectors Combinations Technique (UVCT) proposed in this research and CAM could successfully work on functionals in general and with OCP particularly. To help speed up the convergence of CAM, the literature proposed the use of local searches for the determination of the initial solution. In a case study done in the research, CAM was successfully combined with a local search named the Dynamic Integrated System Optimization and Parameter Estimation (DISOPE) algorithm. Moreover, the initial solution given by DISOPE algorithm has been verified as global by CAM.

Binary Periodic Signals and Flows
Serban E. Vlad (The Romanian Society of Applied and Industrial Mathematics, Oradea, Romania)
In series: Mathematics Research Developments
2016. 251 pp.
Hardcover: 978-1-63484-452-9. $190.00.
The signals from digital electrical engineering are modeled by discrete time and real time functions, whose values are binary n-tuples and which are also called signals. The asynchronous circuits, representing the devices that work with such signals, are modeled by Boolean autonomous deterministic regular asynchronous systems, shortly by asynchronous flows. The attribute 'Boolean' vaguely refers to the binary Boole algebra; 'autonomous' means that there is no input; 'deterministic' means the existence of a unique state function; and 'regular' indicates the existence of a Boolean function that iterates its coordinates independently on each other (i.e. asynchronously). Strong analogies exist with the real, usual dynamical systems. The purpose of this research monograph is to study the periodicity of the signals and of their values, as well as the periodicity of the asynchronous flows. The monograph addresses systems theory and computer science that apply to researchers, but it is also interesting to those that study periodicity itself. From this last perspective, the signals may be thought of as functions with many finite values. At the same time, the asynchronous flows may be considered as special cases of variable structure systems. The bibliography consists of works of real, dynamical systems that produce analogies.

**Foundations of Iso-Differential Calculus. Volume 6: Theory of Iso-Functions of a Real Iso-Variable**

Svetlin Georgiev (Faculty of Mathematics and Informatics, Department of Differential Equations, Sofia University, Sofia, Bulgaria)

In series: Mathematics Research Developments


This book is intended for readers who have had a course in theory of functions, isodifferential calculus and it can also be used for a senior undergraduate course. Chapter One deals with the infinite sets. We introduce the main operations on the sets. They are considered as the one-to-one correspondences, the denumerable sets and the nonvenient sets, and their properties. Chapter Two introduces the point sets. They are defined as the limit points, the interior points, the open sets, and the closed sets. Also included are the structure of the bounded open and the closed sets, and an examination of some of their main properties. Chapter Three describes the measurable sets. They are defined and the main properties of the measure of a bounded open set, a bounded closed set, and the outer and the inner measures of a bounded set. Chapter Four is devoted to the theory of the measurable iso-functions. They are defined as the main classes of the measurable iso-functions and their associated properties are defined as well. In Chapter Five, the Lebesgue iso-integral of a bounded iso-function continue the discussion of the book. Their main properties are given. In Chapter Six the square iso-summable iso-functions, the iso-orthogonal systems, the iso-spaces \( L^p \) and \( L^1 \), \( p > 1 \) are studied. The Stieljes iso-integral and its properties are investigated in Chapter Seven.

**Iterative Algorithms I**

Ioannis K. Argyros and Á. Alberto Magreñán
(Cameron University, Department of Mathematical Sciences, Lawton, OK, USA)

In series: Mathematics Research Developments

2016. 443 pp.

Hardcover: 978-1-63485-406-1. $270.00.

e-book: 978-1-63485-422-1. $270.00.

It is a well-known fact that iterative methods have been studied concerning problems where mathematicians cannot find a solution in a closed form. There exist methods with different behaviors when they are applied to different functions and methods with higher order of convergence, methods with great zones of convergence, methods which do not require the evaluation of any derivative, and optimal methods among others. It should come as no surprise, therefore, that researchers are developing new iterative methods frequently. Once these iterative methods appear, several researchers study them in different terms: convergence conditions, real dynamics, complex dynamics, optimal order of convergence, etc. These phenomena motivated the authors to study the most used and classical ones, for example Newton's method, Halley's method and/or its derivative-free alternatives. Related to the convergence of iterative methods, the most well-known conditions are the ones created by Kantorovich, who developed a theory which has allowed many researchers to continue and experiment with these conditions. Many authors in recent years have studied modifications of these conditions, related, for example, to centered conditions, omega-conditions and even convergence in Hilbert spaces. In this monograph, the authors present their complete work done in the past decade in analyzing convergence and dynamics of iterative methods. It is the natural outgrowth of their related publications in these areas. Chapters are self-contained and can be read independently. Moreover, an extensive list of references is given in each chapter in order to allow the reader to use the previous ideas. For these reasons, the authors think that several advanced courses can be taught using this book. The book’s results are expected to help find applications in many areas of applied mathematics, engineering, computer science and real problems. As such, this monograph is suitable to researchers, graduate students and seminar instructors in the above subjects. The authors believe it would also make an excellent addition to all science and engineering libraries.

**Iterative Algorithms II**

Ioannis K. Argyros and Á. Alberto Magreñán
(Cameron University, Department of Mathematical Sciences, OK, USA)

In series: Mathematics Research Developments

2016.


The study of iterative methods began several years ago in order to find the solutions of problems where mathematicians cannot find a solution in closed form. In this way, different studies related to different methods with different behaviors have been presented over the last decades. Convergence conditions have become one of the most studied topics in recent mathematical research. One of the most well-known conditions are the Kantorovich conditions, which has allowed many researchers to experiment with all kinds of conditions. In recent years, several authors have studied different modifications of the mentioned conditions considering inter alia, Hölder conditions, alpha-conditions or even convergence in other spaces. In this monograph, the authors present the complete work within the past decade on convergence and dynamics of iterative methods. It acts as an extension of their related publications in these areas. The chapters are self-contained and can be read independently. Moreover, an extensive list of references is given in each chapter, in order to allow the reader to refer to previous ideas. For these reasons, several advanced courses can be taught using this book. This book intends to find applications in many areas of applied mathematics, engineering, computer science and real problems. As such, this monograph is suitable to researchers, graduate students and seminars in the above subjects, and it would be an excellent addition to all science and engineering libraries.

**Modeling of Corruption in Hierarchical Organizations**

Olga I. Gorbaneva, Guennady A. Ougolnitsky and Anatoly B. Usov
(Southern Federal University, Russian Federation)

In series: Mathematics Research Developments

Hardcover: 978-1-63484-398-0. $190.00.

This book focuses on hierarchical organizational structures. Secondly, the authors perform modeling in the context of solving control problems. Next, the conditions of corrupting a major task of control consisting of ensuring sustainable development of modeled hierarchical organizations are reviewed. Here, the authors proceed from the original concept of sustainable management (Ougolnitsky, 2002, 2005, 2010, 2011; Ougolnitsky and Usov, 2010-2014). In contrast to the classical approach of G. Becker and S. Rose-Ackerman (which states that the efficiency of anti-corruption struggle is defined via comparing losses due to corruption and the costs of such measures), the above concept applies certain requirements of sustainable development of a modeled system with proper consideration of economic restrictions. Finally, the empirical base and identification of mathematical models is examined.

Models and Methods for Supporting Decision-Making in Human Health and Environment Protection
Carlos N. Bouza, Flávio L. de Mello and Marcos Negreiros (Faculdade de Matemática y Computación, Universidad de La Habana, Cuba)
In series: Computational Mathematics and Analysis 2016. 199 pp.
Hardcover: 978-1-63485-173-2. $190.00.

This book aims to present models and methods for objective analysis associated with human health and environment protection. The content deals mainly with specific models based on statistics, operational research and mathematical logic, as well as the need for developing efficient software. Other books have approached the themes covered in this volume. However, they do not simultaneously include statistics, operations research, and computing aspects needed for developing efficient decision support procedures. Under this perspective, the concept behind the organization of this work is to provide a reference for exploring models, explaining features and interpreting aspects in detail as well as training the readers to fit them in practice. This collection describes not only the models, but also presents real applications based on the authors’ experiences. The model-based analysis, the software procedures and the real study cases emphasize the relevance of both theoretical and practical expertise. The readership target groups are graduate students or researchers in statistics, operations research, and computing; professionals dealing with psychometric, social, biomedical, and pedagogical sciences. The first five chapters address statistic issues applied to human health and environment protection. The next four chapters concern the use of mathematical logic to improve modelling and decision-making. The last five chapters deal with operational research. Moreover, readers interested in more advanced topics will obtain references for consulting contemporary literature on several themes.
of the arterial system. This book examines several characteristics of CFD, as well as its applications and analysis.

**Vibration Control Systems Utilizing Smart Materials Actuators**

Seung-Bok Choi (Department of Mechanical Engineering, Inha University, Korea)

In series: *Mechanical Engineering Theory and Applications*


Hardcover: 978-1-63485-170-1. $110.00.


Recently, considerable attention has been focused on vibration control technology using “smart” or “intelligent” materials, which have inherently actuating and sensing capabilities. Typically these materials are employed to the vibration control of lumped parameter systems or distributed parameter structures by controlling the mass-distribution, stiffness change and the dissipation change. This may be accomplished by semi-active control or active control methods associated with the smart material actuators. Among many candidates of smart materials, magneto-rheological materials and piezoelectric materials are frequently adopted for vibration control. Magneto-rheological fluid and elastomer are especially utilized for vibration control of lumped parameter systems such as automotive damper, while the piezoelectric materials are used for vibration control of flexible distributed parameter structures with salient characteristics, such as fast response time. This book can be used as a textbook for graduate students or as a reference book for potential researchers who are interested in vibration control utilizing new methods associated with smart materials actuators. This book will provide some novel insights for advanced vibration control technology to many readers.

**MEDIA AND COMMUNICATIONS**

*Media Anthology: A Critical Reader – Visualising Mass Media from a Macro Perspective*

Theophilus Kofi Gokah (Manipal University Dubai [MUD], School of Media & Communication, International Academic City, Dubai, UAE)

In series: *Media and Communications - Technologies, Policies and Challenges*


e-book: 978-1-63484-963-0. $160.00.

Understanding the conceptual relationship between the building blocks of media and communication is important not just for one’s knowledge, but for what works in practice. This is important especially as societies become complex. From its macro-perspective, Media Anthology sees both media and communication landscapes as experiencing dramatic changes since the introduction of social media. It helps the reader to scope and digest trending issues presented within the field of mass media and communication. For students of media and communication, this book opens an array of information. And to the practitioner, it introduces an opportunity to locate and fuse practice with professionalism in a dynamic and contested field like media and communication.

**Television and Romance: Studies, Observations and Interpretations**

Professor Amir Hetsroni (Department of Media & Visual Arts, Koç University, Istanbul, Turkey)

In series: *Media and Communications - Technologies, Policies and Challenges*


What effect does television viewing have on the quality of marriage life? This is one of the questions that the authors discuss within this new book, edited by Professor Amir Hetsroni from the Department of English, Culture and Communication at Xi’an Jiaotong-Liverpool University and published by Nova Science Publishers. This book includes entries written by leading international scholars that interpret the way romance is portrayed on television, and the mark left by this portrayal on viewers. About half of the chapters in this book present empirical inquires. The other half consists of theoretical and critical accounts. The collection offers in-depth analysis of some of the most successful programs in recent years in America (How I Met Your Mother), Britain (Silent Witness), Spain (Los Protegidos) and other countries along with detailed reviews of the home screen representation of love life within various demographic groups (single white men), age cohorts (elderly) and other sects. The outcome of exposure to popular programming on romantic fidelity, dating plans, cohabitation expectations and other romance-related concepts is thoroughly investigated. This book is an essential addition to any serious library collections in media studies. It can serve as a reference for undergraduate and graduate classes concerned with media effects and TV research. It also makes an interesting read for media personnel who are engaged in TV production and journalists who cover the topic. The editor, Amir Hetsroni, is a professor of communication at Xi’an Jiaotong-Liverpool University in China. He is the author/editor of four books and nearly 100 journal articles and book chapters. He is also a media celebrity in his home country, Israel, where he takes part in reality shows as a consultant and commentator, and takes an active role in anti-censorship campaigns.

**NANOTECHNOLOGY**

*Advances in Nanotechnology. Volume 15*

Zacharie Bartul and Jérôme Trenor

In series: *Advances in Nanotechnology*


Nanotechnology is the study of the controlling of matter on an atomic and molecular scale and is also very diverse, ranging from extensions of conventional device physics to completely new approaches based upon molecular self-assembly. This book gathers and presents data on nanotechnology, including the societal metabolism of nanomaterials; the cytotoxicity of silver nanoparticles; nanotechnology-based photocatalysts; the nanocomposite of montmorillonite and zinc sulphide nanoparticles; the effect of MgO and Al2O3 nanoparticles on the surface tension of tri-ethylene glycol; the use of carbon nanocoils (CNCs), a helical carbon nanofiber, as a catalyst support in fuel cells; nanocrystallization and in-situ preparation of copper oxide; and nanoclays.

**Advances in Nanotechnology. Volume 16**

Zacharie Bartul and Jérôme Trenor

In series: *Advances in Nanotechnology*

2016. 208 pp.

Hardcover: 978-1-63485-961-5. $190.00.


Nanotechnology is the study of the controlling of matter on an atomic and molecular scale and is also very diverse, ranging from extensions of conventional device physics to completely new approaches based upon molecular self-assembly. This book gathers and presents data on
nanotechnology. Chapter One reviews the use of high energy ball milling as a new tool to help in the preparation of polymer nanocomposites. Chapter Two presents a systematic summary of the significant advances in organic photodetectors based on small-molecule semiconductor materials, in particular for their 1D architectures in the field of photoconductors and phototransistors over the past few years. Chapter Three examines the most promising nanomaterials for the development of electrochemically or optical sensors for the ROS/RNS electrochemical or optical sensing. Chapter Four reviews the approaches and processes used for fabricating graphene nanoribbons (GNRs) from carbon nanotubes (CNTs), which include chemical-scissor unzipping methods and non-chemical based unzipping methods, as well as the solid-state method for the transformation of CNTs into the 2D structure of GNRs with high structural quality. Chapter Five focuses on a detailed description about the current progress in the development of pH-responsive chitosan-based nanoparticles for biomedical applications. Chapter Six discusses potential applications of chitosan nanoparticles (CNPs) in skin care products and dermatological preparations. Chapter Seven addresses a review on the current state of the art of the treatment and disposal of the OME from both the two-phase and three-phase systems by nanofiltration polymeric; and discusses a case study concerning an integral flocculation pretreatment-NF membrane process.

Nanopores and Nanoporous Materials
Traci Morton


Over the past decade, the research community has been paying particular attention to organic, inorganic and hybrid porous materials, mainly due to the plethora of promising applications offered by such architectures in areas as diverse as (nano)filtration and separation techniques, heterogeneous supported catalysis, template-assisted synthesis of nanomaterials, materials for phononic and thermic isolation as well as patterned nanomaterials for microelectronics and photovoltaics, as previously reported by numerous reviews in the field. This book provides current research on nanopores and nanoporous materials. Chapter One affords a critically selected survey of these elegant approaches toward functional nanoporous polymers and investigates their scope and limitations. Chapter Two focuses on the recent development on the nanoporous Montmorillonite clay and metal nanoparticle stabilization on the clay by different procedures and their catalytic applications for fine chemicals synthesis. Chapter Three presents an overview of the developments in soft nanoporous organic materials by self-assembly of peptide, polyamide and polynimide moieties. Chapter Four examines nano-drilling processing with transmission electron microscope (TEM).

New Developments in Gold Nanomaterials Research
James Kah Chen Yong and Zhichuan J. Xu (Assistant Professor, Department of Biomedical Engineering, Faculty of Engineering, National University of Singapore, Singapore)

Hardcover: 978-1-63485-362-0, $190.00.

This book provides a broad discussion on recent research advances in gold nanomaterials. Since their use in glass staining during the Gothic and Renaissance period, gold nanomaterials have recently been more extensively studied and used in different fields, including applications in biomedical and energy domains. Although the scope of research in gold nanomaterials is enormous, this book provides for the first time a practical overview that condenses this immense amount of information into a single volume. While there are a number of excellent books on the market covering various types of nanomaterials, there are very few monographs to date that specifically focus on the broad research areas on gold nanomaterials. This book attempts to capture the recent developments in gold nanomaterials research through nine chapters in four broad sections; these sections are divided by the synthesis of gold nanomaterials, biological applications, sensing, and energy applications of gold nanomaterials. Many of the chapters contain introductions to the basic physical and chemical principles of the subject area. The authors hope that this book will serve as a good introduction to people just entering the field, and also for practitioners and experts seeking information in other subfields of gold nanomaterials.

Synthesis, Characterization and Modelling of Nano-Sized Structures
Kirill L. Levine (General and Technical Physics, National Mineral Resources University, St. Petersburg, Russia)

In series: Nanotechnology Science and Technology 2016. 150 pp.
Hardcover: 978-1-63485-518-1, $190.00.

This volume covers variety of aspects related to nanotechnology: synthesis, characterization, modelling, and few practical applications. Synthetic methods summarized in this volume are: iodine transport (Bogdanov), laser ablation (Davydov), wet chemistry methods (Alexandrova, Maximov). Electrochemical methods are the technology of choice to develop oxide structures (Levine), and electrochemical impedance spectroscopy was utilized as an electrochemical characterization method while impedance spectroscopy as a dielectric characterization method was applied by Zviagin. Oxides were also extensively studied by Maximov and Ezhovskiy. Efforts in modelling by computer simulation were performed for dendrimerized polymers by Mikhailov and Darinsky and lizine dendrimers by Neelov. Star brushed structures were analyzed by a simple direct walk model by Polotsky. Quantum phenomena is always a focus in studies of smart nano-objects. Emphasis on this is presented by Meleshenko. Traditionally, medical applications have been the driving force for research in nanocomposites. Cancer-treating effects of some transition metal Shiff bases were reported by Yussef.

NATURAL DISASTERS

Disaster Resilience After Hurricane Sandy: Enhancement Efforts, Use of Funds, and National Mitigation Framework
Johnathan Carr

Hardcover: 978-1-63484-645-5, $145.00.

The Disaster Relief Appropriations Act of 2013 appropriated about $50 billion for recovery from Hurricane Sandy, part of which was intended for disaster resilience and hazard mitigation. This book reviews federal efforts to strengthen disaster resilience during Hurricane Sandy recovery. It addresses how federal recovery funds were used to enhance resilience; the extent to which states and localities were able to maximize federal funding to enhance resilience; and actions that could enhance resilience for future disasters.

FEMA and Regional Preparedness: Coordination Efforts
Brenda Martinez
Disasters are amongst the greatest challenges that FEMA and regional offices have addressed preparedness for interagency collaboration with its federal partners; and describes recent congressional proposals to amend the charter.

**Hurricane Damage: Implications of Increased Risk on the Federal Budget**  
**Martha Atkinson**

In series: *Natural Disaster Research, Prediction and Mitigation*  
2016. 111 pp.  
Hardcover: 978-1-63484-872-5. $120.00.  
e-book: 978-1-63484-873-2. $120.00.  

The American Red Cross is the nation’s largest nonprofit organization involved in disaster relief. The organization provides services such as sheltering and food assistance, and it has a leadership role in the federal disaster response framework. However, questions have been raised over its ability to respond effectively to large disasters. This book addresses the key factors affecting the nature and extent of the Red Cross’s disaster services; how it coordinates with the federal government on disaster assistance; and what external oversight exists of its disaster services. Furthermore, the book provides a brief history of the charter of the American National Red Cross (ANRC); describes the recent congressional interest in the ANRC’s governance, operations, and charter; reviews the ANRC’s governance audit report and proposal to amend its charter; and describes recent congressional proposals to amend the charter.

**National Flood Insurance: Management and Accountability in the Wake of Superstorm Sandy**  
**Brenda Murphy**

In series: *Natural Disaster Research, Prediction and Mitigation*  
Hardcover: 978-1-63484-379-9. $120.00.  
e-book: 978-1-63484-387-4. $120.00.  

The costliest such storm in U.S. history — behind only Hurricane Katrina in 2005 – Sandy is reported to have killed at least 117 people in the United States alone, and it caused tremendous damage along the most populated coastline in the country. As a result, Sandy generated 144,484 claims under federal flood insurance coverage under the National Flood Insurance Program (NFIP). This book begins by laying out how the NFIP claims management process works, how its various pieces interact, and how the Federal Emergency Management Agency (FEMA) attempts to ensure quality control. It then explores the incentive structures that face insurance companies, claims processing vendors, adjusters, and engineers, and the management challenges that confront the NFIP as it attempts to handle catastrophic flood events.
Natural Disasters: Risk Assessment, Management Strategies and Challenges
Deanna Romero
In series: Natural Disaster Research, Prediction and Mitigation
2016.
Hardcover: 978-1-53610-097-6. $190.00.
Disasters are amongst the greatest challenges of the 21st century. Natural disasters have particularly witnessed an overwhelming escalation in the last three decades. The period between 1990 and 2005 holds the record for the highest frequency of natural disasters ever witnessed on earth. Between 2000 and 2005 for instance, natural disasters affected around 240 million people globally (UNISDR 2010). Almost 350 disasters were reported in 2015 alone, affecting 98.6 million people, causing over 22,000 deaths and resulting in an economic loss of around US$ 66.5 billion (UNFCC, 2016). The United Nations International Strategy for Disaster Risk Reduction estimates that the economic losses from natural disasters for 2015 alone far exceed the mean annual estimate of US$ 275 million (UNISDR, 2015a). This book reviews the risk assessment for natural disasters, as well as management strategies and challenges the world currently faces.

The American Red Cross: Background, Federal Coordination, and Oversight Issues
Isabel Owen
In series: Natural Disaster Research, Prediction and Mitigation
2016. 113 pp.
Hardcover: 978-1-63484-872-5. $120.00.
e-book: 978-1-63484-873-2. $120.00.
The American Red Cross is the nation’s largest nonprofit organization involved in disaster relief. The organization provides services such as sheltering and food assistance, and it has a leadership role in the federal disaster response framework. However, questions have been raised over its ability to respond effectively to large disasters. This book addresses the key factors affecting the nature and extent of the Red Cross’s disaster services; how it coordinates with the federal government on disaster assistance; and what external oversight exists of its disaster services. Furthermore, the book provides a brief history of the charter of the American National Red Cross (ANRC); describes the recent congressional interest in the ANRC’s governance, operations, and charter; reviews the ANRC’s governance audit report and proposal to amend its charter; and describes recent congressional proposals to amend the charter.

NUCLEAR MATERIALS AND DISASTER RESEARCH
Depleted Uranium Induced Petkau Effect: Challenges for the Future
Svetlana Zunic and Ljubisa Rakic (Clinical Center of Serbia and Serbian Academy of Sciences and Arts, Belgrade, Serbia)
In series: Nuclear Materials and Disaster Research
Softcover: 978-1-63484-046-0. $82.00.
e-book: 978-1-63485-376-7. $82.00.
The primary objective of this study is to contribute to a better understanding of the interaction of depleted uranium as a source of low dose radiation with the living world and humans in a contaminated environment. There has been increased interest in biological effects of low dose radiation after the incident in Chernobyl. Uncertainty of epidemiological studies about the health effects of low-dose radiation arises from the fact that the biological effects of low-dose radiation do not relate obligatory to DNA damage. Military use of depleted uranium (DU) for decades put the problem of low-dose radiation exposure in the spotlight. The explanation related to the limited effects ofa- emitting nuclear weapons, including DU, was based to some extent on the fact that alpha particles have a short track in air. This paradigm has changed with the realization that nano- and micro-sized particles of DU could have a global atmospheric movement. The idea about the spreading of uranium particles through air masses across the globe arose from the results of air pollution measurement. Due to uncontrolled military use of high amounts (a thousand tons) of depleted uranium, numerous unusual environmental physical manifestations were recorded in the last two or three decades. Simultaneous monitoring of natural phenomena on Earth and in the atmosphere has revealed an exceptional parallelism between the phenomena in the environment and in the living world. Our knowledge has evolved from in-vitro studies of radiation exposure to a more comprehensive understanding of unexpected and poorly understood natural phenomena, whose consequences may be achievable according to the theory of lithosphere-atmosphere-ionosphere and biosphere coupling. The emission of radiation in the course of several decades due to corrosion of scattered remnants of DU armaments, which has been intensified by the repeated bombing of the regions within the range of the transfer of radioactive particles through the air, strikes a broad territory and numerous populations, and unavoidably leads to in-vivo Petkau effect. The Petkau effect is a challenge for science to declare the future health strategy with the main goal focused on minimizing the early as well as delayed in-vivo effects of depleted uranium. As inhaled DU is the main source of internal contamination, further research on this topic is valuable, especially in terms of overcoming inter-individual variability. The authors propose a simple model based on apoptotic parameters and artificial network method for individualized estimation of tissue response to low-dose tobacco exposure. Non-targeted effects of radiation are time-evolving and can lead to delayed health effects, including cancerogenesis. The authors discuss the importance of an individual approach to the diagnosis and selection of appropriate therapy, based not only on the results of the expression analysis, but also on metabolic and apoptotic tissue properties. Humanity is the main subject of the authors’ study. Understanding the basic principles of cell biology and radiation interaction with living matter is supported by authentic medical data obtained from patients originating from the territories which were geographically close to each other (Serbia and Montenegro seaside, as well as Bosnia and Herzegovina, the territories of the former Yugoslavia).

The Chernobyl Disaster
Maxine Peterson
In series: Nuclear Materials and Disaster Research
Hardcover: 978-1-63485-458-0. $160.00.
The massive release of radioactive material at the Chernobyl accident in 1986 led to widespread radiation exposure, in particular to people evacuated from the settlements near the reactor and workers involved in the clean-up operations, as well as to several millions living in contaminated regions in Russia, Belarus, and Ukraine. This book provides current research on the Chernobyl disaster. Chapter One provides a comparative analysis and evaluation of different types of countermeasures implemented in the aftermath of the accident at Chernobyl. Chapter Two discusses the artistic treatment of Chernobyl where the problem of apophasia arises. Chapter Three reviews the general tendencies of dynamics of frequencies of congenital malformations in the territories polluted by radioactive Chernobyl radionuclides. Chapter Four discusses the impact of low doses of radiation. Chapter Five provides an overview of the increase of non-cancer morbidity on the Chernobyl radioactively contaminated
territories. Chapter Six develops a concept of premature aging development in liquidators in the remote period after the Chernobyl disaster. Chapter Seven discusses the long term consequences of atmospheric tests of nuclear weapons and Chernobyl disaster on the territory of South Bohemia in Czech Republic. Chapter Eight studies the stress adaptation of microscopic fungi from around the Chernobyl atomic energy station. Chapter Nine focuses on perspectives of nuclear safety. The final chapter is a short commentary on the radiation and risk of hematological malignancies in the Chernobyl clean-up workers.

U.S. Nuclear Weapons Stockpile: Tritium and Lithium Production Issues

Renee Duncan

In series: Nuclear Materials and Disaster Research

2016. 87 pp.

Softcover: 978-1-63484-475-8. $62.00.

The Department of Energy (DOE) has adhered to its practice of using only unobligated low-enriched uranium (LEU) to meet national security needs for tritium—a radioactive isotope of hydrogen used to enhance the power of U.S. nuclear weapons. LEU is considered unobligated when neither the uranium nor the technology used to enrich it carries an “obligation” from a foreign country requiring that the material only be used for peaceful purposes. These obligations are contained in international agreements to which the United States is a party. This book examines the extent to which DOE has adhered to its practice of using only unobligated LEU to produce tritium and the basis for this practice. Moreover, this book describes the challenges the National Nuclear Security Administration’s (NNSA) has identified with its lithium production strategy, and determines the extent to which NNSA developed a mission need statement that is independent of a particular solution, as called for in DOE’s directive on project management.

Coral Reef Ecosystem in Space and Time (Based on the Reefs of Vietnam)

Yuri Latypov (A.V. Zhirmunsky Institute of Marine Biology)

In series: Coastal and Oceanic Landforms, Development and Management


Softcover: 978-1-63484-705-6. $82.00.

This lavishly illustrated book explores the concept of reef ecosystems and its characteristics. It provides a conceptual description of reefs and their functions. This compilation also outlines the general species composition and structure of coral reefs and their corallibions. Described and illustrated are the main inhabitants of the reef community. Various types of reefs (fringing, barrier, platform etc.) in different regions of Vietnam, along with their conditions and statuses are catalogued as well. Reef ecosystems traced under anthropogenic influence and the impact of typhoons are included. This book shows the possibilities of artificially cultivating corals and the rebuilding of their communities.

OPTICS AND LASERS

Advances in Photonics Engineering, Nanophotonics and Biophotonics

Tanya Scott

In series: Lasers and Electro-Optics Research and Technology


Light-based technologies have revolutionized medicine and opened up international communication via the Internet, and will continue to underpin the future development of human society. The science of light is applied in a technological field known as photonics, and this theme addresses the important ways that photonic devices impact areas such as medicine, communications and energy. The everyday gadgets in our lives such as DVDs, barcode scanners, smart phones, flat screen televisions are all based on photonics. Chapter One of this book discusses 2015 as the "International Year of Light" as declared by the United Nations, and provides a history of optics. Chapter Two describes the current state-of-the-art in reliability studies of both GaN electronic and photonic devices. Chapter Three studies the radiation effects in both InP-based and optoelectronic devices.

Digital Signal Processing (DSP): Fundamentals, Techniques and Applications

Juan Zhang (Key Laboratory of Specialty Fiber Optics and Optical Access Networks, School of Communication and Information Engineering, Shanghai University, China)
High Power/Energy Lasers in Our Life
Victor V. Apollonov (Head of Department, High Power Lasers, GPI RAS, Moscow, Russia)
In series: Lasers and Electro-Optics Research and Technology
Hardcover: 978-1-63484-976-0. $190.00.
e-book: 978-1-63485-008-7. $190.00.
The processing of signals or data is one of the cores of the information chain from production to application. More and more signals should be processed digitally in the big data era. Rapid and massive advances in digital signal processing (DSP) technology have been achieved over the past several decades. DSP technology revolutionized the electronics and opto-electronics industries. DSP technology is almost an all-embracing field and is advancing with each passing day. The classical application areas of DSP such as telecommunications, speech and image processing continue to be the main contributor to its growth. This book compiles cutting-edge research in several elementary and advanced topics in DSP, focusing on areas such as filter design algorithms, hardware/software techniques, and their applications. This book has a special emphasis on the modeling and design of optical communication filters. Use of well-developed DSP techniques and algorithms to design the wavelength division multiplexing (WDM) devices is a wise use of existing technology. The authors also share several of their thoughts concerning the practical DSP systems. The DSP theory and hardware for obscured object identification, and its applications in the intelligent baggage scanners are introduced systematically. This book will be helpful for students, researchers and engineers in the DSP fields to understand the basic knowledge and techniques of software, hardware, devices, and systems.

Organic Light-Emitting Diodes (OLED): Materials, Technology and Advantages
Douglas Rivera
In series: Lasers and Electro-Optics Research and Technology
Organic light-emitting diodes (OLEDs) are considered as the most promising technology for next generation display and solid-state lighting for their advantages such as surface emitting, ease for large area manufacturing, viability for flexible and transparent applications, low energy consumption and potential to be low-cost. Chapter one of this book discusses tandem OLEDs, which are technologically interesting because not only can the luminescence and current efficiency be improved linearly with the number of electroluminescent (EL) units in the tandem OLED, but also leakage current and breakdown of the electric field can be avoided due to the higher luminescence at a low current density and the thicker organic films, resulting in a long lifetime. Chapter two mainly deals with the low cost synthesis and characterization of amino, amino-chloro, dichloro and trichloro substituted derivatives of diphenyl quinoline (DPQ). Chapter three aims at reporting the last strategies that have been developed to address the issue of roll-off.

Acoustics of Moving Inhomogeneities
Andrey (Andrew) Grigorievich Semenov (Senior Research Scientist of Academician, N.N. Andreev Acoustics Institute, Moscow, Russia)
In series: Physics Research and Technology
2016.
Hardcover: 978-1-53610-006-8. $190.00.
e-book: 978-1-53610-015-0. $190.00.
A new approach to the theory of sound scattering, diffraction and propagation in slightly compressible media containing moving inhomogeneities is presented. The main concept of this approach lies in enriching the acoustic properties of the media by the consideration of the inhomogeneities’ motion together with the contribution of media flow generated by them. Both factors are conventionally ignored in classic wave scattering theory. Inhomogeneous media are usually presented as continuous with supposed local statistical properties distribution while structural specifics and motion of medium components are ignored being “excused” by their extremely small Mach numbers. However, this approximation is valid for electromagnetic wave scattering only. The analogy between sound and electromagnetic wave propagation in inhomogeneous moving media fails in acoustics of media with moving inhomogeneities. The presented conclusions are based on analytical solutions of sound scattering problems for the Lighthill equation related to a body moving in ideal or viscous media with an arbitrary relationship between sound wavelength and body dimension. The contribution of the ambient flow around moving scatterer to total sound scattering is shown to be at least comparable to the scatterer body motion contribution. Under certain conditions, such as for small moving particles in viscous media, the particle body contribution to scattering as a whole could be safely ignored with respect to the ambient flow contribution. As a result the classic Rayleigh law is to be modified and a few fundamental relationships substituting it are derived. The obtained results are important for a wide range of acoustic problems arising in moving inhomogeneous media, from sound scattering in atmosphere or ocean to sound decay in colloid particle solutions. The consideration of the contribution of the ambient flow to the sound diffraction by a large moving body is shown to be necessary as well. This is why a lot of
known diffraction problems, for example such that are used for underwater acoustic system efficiency evaluation should be revised. A few examples of our results are: sound decay predictions in atmospheric precipitation, in turbulent media and in colloid solution of suspended particles involved in Brownian motion. Moreover, some experimental data that were unexplained up to this point are now clarified in light of this new theory. At the same time, we show the necessity of performing additional experiments based on theory predictions.

**Advances in Quantum Field Theories Research**

*Elmer Morrison*

In series: *Classical and Quantum Mechanics*  
2016.  
Softcover: 978-1-63485-702-4. $95.00.  
This new book presents and discusses current research in the field of quantum physics. Chapter One reviews the impact of quantum field theory on the feasibility of local causal models of quantum theory. Chapter Two examines the uncertainty principle and minimal length at all energy scales and some of its implications. Chapter Three shows that the study of graphene physics is a versatile problem, from which we can extract important lessons on condensed matter and quantum field theory, ranging from the concept of emergent phenomenology to relativistic quantum fields and Feynman propagators.

**Apriorics: Model of Elementary Particles and Beyond**

*Yakir Z. Shoshani (Professor of Physics, Shenkar College of Engineering, Design and Art, Ramat Gan, Israel)*

In series: *Physics Research and Technology*  
In series: *World Philosophy*  
2016. 130 pp.  
Softcover: 978-1-63484-813-8. $95.00.  
e-book: 978-1-63485-086-5. $95.00.  
This book suggests a new model of elementary particle physics based on an acropriory known as apriorics. Although this theory does not use any free parameters and includes only five basic principles, it has a significant predictive power and its findings substantiate the Standard Model of elementary particle physics. This book is mainly designed for researchers, including graduate students interested in the philosophical aspects of physics. However, owing to the simplified presentation of the concepts, ideas and framework of the suggested theory, it may also expand the horizons of undergraduate students in physics, mathematics and philosophy, and teachers of these fields as well in high schools and colleges.

**Atmospheric Pressure Plasmas: Processes, Technology and Applications**

*Margaret Parker*

In series: *Physics Research and Technology*  
Hardcover: 978-1-63485-180-0. $190.00.  
Plasma is one of the most fundamental states of matter other than solid, liquid and gaseous. It consists of positive ions, neutral atoms, electrons, negative ions and neutral or charged molecules can be identified. Generally, plasma can be classified according to its gas temperature. Atmospheric-pressure plasma (APP), is actually a partly ionized gas. Non-equilibrium APP has an ability to produce a mixture of reactive species including, reactive oxygen species (ROS) and reactive nitrogen species (RNS), which can act as biologically active agents. This book discusses the processes, technology and applications of APPs. The first chapter examines the influence of APPs on biomolecules. Chapter Two focuses on the development and application of optical techniques for diagnosing gliding arc discharge at atmospheric pressure, emphasis being placed on gaining a better understanding of the spatial, temporal and spectral discharge characteristics. Chapter Three presents several approaches for such free-form plasma activation of different plastics and polymers based on direct and indirect dielectric barrier discharge (DBD) plasmas. Chapter Four reviews the combination of plasmachemical oxidation PCO and atmospheric pressure chemical vapour deposition APCVD for creating novel functional surfaces. Chapter Five reviews the impact of gas diffusion barrier film synthesis on polymers by atmospheric plasma enhanced chemical vapour deposition. Chapter Six presents and discusses some of the most recent applications of microwave plasmas, with the view of understanding microwave plasma behaviour. Chapter Seven discusses selective synthesis of self-standing carbon nanostructures using microwave driven plasmas at atmospheric pressure conditions. Chapter Eight studies the application of non-thermal atmospheric plasma in textiles. Chapter Nine reviews a current state of the art and opportunities for the use of plasma surface treatment in the coating and conversion of paper products.

**Generation of Runaway Electron Beams and X-Rays in High Pressure Gases, Volume 1: Techniques and Measurements**

*Victor F. Tarasenko (Head of Optical Radiation Laboratory, Institute of High Current Electronics SB RAS, Tomsk, Russia)*

In series: *Physics Research and Technology*  
2016.  
Hardcover: 978-1-63485-830-4. $230.00.  
This collective book provides a review of research concentrated on runaway electron beams and X-rays in an inhomogeneous electric field with different gases at increased pressure. Attention is also given to supershort avalanche electron beam (SAEB) in the optimal conditions. New experimental techniques and equipment, including those with picosecond time resolutions, were required for diagnostics of electrical and optical signals. The book consists of twenty-four chapters, some of which were written jointly by researchers of different teams. Some chapters consider the range of SAEB applications.

**Generation of Runaway Electron Beams and X-Rays in High Pressure Gases, Volume 2: Processes and Applications**

*Victor F. Tarasenko (Head of Optical Radiation Laboratory, Institute of High Current Electronics SB RAS, Tomsk, Russia)*

In series: *Physics Research and Technology*  
2016.  
This collective book provides a review of research concentrated on runaway electron beams and X-rays in an inhomogeneous electric field with different gases at increased pressure. Attention is also given to supershort avalanche electron beam (SAEB) in the optimal conditions. New experimental techniques and equipment, including those with picosecond time resolutions, were required for diagnostics of electrical and optical signals. The book consists of twenty-four chapters, some of which were written jointly by researchers of different teams. Some chapters consider the range of SAEB applications.
Global Management and Geo-Spatial Information System Applications
Rustam B. Rustamov and Nargiz E. Samadova
(Institute of Physics, Azerbaijan National Academy of Sciences Senior Scientist, Baku, Azerbaijan)
In series: Physics Research and Technology
In series: Space Science, Exploration and Policies
Hardcover: 978-1-63321-918-2, $210.00.
This book is based on the research results of the authors in the area of integration with related data existing in literature. The main aim of this book is to demonstrate the process of data collection and processing for management. This book describes suitability and how space technology advances could be used and oriented as an influential instrument in management. Within the framework of this book, the content has reflected general aspects of space technology applications. Remote sensing methods and GIS technology have been used as an instrument of data collection and processing depending on requirements of the task expected to be solved and implemented within the management process. This book presents space technology applications in different disciplines of engineering and the engineering management process. Target Audience: 1. International and local entities engaged to the space technology application and scientific research activities; 2. International Organizations: United Nations Office for Outer Space Affairs, International Astronautical Federation, European Space Agency entities; 3. An organizations who are interested on data collection with use of advances of high technology, particularly space technology; 4. Managers of organizations, for instance companies providing engineering services and construction works, where required execution of space technology application in engineering management; 5. People or specialists who are involved on working in space technology application in a large areas of Earth monitoring and study.

Horizons in World Physics. Volume 287
Albert Reimer
In series: Horizons in World Physics
This book presents the latest developments in world physics, including chapters on the applications of laser-induced breakdown spectroscopy; fiber laser setup used to generate several mode-locked pulses applied to solitons-based optical transmission link; microring resonators; the nature of waves; star groups in the Orion constellation; the dissolution process of star clusters in the context of chaos theory; and microscopic gravity as a relationship between matter, energy and spacetime.

Horizons in World Physics. Volume 288
Albert Reimer
In series: Horizons in World Physics
Hardcover: 978-1-63485-882-3, $190.00.
e-book: 978-1-63485-905-9, $190.00.
This book presents the latest developments in world physics, including chapters on the neoclassic approach to cosmology based on the invariant integral; the versatile approach to the study of cosmological models; the reexamination of the main method in astronomy; sarma superfluid state in a spin-orbit-coupled fermi gas in a two-dimensional optical lattice; low-cost, high-speed hydrophilic finishing of lightweight polypropylene nonwovens by ambient air plasma; extremely low frequency wave propagation; high harmonic generation and harmonic tuning in undulators for FEL, with account for losses; Bose-Einstein-condensate built with focuses electron beam induced processing at room-temperature and novel applications; photodiodes based on thick GeSi(001) epilayers; and radiation shielding efficiency of lead zinc borate glasses.

Non-linear Cooperative Effects in Open Quantum Systems: Entanglement and Second Order Coherence
Nicole Alexandru Enaki (Quantum Optics and Kinetic Processes Lab, Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Republic of Moldova)
In series: Physics Research and Technology
This monograph, "Non-linear Cooperative Effects in Open Quantum Systems: Entanglement and Second Order Coherence" is dedicated to the large auditory of specialists interested in the modern approaches in quantum open systems, cooperative phenomena between excited atoms and the field of the non-linear interaction. Special attention is dedicated to the problems of non-linear interaction with vacuum fields and thermostat with finite temperature, but quantum aspects of laser generation of light in non-linear interaction with finite numbers of cavity modes remain the center of attention. In many situations, the limit to the traditional cooperative phenomena of open quantum systems and thermodynamics are taken into consideration. As the book contains the class of non-linear effects of generations of the particle in such cooperative phenomena, the author’s aim was to describe squeezed problems and affect entanglement between the generation photons and phonons in cooperative processes. The new phenomenon of cooperative emission in the single- and two-quantum processes are carefully described for large audiences of specialists in the field of quantum optics and condensed matter physics, chemistry and biology.

Optics and Spectroscopy of Exciton States in Quasi-Zero-Dimensional Nanosystems
Sergey I. Pokutnyi, Yuri N. Kulchin, Vladimir P. Dzyuba, and Wlodzimierz Salejda (Chuiko Institute of Surface Chemistry, National Academy of Sciences of Ukraine, Kyiv, Ukraine)
In series: Physics Research and Technology
Hardcover: 978-1-63484-493-2, $110.00.
e-book: 978-1-63484-523-6, $110.00.
This monograph analyzes the results of theoretical investigations of exciton states in quantum dot molecules under conditions of dominating polarization interactions. The authors show that the absorption and emission edge of quantum dots is formed by two transitions of comparable intensity from different hole sizes. In this monograph, the experimental and theoretical studies of physical characteristics of nanoparticles responsible for specific optical properties of dielectric nanocomposites are also examined.

Photic Crystals: Characteristics, Performance and Applications
Barbara Goodwin
In series: Physics Research and Technology
Hardcover: 978-1-63485-925-7, $190.00.
A photonic crystal fiber (also called microstructure fiber, holey fiber, holeassisted fiber, or micro-structured optical fiber, etc.) is a single material optical fiber which obtains its waveguide properties from an arrangement of very tiny and closely spaced airholes which go through the whole length of the fiber. Unlike the traditional fiber, both the core and cladding are made from the same material in PCFs and light can be
well confined and guided properly through the fiber by the mechanism of either total internal reflection (TIR) or photonic band gap (PBG). This book discusses the characteristics, performance and applications of photonic crystals. Chapter One reviews the design characteristics and optical properties. Chapter Two studies band structure of metal/dielectric photonic crystals. Chapter Three describes the splitting method in multicore photonic crystal fiber (PCF). Chapter Four focuses on switches, isolators, circulators, and multifunctional components for optical and THz regions based on 2D photonic crystals with magneto-optical resonators.

Plastic Deformation: Processes, Properties and Applications

Daniel Hubbard

In series: Physics Research and Technology
Hardcover: 978-1-63484-943-2. $110.00.
e-book: 978-1-63484-974-6. $110.00.

This book discusses the processes, properties and applications of plastic deformation. The first chapter provides short notes on the grains modification induced by local plastic deformation. Chapter Two examines energy accumulation and mechanisms of plastic deformation in organic glassy polymers. Chapter Three investigates the microstructure and texture of the pure magnesium foils obtained by room temperature reverse extrusion followed by cold rolling. The final chapter discusses utilization of severe plastic deformation (SPD) to produce ultrafine grained structures using top-down approach in novel metal forming processes.

Proceedings of the 2015 International Conference on “Physics, Mechanics of New Materials and Their Applications”, Devoted to the 100th Anniversary of the Southern Federal University

Ivan A. Parinov, Shun-Hsyung Chang, and Vitaly Yu. Topolov (Vorovich Mathematics, Mechanics and Computer Science Institute, Souther Federal University, Russia)

In series: Physics Research and Technology

Advanced materials and composites, including piezoelectrics, nanomaterials, nanostructures, functional materials, polymeric composites and so on, are very important for modern sciences, technologies and techniques. This book presents processing techniques, physics, mechanics, chemistry and applications of advanced materials. It covers broad classes of modern materials, structures and composites with specific properties. Nanotechnology approaches, modern piezoelectric techniques, physical and mechanical studies of the structure-sensitive properties of the materials, modern methods and techniques of physical experiment, and more. This collection presents selected reports of the 2015 International Conference on “Physics, Mechanics of New Materials and Their Applications” (PHENMA 2015, May 19-22, 2015, Azov, Russia), devoted to the 100-year Anniversary of the Southern Federal University. The book is addressed to students, postgraduate students, scientists and engineers taking part in R&D of nanomaterials, piezoelectrics, magnetic and other advanced materials, as well as different devices which are based on these constituents demonstrating broad applications in different areas of science, technique and technology. This book includes new studies and results in the fields of condensed matter physics, materials science, physical and mechanical experiments, processing techniques and engineering of nanomaterials, piezoelectrics, other advanced materials and composites, and numerical methods and results. Also, different applications, developed devices and goods are critiqued and analyzed.

Progress in String Theory Research

Fred P. Davis

In series: Physics Research and Technology
Hardcover: 978-1-63484-005-7. $110.00.

At the first look, the String Theory seems just an interesting and non-trivial application of the quantum mechanics and the special relativity to vibrating strings. By itself, the quantization of relativistic strings does not call the attention of the particle physicist as a significant paradigm shift. However, when the string quantization is performed by applying the standard rules of the perturbative Quantum Field Theory, one discovers that the strings in certain states have the same physical properties as the gravity in the flat space-time. Chapter one of this book reviews the construction of the thermal bosonic string and D-brane in the framework of the Thermo Field Dynamics (TFD). It briefly recalls the well-known light-cone quantization of the bosonic string in the conformal gauge in flat space-time, and gives a bird’s eye view of the fundamental concepts of the TFD. Chapter two examines a visual model inspired by string theory, on the system of interacting anyons. Chapter three investigate the late-time dynamic of the universe in a 7-dimensional cosmology in the presence of higher-order curvature terms arising from the heterotic string effective action. Chapter four discusses life resulting from strings, water, and DNA united by mislson. The final chapter provides new viewpoints of light quantum research on lightstringing.

Quantum Information Theory of Molecular States

Roman F. Nalewajski (Jagiellonian University, Department of Theoretical Chemistry, Cracow, Poland)

In series: Classical and Quantum Mechanics

The Quantum Information Theory (IT) perspective on entropic origins of the molecular electronic structure and chemical reactivity is examined in this book. The classical IT of Fisher and Shannon has already provided sensitive probes of the chemical bond patterns in molecules, generating tools for the bond spatial localization, formulating entropic measures of its overall multiplicity, and providing indices of the bond covalent/ionic composition. However, the amount of information carried by the particle distribution alone is not sufficient for a complete IT description of complex wavefunctions in molecular quantum mechanics, e.g., degenerate electronic states. The latter exhibit finite spatial phases and generate nonvanishing electronic currents. This monograph emphasizes the entropic chemical concepts due to the phase part of electronic states.

Quantum Mechanics: Principles, New Perspectives, Extensions and Interpretation - Revised Edition

Olavo Leopoldino da Silva Filho (Universidade de Brasília, Instituto de Física, Núcleo de Física Estatística e Física Matemática, Campus Universitário Darcy Ribeiro, Brazil)

In series: Physics Research and Technology
Sofcover: 978-1-63485-570-9. $89.00.
e-book: 978-1-63485-574-7. $89.00.

The book Quantum Mechanics: Principles, New Perspectives, Extensions and Interpretation - Revised Edition deals with the foundations of Quantum Mechanics in a quite novel way. From his own published works throughout these last 20 years in prominent Journals, Prof. L.S.F. Olavo reconstructs Quantum Mechanics (as related to the Schrödinger equation) from the scratch, both in mathematical and interpretive ways. The picture that emerges is quite
different from the one we get from other approaches. While the mainstream approach reinforces some unavoidable weirdness in the Quantum Mechanics as quite an intuitive theory, using only the pedestrian notions of randomness, fluctuations and the companion notion of statistics. However, it is much more than another stochastic approach. Throughout the first part of the book, Prof. Olavo shows how the various roads to derive the Schrödinger equation can be reduced to his own mathematical construction: Feynman’s path integral and the stochastic approach are but two of them. The book also brings about quite new results, such as the connection between Quantum Mechanics and the Central Limit Theorem and Langevin Equations (by means of which quantum phenomena can be easily simulated and make visualizable). All this is done taking recourse to only three axioms. This strategy gives the book an impressive power of synthesis in what respects the interpretation of the formalism. In fact, in the last part of the book, Prof. Olavo shows how some of the innumerable proposals for the interpretation of Quantum Mechanics, with some of their constructs, can help us making a rational reconstruction of a Quantum World without any weirdness whatsoever. In the second part, to remove some of the various obstacles to a Quantum Mechanics without weirdness, the book deals with the most prominent aspects and experiments of the Quantum, such as spin and the Stern-Gerlach experiment of operators and also Identical Particles. In the third part, the book presents a fully special and general relativistic extension of the formalism by just making the extension of the three postulates used throughout the first part. This book is intended to all those interested in the foundations of Quantum Mechanics.

Quintessence: A Thermodynamic Approach to the Phenomena of Nature
Lev Z. Vilenchik, Ph.D. and Doctor of Science in Physics and Mathematics (Senior Consultant, Felicitex Therapeutics, Inc. Cambridge, MA, USA)
Hardcover: 978-1-63484-447-5. $160.00.
e-book: 978-1-63484-525-0. $160.00.
This book describes a fundamentally novel approach to understanding the phenomena of nature from the standpoint of classical and relativistic quantum physics, as well as cosmology. Regularities of the living and the inanimate worlds, as well as the interaction between the two within each of them are described. It is shown that for every phenomenon (even seemingly supernatural), one can find a scientific interpretation. In the words of Albert Einstein: “The scientific search is a constant race away from magic”. Also discussed in this book are how the conditions for the emergence and development of organic life on the Earth were created. Why was the chosen set of approximately 100 global constants that govern our lives presented to us by nature? Are there planets in the Universe where there is also intelligent life? And if so, how can contact be established? These are some questions that are examined in this book.

Solitons and Nonlinear Waves of Phonon-Polaritons and Plasmon-Polaritons
Igor V. Dzedolik (V. I. Vernadsky Crimean Federal University, Simferopol, Russian Federation)
Hardcover: 978-1-63484-253-2. $110.00.
We study the solitons and nonlinear waves of phonon-polaritons and plasmon-polaritons with the frequencies in the terahertz and optical ranges in nonlinear media, and investigate the polariton spectrum in nonlinear dielectric media with the third order Kerr-type nonlinearity. We study the dependence of numbers of polariton spectrum branches on the intensity of the electromagnetic field, and demonstrate that the appearance of the new branches located in the polariton spectrum gap are caused by the dispersion of the third order dielectric susceptibility at the intensive electromagnetic field in the medium. The modulation instability of the new spectrum branch waves leads to the appearance of the spatial solitons or cnoidal (non-linear) waves. These scalar and vector phonon-polariton spatial solitons and cnoidal waves appear in the boundless dielectric medium. The polariton gets the mass that depends on the efficiency of the interaction of the electromagnetic field and medium. We investigate the linearly and circularly polarized nonlinear polariton waves in the self-focusing and self-defocusing media. The spatial soliton or cnoidal wave corresponds to one or several flat fluxes of the polaritons for the linearly polarized wave. The right or left circularly polarized polariton scalar wave corresponds to several polariton fluxes in the form of a filament bundle. In addition, we examine the instability of the linearly and circularly polarized polariton wave in the nonlinear dielectric medium. We consider the nonlinear models of generation of the surface plasmon-polaritons (SPPs) at the boundary of a nonmagnetic dielectric medium and a nonmagnetic metal. We show how the three-dimensional incident wave transforms to the fluxes of the SPPs at the first and second harmonics in the TM-mode. These “slow” and “fast” fluxes of the SPPs are formed at the first and second harmonics when their interaction is weak. The incoming SPP pulse transforms to the bright and dark solitons at the strong harmonic interaction. We consider the generation of the SPP pulses at the first and second harmonics of the carrier wave at the boundary of a uniaxial crystal and a non-magnetic metal. The SPP pulses at the first and second harmonics can arise in the form of the bright and dark solitons, or as the cnoidal waves, in accordance with the synchronism of velocity of the SPP pulses. We study the variation of the interaction efficiency and the changes of forms of the SPP pulses due to the exact or non-exact synchronism of their velocities, and show that the selection of crystal and metal pairs allows us to change the forms of the SPP pulses. We show how to use the nonlinear waves and pulses for designing the optical devices such as the optical converter, controllable filter and all-optical logic gates.

Surface Acoustic Wave Devices
Valeri G. Dneprovski, Gevork Ya. Karapetyan and Ivan A. Parinov (Southern Federal University, Rostov-on-Don, Russia)
Surface acoustic waves (SAWs) demonstrate simplicity of their excitation and receipt, as well as their availability to all propagation ways of signal branching and processing. SAW devices are divided into several main classes: filters for signal processing at intermediate frequencies, delay lines, resonators, filters with low losses for the input circuits of receiver, and antenna duplexers for the connected receivers. The SAW devices are not only able to conduct an effective signal processing, but also serve as a basis for multi-subsystems (matched filtering, signal processing, real-time Fourier transform processors, etc.). Additionally, SAW filters help scientists to realize the wide variety of frequency characteristics. Besides their unique electrical characteristics, SAW devices favorably differ from their analogs in small size, mechanical strength and high reliability, due to the quality of raw materials and their processing. The use of the photolithography and the achievements of group microelectronic technology in their production allow a researcher to achieve good reproducibility of parameters at relatively low cost. In addition, currently SAW devices are widely used in various sensors based on the SAW radio frequency identification. This book presents an attempt to generalize a multi-year experience on R&D of SAW devices. It develops original approaches directed at discovering solutions of technical problems, as development
of various SAW devices are patented in Russia. Moreover, the book presents some experimental and theoretical research results.

The Superluminal Universe: From Quantum Vacuum to Brain Mechanism and Beyond
Luigi Maximilian Caliguri (Foundation of Physics Research Center and University of Calabria, Italy) and Takaaki Musha (Advanced Science - Technology Research Organization, Japan and Foundation of Physics Research Center, Italy)

In series: Classical and Quantum Mechanics
Hardcover: 978-1-63484-744-5, $110.00.

It is commonly thought superluminal or faster-than-light physics phenomena should be excluded from mainstream physics and considered an exotic subject to be confined at most to science fiction, since their existence should be in contrast with the predictions of currently accepted main physical theories. On the other hand, several theoretical and experimental results collected during the last decades (like those related, for example, to hypothetical tachyons, astrophysical quasars, anomalous dispersion in material media, quantum tunneling of single photons or e.m. fields, and quantum entanglement) gave founded evidence of the occurrence of superluminal processes. Unfortunately, the study of such phenomena has been often compromised by misleading analyses, scientific prejudices and/or misunderstandings, preventing a balanced and in-depth assessment. This discourages the realization of further experimental and theoretical examinations. In this book, the authors explored these possibilities by adopting an open mind and rigorous approach. Some of the most intriguing and fascinating aspects of superluminal phenomena physics by describing and discussing, from a radically new standpoint related to the picture of QED coherence in matter, a series of theoretical explorations probing the possibility that superluminal particles and fields actually exist were proposed. In particular, they also considered the hypothesis according to which the higher performance capabilities of the human brain, including consciousness, could be explained from the standpoint of quantum computation, invoking superluminal particles like tachyons. As shown in this monograph, superluminal fields and particles emerging from quantum vacuum coherent dynamics could be responsible for new types of physical process, providing new and valuable insights into the fields of fundamental physics, condensed matter physics, astrophysics, cosmology and biophysics. Additionally, superluminal fields indicate the need for an honest and deep revision of the currently accepted framework of theoretical and applied physics, as well as historically well-established scientific knowledge.

Theory of the Integer and Fractional Quantum Hall Effects
Shosuke Sasaki (Center for Advanced High Magnetic Field Science, Graduate School of Science, Osaka University, Machikaneyama, Toyonaka, Osaka, Japan)

In series: Classical and Quantum Mechanics
In series: Physics Research and Technology
Hardcover: 978-1-63484-938-8, $210.00.
e-book: 978-1-63484-967-8, $190.00.

This book aims to describe the physics of the integer and fractional quantum Hall effects (QHE) from a theoretical side. In the classical Hall effect, the Hall resistance is proportional to the applied magnetic field strength and varies continuously. So, the discovery of a stepwise change of the Hall resistance by von Klitzing in an ultra-thin layer of a MOSFET was a big surprise. The QHE is a macroscopic phenomenon and shows the exact quantum structure, which is one of the most fundamental phenomena in physics. The fractional quantum Hall effect has been explained assuming quasi-particles with fractional charges or Jain’s composite fermions, the existence of which has not been verified experimentally. The author has been developing a theory based on a standard treatment of an interacting electron system without assuming any quasi-particle. This book will be easily understood by undergraduate students in physics. Knowledge of quantum field theory is needed to study Chapter 9.

PLASMA PHYSICS

Plasmas and Energetic Processes in the Geomagnetosphere. Volume I: Internal and Space Sources, Structure, and Main Properties of Geomagnetosphere
Lev I. Dorman (Founder & Head, Israel Cosmic Ray & Space Weather Center & Israeli-Italian Emilio Segre’ Observatory on Mt. Hermon, Tel Aviv University, Israel; Founder & Chief Scientist of Cosmic Ray Department, IZMIRAN, Moscow, Russia)

In series: Physics Research and Technology
2016.
Hardcover: 978-1-63485-735-2, $270.00.

The importance and actuality of the Geomagnetosphere’s research are based on following three factors: 1. The Geomagnetosphere is the nearest giant natural laboratory; research is made possible by use of satellites to investigate in detail different plasmas and energetic processes in space caused by the interaction of high kinetic energy solar wind plasmas and their perturbations (Coronal Mass Ejections - CME, Interplanetary Shock Waves – ISW, Interplanetary Interaction Regions – IIR) frozen in Interplanetary Magnetic Fields (IMF) with the rotated main geomagnetic field. This interaction leads to dynamic transformation of magnetic fields in the geomagnetosphere, generation and trapping high energy particles (which can be called as Magnetospheric Cosmic Rays - MCR), and the generation of multiple instabilities and electromagnetic radiations. These processes are in principle similar to processes in magnetospheres of other planets and their magnetic satellites, the atmosphere of the Sun and other stars, interplanetary and in interstellar space, and in many different astrophysical objects. 2. Modern technology, economics, navigation, television, internet, radio, military aspects, and the life of people on our planet are strongly connected to the operating systems of many satellites moving inside the geomagnetosphere. Different processes and MCR in the geomagnetosphere influence the operating systems of many satellites and often cause complications, from mild satellite malfunctions to fully destroying their hardwiring. The described research can be considered as a basis for developing methods of forecasting dangerous situations for satellites in different orbits and to decrease the risk of satellite breakowns. 3. The interaction of CME, ISW, and IIR with the geomagnetosphere leads to the generation of big magnetic storms and decreases precursory effects in Galactic Cosmic Ray (GCR) intensity. These magnetic storms are dangerous not only for satellites, but also on the Earth’s surface for technology, radio connections, car accidents, and human health. Investigations of magnetic storm causes can help to develop methods of their forecasting and decreasing the level of magnetic storm hazards. Therefore, the other practical application of this research is connected with the problem of space weather influence on the technology, radio, navigation, transportation, and human health on the Earth independent of altitude and latitude. We hope that this book will be interesting and useful for researchers, engineers, and students of corresponding specialties.
POLYMERS

Epoxy Resins: Synthesis, Applications and Recent Developments
Marcus L. Cain
In series: Polymer Science and Technology 2016. 152 pp.
Hardcover: 978-1-63485-613-3. $95.00.
Epoxy resins are one of the most useful materials in the polymer industry. The cross-linking characteristic of these materials gives rise to materials with excellent properties such as superior mechanical properties, high thermal stability, low shrinkage, chemical and solvent resistance and low toxicity. The polyethers derived from epoxy resins have found a wide range of applications in different fields like, aerospace, electronics, automotive, construction, 3-D printing and industrial tooling, to name a few examples. This book provides current research on the synthesis, applications and recent developments of epoxy resins.

Experimental Methods on Polymers, Nanomaterials and Their Nanocomposites
Niranjan Karak (Tezpur University (Head SAIC, TU), Advanced Polymer and Nanomaterial Laboratory, Center for Polymer Science and Technology, Department of Chemical Sciences, Tezpur, Assam, India)
In series: Polymer Science and Technology 2016. 377 pp.
This book starts with a very brief description on polymers, nanomaterials and polymer nanocomposites including their characterization, analysis, testing and processing. This book is aimed towards both experienced students as well as to the beginner student who wishes to pursue research work in the field. Therefore, this is the first book of its kind on the subject. Furthermore, the students in the fields of chemical science and engineering, materials science and engineering, chemical technology, environmental science and engineering, biochemical engineering, biotechnology, etc. can use it as a valuable and useful book on experimental work in the field. The book covers basic concepts and experiments on the preparation, characterization, properties, processing and applications of polymers, nanomaterials and their nanocomposites. Chapter One deals with the fundamentals of concept, classifications, materials, methods, characterization, processing, testing and applications of such materials. The second chapter tries to cover the preparative methods on raw materials for polymers and nanomaterials. From Chapter Three to Chapter Seven, preparative methods for different types of polymers including addition, condensation, rearrangement, resin and specialty polymers are described. The experiments on nanomaterials and polymer nanocomposites are presented in details in Chapter Eight. Chapters Nine and Ten demonstrate mainly the experiments on characterization and analysis, and processing and testing of polymeric materials including nanocomposites. The last, i.e. eleventh chapter deals with the experiments on different applications of polymers, nanomaterials and their nanocomposites. At the end of each chapter, a few simple but provoking questions are given as exercise in this book for self-understanding to the learners. References are cited at the end of each chapter to help the learner on the topic.

Molecularly Imprinted Polymers (MIPs): Challenges, Uses and Prospects
Theodore Quinn
In series: Polymer Science and Technology 2016.
Hardcover: 978-1-63485-922-6. $190.00.
In the past years, there has been growing interest in the development of molecularly imprinted polymers (MIPs). Molecular imprinting technology have been widely used in different fields including pharmaceutical biotechnological and chemical industries, water purification and food and environment analysis. This book discusses the challenges, uses and prospects of MIPs. Chapter One provides an overview of the different applications of the molecularly imprinted polymers in the field of food science. Chapter Two highlights some of the examples of MIP synthesis and use, without covering the extensive literature available and providing a broad view of the field. Chapter Three analyzes trends in the molecular imprinting of small molecules.

Natural Polymers: Derivatives, Blends and Composites. Volume I
Saiga Ikram and Shakeel Ahmed (Jamia Millia Islamia (A Central University), New Delhi, India)
In series: Polymer Science and Technology 2016. 317 pp.
Hardcover: 978-1-63485-831-1. $230.00.
This book is a compiled contribution from experts in the field of natural polymers, and it is organized into two volumes. The purpose of this book is to provide an entire catalogue of natural polymers, beginning with their introduction, mass production, qualitative and quantitative characterization and leading to their advanced applications in every aspect of life (i.e. from food packaging to biomedical studies such as cancer treatments). Overall, it compiles all abundant natural polymers originating from both plant and animal resources such as cellulose, carrageenan, xanthum gum, chitin, chitosan, etc. The derivatives of these natural polymers in the form of hydrogels, blends and composites are also compiled with their recent societal benefits and applications.

Natural Rubber: Properties, Behavior and Applications
Janet L. Hamilton
In series: Polymer Science and Technology 2016. 212 pp.
Natural Rubber (NR) is a renewable polymer endowed with remarkable properties including its high elasticity and high film forming capacity, properties that enable its use in a wide range of applications. In this book, Chapter One reviews properties, behavior and uses of NR. Chapter Two discusses NR properties and conventional applications, as well the development of new thermo-reversible cross linked NR. Chapter Three evaluates samples of natural rubber latex using a coaxial cylinder rheometer and, as from the data obtained, propose a model to determine the flow energy at different total solids contents. Chapter Four provides a review of the past, present and future perspectives of the vulcanization of natural rubber. Chapter Five investigates the effect of increasing MMT loading levels on the physico-mechanical properties of EVA/devulcanized rubber (DVC rubber) blends. Chapter Six discusses in detail the parameters and conditions that could influence the degradation reaction of NR latex in the presence of hydrogen peroxide and UV light. Chapter Seven focuses specifically on the use of metal and metal oxide particles in NR, epoxidized natural rubber (ENR) and their respective blends reported between 2010 to 2015.

Polyelectrolytes: Theory, Properties and Applications
Philip Guerrero
In series: *Polymer Science and Technology*
Softcover: 978-1-63485-836-6. $95.00.

In this book, Chapter One discusses the structural properties and phase behavior of neutral and partially charged diblock copolymers in solution. Chapter Two presents a comprehensive study of the complex physico-chemistry associated with the adsorption of polyelectrolyte layers, both single layer or multilayers formed for oppositely charged polyelectrolytes, onto solid surface, paying special attention to the adsorption of polyelectrolytes onto charged surfaces. Chapter Three presents the complexation of the linear, inherently hydrophobic, anionic polyelectrolyte poly[sodium/sulphate/carboxylate]isoprene] (SCPI) with the cationic surfactant dodecyltrimethylammonium bromide (DTMAB), studied mainly by light scattering methods.

**PROTEINS**

**Alpha-Fetoprotein: Functions and Clinical Applications**
*Nisha Lakhi and Michael Moretti (Department of Department of Obstetrics and Gynaecology, Richmond University Medical Centre, Staten Island, New York, USA)*
In series: *Protein Biochemistry, Synthesis, Structure and Cellular Functions*
Hardcover: 978-1-63484-875-6. $230.00.

Alpha-fetoprotein (AFP) has many applications across various disciplines. This oncofetal protein is routinely used by clinicians for antenatal testing as well for the screening and treatment monitoring of certain malignances. Innovative research using AFP has also been very promising. Recent developments include the use of AFP or its recombinant fragments for drug delivery to cancer cells, as well as for the engineering of cancer vaccines and T cell immunotherapies. The anti-estrogenic potential of AFP has also been utilized to develop drugs directed against estrogen receptor positive malignancies. This book is divided into five sections. In Section One, the history of AFP is recollected, and the role of AFP in normal and pathological conditions is explored. Section Two and Three focus on the utility of AFP during pregnancy. In Section Two, the use of routine maternal serum AFP screening for detection of chromosomal aneuploidies and neural tube defects in normal pregnancies and pregnancies with pre-existing disease is discussed; the potential use of AFP for the detection of preclampsia is also reviewed. Section Three explores the pathogenesis and data linking unexplained elevations of AFP to adverse obstetrical outcomes. Section Four presents chapters that discuss AFP ligand binding, receptor targeting, and drug delivery strategies. Finally, Section Five serves to explain the regulatory roles of AFP, its use in immunotherapy, and in the development of cancer vaccines. The aim of this book is to bring together some of the great research and clinical insights that currently surround AFP. The target audiences for this book are basic science researchers as well as clinicians.

**Caseins: Properties, Functions and Health Implications**
*Laurence Mendoza*
In series: *Protein Biochemistry, Synthesis, Structure and Cellular Functions*
Softcover: 978-1-63485-327-9. $82.00.
e-book: 978-1-63485-337-8. $82.00.

Casein, one of the major proteins found in milk sources, can be associated with many health benefits. This book discusses the properties, functions and health implications of casein. Chapter One reviews the scientific evidence around health promoting effects of casein hydrolysates and (bioactive) peptides thereof from an infant nutrition perspective. Chapter Two studies the physicochemical and functional properties of native and trypsin-treated caprine casein micelles. Chapter Three focuses on the molecular characteristics of caseins from equid and from human milk compared also to those of bovine milk. Chapter Four discusses molecular properties of caseins and allergenicity. The last chapter compares and discusses food regulations of different nations with an important winemaking tradition.

**Intrinsically Disordered Proteins (IDPs): Structural Characterization, Therapeutic Applications and Future Directions**
*Violet Weber*
In series: *Protein Biochemistry, Synthesis, Structure and Cellular Functions*

Intrinsically disordered proteins (IDPs) are biomolecules that do not have a definite 3D structure; their role in the biochemical network of a cell relates to their ability to switch rapidly among different secondary and tertiary structures. The emergence of IDPs has challenged the classical protein structure-function paradigm. IDPs play an important role in cellular regulation, signaling and control in health and disease. However, the unusual biophysics of these proteins makes structural characterization of IDPs and their complexes not only challenging but often resulting in opposite conclusions. This book studies the structural characterization and future directions of IDPs. Chapter One focuses on the DNA-binding IDPs and how intrinsic disorder affects their function. Chapter Two discusses the use of a computer atomistic simulation for the structural analysis of IDPs. The final chapter, Chapter Three, examines two long-standing contradictions concerning dimerization and membrane-binding activities of IDPs; provides an explanation of these discrepancies; and demonstrates how the resolution of these critical issues in the field results in the expanded understanding of cell function with multiple applications in biology and medicine.

**Myostatin: Structure, Role in Muscle Development and Health Implications**
*Dolores Christensen*
In series: *Protein Biochemistry, Synthesis, Structure and Cellular Functions*
2016. 142 pp.
Softcover: 978-1-63485-230-2. $82.00.
e-book: 978-1-63485-248-7. $82.00.

Myostatin, also known as growth and differentiation factor-8, is a member of the TGF-β family member and is mainly produced by skeletal muscle. Myostatin circulates in the serum in a latent form, whereas it acts almost exclusively on skeletal muscle. Chapter One of this book discusses the role of myostatin and related factors in muscle hypertrophy and atrophy. Chapter Two concentrates on specific alterations of positive and negative regulators of muscle mass in patients with chronic kidney disease. Chapter Three examines the potential benefits of the myostatin gene polymorphisms in livestock animals. Chapter Four studies myostatin functions in fish.
ROBOTICS

Parallel Manipulators: Design, Applications and Dynamic Analysis

Cecilia Norton

In series: Robotics Research and Technology

2016.
Hardcover: 978-1-63485-926-4, $160.00.

Robots are a key element in current industrial processes, as they can be applied to a number of tasks, increasing both quality and productivity. Traditionally, serial robots have been installed in factories, as their wide operating space allowed them to fulfill a number of tasks. However, due to their high moving mass and single kinematic chain structure, these robots present some disadvantages when high speed, accuracy or heavy load handling tasks have to be executed. Parallel robots provide an interesting alternative to these application fields, as their multiple kinematic chain structure offers increased stiffness, allowing reduced positioning errors, lighter mechanisms and increased load/weight ratios. In this book, Chapter One addresses a new control strategy for parallel manipulators based on L1 adaptive control. This latter is known for its decoupled control and estimation loops, enabling fast adaptation and guaranteed robustness. Chapter Two focuses on the control of parallel robots. Chapter Three reviews structure synthesis of fully-isotropic two-rotational and two-translational parallel robotic manipulators. Chapter Four reviews the new prototype of the two-legged, parallel kinematic walking robot CENTAUROB, developed at Hamburg University of Technology. Chapter Five analyzes and robustly controls the 6-DOF 3-legged Wide-Open parallel manipulator, using a Lyapunov analysis approach.

Robotics: New Research

Daniel G. Fisher

In series: Robotics Research and Technology

2016.
Hardcover: 978-1-63485-967-7, $160.00.

This book provides current research on robotics. The first chapter focuses on robot visual perception for object detection and recognition. Chapter Two discusses recent progress in vision-based robotics. Chapter Three examines portrait vision fusion. Chapter Four presents a preliminary design and experimental results of sex recognition. Chapter Five introduces the significance and application of health monitoring methods, and some of the traditional health monitoring methods are introduced. Chapter Six presents a systematic review of upper arm exoskeletons to find out under what clinical conditions use of such devices may be beneficial, what could be the technical requirements and what user interface must be provided to enhance their acceptability.

SPACE SCIENCE

Planetary Influence on the Sun and the Earth, and a Modern Book-Burning

Nils-Axel Mörner (Paleogeophysics & Geodynamics, Stockholm, Sweden)

In series: Space Science, Exploration and Policies

Hardcover: 978-1-63482-837-6, $190.00.
Softcover: 978-1-63485-779-6, $89.00.
e-book: 978-1-63482-849-9, $190.00.

This book is primarily concerned with fundamental components of solar physics, terrestrial geophysics and general climate issues. Phenomena such as planetary influence on solar variability, the Sun’s irradiance and solar wind continue to fascinate members of the scientific community. What is more astounding is the way in which our planet reacts to these occurrences; climate changes, sea levels, tides, ocean circulation and geomagnetism, all caused by the processes mentioned above. The pages that follow analyze and calculate the relationships between solar causation and terrestrial reaction. This work begins with a foreword from Walter Cunningham, the famous Apollo 7 astronaut who in 1968 took part in the first manned space flight. Section A is devoted to the concept of planetary-solar-terrestrial interaction and driving forces that represent a break-through in science. The book begins with a high-lightening of records indicating a planetary influence on solar activity and continues with multiple discussions of terrestrial variables. It concludes with an account of the physics behind the changes in the Sun and in the Earth. Section B presents the remarkable decision to terminate the journal of pattern recognition in physics because the authors concluded that we are now on our way into a new grand solar minimum. This inspires doubt in an accelerating global warming. In the name of science and ethics, five papers respond to this “modern book-burning”. Section C is devoted to general conclusions, co-authored by 19 eminent scientists in the field of solar physics, geophysics, geology, hydrology and climatology. It also includes a short note on concluding editorial views.


Peter Burton

In series: Space Science, Exploration and Policies

Hardcover: 978-1-63484-440-6, $120.00.
e-book: 978-1-63484-441-3, $120.00.

Space weather refers to variations in the space environment between the sun and Earth (and throughout the solar system) that can affect technologies in space and on Earth. Space weather can disrupt the technology that forms the backbone of this country’s economic vitality and national security, including satellite and airline operations, communications networks, navigation systems, and the electric power grid. As the Nation becomes ever more dependent on these technologies, space weather poses an increasing risk to infrastructure and the economy. Further, the Strategic National Risk Assessment has identified space weather as a hazard that poses significant risk to the security of the Nation. Clearly, reducing vulnerability to space weather needs to be a national priority. The National Space Weather Strategy (Strategy) and the accompanying National Space Weather Action Plan (Action Plan) together seek to enhance the integration of existing national efforts and to add important capabilities to help meet growing demands for space-weather information. The Strategy and Action Plan build on recent efforts to reduce risks associated with natural hazards and improve resilience of essential facilities and systems, aiming to foster a collaborative environment in which government, industry, and the American people can better understand and prepare for the effects of space weather. The Nation must continue to leverage existing public and private networks of expertise and capabilities and pursue targeted enhancements to improve the ability to manage risks associated with space weather. This book outlines objectives for enhancing the Nation’s space-weather readiness in three key areas: national preparedness, forecasting, and understanding. It also describes the study process, the study requirements and their relevance and importance, an assessment and accounting of current and planned space weather observing systems used or to be used for operations, an analysis of gaps between the observing systems’ capabilities and their ability to meet documented requirements, and a summary of key findings.
SPORTS

Science and Medicine in Combat Sports
Patrick Drid (Head of Combat Sports Department, Faculty of Sport and Physical Education, University of Novi Sad, Novi Sad, Serbia)
In series: Sports and Athletics Preparation, Performance, and Psychology
2016.
Hardcover: 978-1-53610-003-7. $190.00.
The number of studies in combat sports has significantly increased in the last decade, as numerous combat sports are becoming more popular around the world. In this book, authors present current academic research from interdisciplinary combat sports arenas, including MMA, Judo, Karate and Tae Kwon Do. Furthermore, readers can find a review that explores the time-motion analysis of grappling, striking and mixed combat sports, and an overview of physiological responses to typical training sessions in official and simulated combats. Relevant physical and psychosocial changes throughout the process of maturation are addressed along with a comparison between combat sports and other forms of physical activity. This book also addresses links between oxidative stress and exercise in combat sports; injury epidemiology in judo; differences among athletes in different karate disciplines.

TRANSPORTATION

Automotive Cybersecurity: Issues and Vulnerabilities
Craig Gibbs
In series: Transportation Issues, Policies and R&D
2016.
Softcover: 978-1-63485-987-5. $95.00.
e-book: 978-1-63485-988-2. $95.00.
Modern vehicles contain multiple interfaces—connections between the vehicle and external networks—that leave vehicle systems, including safety-critical systems, such as braking and steering, vulnerable to cyberattacks. Researchers have shown that these interfaces—if not properly secured—can be exploited through direct, physical access to a vehicle, as well as remotely through short-range and long-range wireless channels. This book addresses, among other things, available information about the key cybersecurity vulnerabilities in modern vehicles that could impact passenger safety; key practices and technologies, if any, available to mitigate vehicle cybersecurity vulnerabilities and the impacts of potential attacks; views of selected stakeholders on challenges they face related to vehicle cybersecurity; and Department of Transportation’s (DOT) efforts to address vehicle cybersecurity.

Safety Standards of Automotive Electronic Systems: Issues and Assessments
Michael J. Holmes
In series: Transportation Issues, Policies and R&D
2016.
Softcover: 978-1-63485-908-0. $62.00.
On July 6, 2012, the President signed into law a new two-year transportation reauthorization bill, the Moving Ahead for Progress in the 21st Century Act (MAP-21). This bill authorizes funds for Federal-aid highways, highway safety programs, transit programs, and for other purposes. This book responds to the MAP-21 requirement that the Secretary of Transportation to “complete an examination of the need for safety standards with regard to electronic systems in passenger motor vehicles.” Moreover, the book reviews security and privacy gaps that put American drivers at risk.

WILDLIFE PROTECTION

Combating Wildlife Trafficking: National Strategy, Implementation Plan and Restrictions on Elephant Ivory Trade
Tracy Bell
In series: Wildlife Protection, Destruction and Extinction
Hardcover: 978-1-63484-598-4. $120.00.
e-book: 978-1-63484-599-1. $120.00.
In the past decade, wildlife trafficking—the poaching or other taking of protected or managed species and the illegal trade in wildlife and their related parts and products—has escalated into an international crisis. Wildlife trafficking is both a critical conservation concern and a threat to global security with significant effects on the national interests of the United States and the interests of our partners around the world. As President Obama said in Tanzania in July 2013, on issuing a new Executive Order to better organize United States Government efforts in the fight against wildlife trafficking, wildlife is inseparable from the identity and prosperity of the world as we know it. We need to act now to reverse the effects of wildlife trafficking on animal populations before we lose the opportunity to prevent the extinction of iconic animals like elephants and rhinoceroses. Like other forms of illicit trade, wildlife trafficking undermines security across nations. Well-armed networks of poachers, criminals, and corrupt officials exploit porous borders and weak institutions to profit from trading in illegally taken wildlife. This book discusses national strategy, implementation plans, and restrictions on elephant ivory trade.
AFRICA

Handbook on Africa: Challenges and Issues of the 21st Century
Whitney Sherman
In series: African Political, Economic, and Security Issues
The authors of this handbook provide new research on the challenges and issues of the 21st century in Africa. Some of the topics discussed include the African Development Bank; the PEACE model; environmental developments; waste management; diseases and public health challenges; and education.

Morocco: Conditions, Issues, and Foreign Relations
Wilson Graves
In series: African Political, Economic, and Security Issues
Hardcover: 978-1-63485-107-7, $120.00.
Successive U.S. Administrations have viewed Morocco as an important regional ally, a partner in counterterrorism, and a free trade counterpart. Morocco receives substantial U.S. development aid, and bilateral trade and investment have increased following a 2006 Free Trade Agreement. Morocco also benefits from U.S. security assistance and military cooperation, and is a purchaser of U.S. defense articles, including F-16 jets. Some observers have placed greater emphasis on the U.S. Morocco relationship amid regional turmoil and terrorist threats emanating from neighboring states in North Africa and the nearby Sahel region of West Africa. This book discusses current issues in Morocco. It also focuses on the geopolitical and economic drivers for the renewed Moroccan interest in West Africa and examines how Morocco is conducting its foreign and security policy in a variety of Western African countries. Furthermore, the book includes Morocco's 2014 Human Rights Report, International Religious Freedom Report, and the Investment Climate Statement for 2015.

Trends in African Studies
Jacob U. Gordon and Stephen Owoahene-Acheampong
(Professor and Stephen Owoahene-Acheampong,
Lecturer Institute of African Studies, University Of Ghana Legon, Accra, Ghana)
In series: Focus on Civilizations and Cultures
Hardcover: 978-1-63483-862-7, $110.00.
This book Trends in African Studies is a response to the challenge of the paucity of materials on the history and the development of African Studies in a global context. The available substantive materials on the subject are limited, thus creating a gap in related literature. Yet, the field of African Studies continues to generate global interest, academic recognition and respectability. This book documents the current state of African Studies and emerging trends in the field. It covers the development of African Studies in a global context: African Studies in Africa, Asia and the Middle East, Europe, Australia, the United States of America and Canada, South America and the Caribbean, and it analyzes the trends present in each continent. An important contribution of this book to the field of African Studies is the development of an African Studies index designed for measuring the quality of African Studies and ranking. Useful information, suggested multidisciplinary research methods in African Studies and an appendix which includes a researched list of African Studies journals and organizations related to African Studies are found within its pages.

Tunisia: Social, Economic and Environmental Issues
Eunice Wagner
In series: African Political, Economic, and Security Issues
e-book: 978-1-53610-077-8, $95.00.
Tunisia is located in North Africa, on the border of the Mediterranean. Covering 162,155 km, it is characterized by a temperate climate in the north, with mild rainy winters and hot summers, and a desert type of climate in the south. Tunisia is an arid country on the major part of its territory. This book reviews the social, economic and environmental issues of Tunisia. Chapter One discusses irrigation and soil salinity of the country. Chapter Two assesses the effects of deficit irrigation on gross margin and water use efficiency of potato crops, irrigated with subsurface drip irrigation, in a semiarid area of central Tunisia. Chapter Three provides a performance evaluation of AquaCrop in simulating soil water content, canopy cover, and root development for maize conducted under subsurface drip irrigation. Chapter Four presents new angles on analyzing Domestic Solar Water Heating systems (DWSHs) deployment in Tunisia by analyzing both the energetic and the economic potential through a case study. Chapter Five studies the potential offered by the use of a PV/T solar collector in Tunisian households to supply electricity and domestic hot water simultaneously. Chapter Six contributes to the understanding of the epidemiology of enteric viruses in Tunisia and underlines the need of an environmental surveillance program and official viral controls for treated wastewater. Chapter Seven focuses on the climate change effects of evapotranspiration estimated by different empirical models under the Mediterranean environment.

ASIA

Conflict and Communication: A Changing Asia in a Globalizing World - Social and Political Perspectives
Lu Zhouxiang and Peter Herrmann (Subject Leader of Chinese Studies, School of Modern Languages, Literatures and Cultures, National University of Ireland Maynooth, Ireland)
In series: Asian Studies
2016. 223 pp.
Hardcover: 978-1-63485-280-7, $110.00.
Focusing on the themes of conflict, communication, and globalisation, this book provides interdisciplinary studies of modern and contemporary Asia and highlights the latest developments in Asian Studies. Beginning with a discussion on the role of communications, the book offers theoretical and methodological considerations on dealing with conflict and communication. It then explores self-other relationships through an investigation of the ethical structure of responsibility in the context of globalisation. In the following chapters, contributors from China, Germany, Ireland, Japan and South Korea provide a clear grasp of conflicts and communications within and beyond Asia from political, economic and cultural perspectives. They offer insight on a wide range of topics including the Sino-Japanese conflict, the political and ideological struggles between the two Koreas, Asian countries' responses to the economic crisis, the World Fair and globalisation, the development of NBA culture in China, and Sino-Western comparison on mother-in-law–daughter-in-law dynamic. The book concludes that Asia’s rise should present more opportunities than
conflicts and threats, and that it will eventually lead to the emergence of a multipolar world.

Conflict and Communication: A Changing Asia in a Globalizing World – Language and Cultural Perspectives
Minako O’Hagan and Qi Zhang (School of Applied Language and Intercultural Studies, Dublin City University, Dublin, Ireland)
In series: Countries and Cultures of the World 2016. 231 pp.
Hardcover: 978-1-63485-420-7. $190.00.
The chapters within this volume comprise selected papers from the 5th Annual Conference of the Asian Studies Irish Association (A.S.I.A.) held at Dublin City University in November 2013. Discussing the conference theme Conflict and Communication: A Changing Asia in a Globalising World, this volume presents multiple perspectives articulated by scholars across disciplines that include translation studies, language studies, literary studies and computer science. Within such disciplinary diversity emerged a unity which converged on language and culture as fundamental points of analysis. This volume covers research topics relating to China, Korea, Japan, Thailand, and Vietnam, as well as Asia as a whole in a globalising world. Insights shared by the ten authors each addressing Asia through a different disciplinary lens hope to provide future research impetus for students and established scholars alike within and beyond Asian Studies.

Japan: Conditions, Issues, and U.S. Relations
Amelia Fowler
Hardcover: 978-1-63484-996-8. $120.00.
e-book: 978-1-63484-997-5. $120.00.
Japan is a significant partner of the United States in a number of foreign policy areas, particularly in U.S. security priorities, which range from hedging against Chinese military modernization to countering threats from North Korea. The alliance facilitates the forward deployment of about 50,000 U.S. troops and other U.S. military assets based in Japan. In addition, Japan’s participation in the Trans-Pacific Partnership (TPP) talks increases the significance of the proposed trade pact, which is a core component of Obama Administration efforts to “rebalance” U.S. foreign policy priorities toward the Asia-Pacific region. After years of turmoil, Japanese politics has been relatively stable since the December 2012 election victory of current Prime Minister Shinzo Abe and his Liberal Democratic Party (LDP). Abe was re-elected as leader of his party in September 2015. This book discusses Japan-U.S. relations, and the issues for Congress. Furthermore, the book studies “womenomics” in Japan, human rights, religious freedom, and Japan’s climate statement for 2015.

Japanese Civilization in the 21st Century
Andrew Targowski, Juri Abe and Hisanori Kato
(Western Michigan University, Kalamazoo, MI, USA)
In series: Focus on Civilizations and Cultures 2016.
Hardcover: 978-1-63485-598-3. $190.00.
This book is a comprehensive synthesis of Japanese civilization in the 21st century. It covers all major elements of this civilization with a strong emphasis on how it can develop further in the future. All nations strive for prominence, but few reach it. Over the last 61 years (1956-2016), Japan has achieved this uncommon status. But, where is Japan heading in the 21st century? This question has been asked since the 1990s; Japan has been in a stagnant-deflation stage and has been looking for all sorts of solutions to return to the prosperous times reflecting Pax Nipponica in the 1970s and 1980s. The context of this situation and some recommendations for the future of Japanese culture are provided in this book. Nowadays, Japan is the third largest economy of the world, second only to China in the 2010s. Its economy performs at near zero growth, due primarily to its aging society, which is actually positive since the Japanese have the longest lifespan in the world today and slow growth does not unsustainably deplete resources and nature. Japan’s new purpose should be in the development of a sustainably wise civilization and its world-wide dissemination. Does Japanese civilization have a chance to trigger another reform and be successful again in the 21st century? This question has been pondered by several co-authors of the book. This monograph is written for those who are interested in the contemporary issues of the world’s globalization and the role of leading countries in this process. With this in mind, students, faculty, social and political activists from around the world should be interested in this book.

North Korea: Political, Economic and Social Issues
Marvin Harrison
Hardcover: 978-1-63485-969-1. $160.00.
This book provides information on the political, economic and social issues of North Korea. Chapter One examines the satellite and missile programmes of North Korea in comparison with those of South Korea and Japan within the wider geopolitical context and US policy. Chapter Two examines the potential of the Six-Party Talks (SPTs) and the prospects of their transformation into a multilateral security mechanism in Northeast Asia. Chapter Three specifically analyzes the 2009 political crisis involving the Democratic People’s Republic of Korea involving the testing of nuclear capability, abduction, and eventual release, of American journalists, and UN imposition of sanctions against the DPRK between March and August of 2009, in an attempt to understand and identify the symbolic themes utilized in American domestic propaganda and their consequences on the public. Chapter Four reviews information on therapeutically, as well as nutritionally important terrestrial arthropods in North Korea, and provides an examination of the idiomatic roles insects play in North Korean proverbs and sayings.

Southeast Asia: Examinations of U.S. and Chinese Economic Engagement
Pauline Nelson
Hardcover: 978-1-63484-696-7. $120.00.
e-book: 978-1-63484-701-8. $120.00.
Both the United States and China seek to deepen their economic engagement with the 10 Association of Southeast Asian Nations (ASEAN) members: Brunei Darussalam, Burma, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. ASEAN countries are seeking to further integrate their economies and create an economic community by the end of 2015. According to International Monetary Fund data, if ASEAN countries were a single nation, their collective 2014 GDP would represent the seventh largest economy in the world. In 2011, the President announced a renewed focus—known as the rebalance—on the Asia-Pacific region. The U.S. Department of State and U.S. Agency for International Development prepared a 5-year strategy for the rebalance. This book examines what available data indicate about U.S. and Chinese trade and investment with ASEAN countries and what actions the U.S. and Chinese governments have taken to further economic engagement with these countries.
BUSINESS

401(k) Plans: A Sponsor’s Role in Default Investments and an Examination of Target Date Funds
Wesley Meyer
In series: Retirement Issues, Plans and Lifestyles
Hardcover: 978-1-63484-727-8. $120.00.
e-book: 978-1-63484-728-5. $120.00.
Employers who sponsor 401(k) plans report using a range of default investment types to automatically enroll employees in their plans based on each type’s design and other attributes. Department of Labor (DOL) created a regulatory “safe harbor” in 2007 to limit plan sponsor liability for investing contributions on behalf of employees into default investments when employees do not otherwise make an election. In addition, DOL identified three default investments that, if selected by sponsors, would qualify a plan for safe harbor protection. This book examines which options plan sponsors selected as default investments and why; how plan sponsors monitor their default investment selections; and what challenges, if any, plan sponsors report facing when adopting a default investment for their plan. Furthermore, this book determines what is known about the effect of automatic enrollment policies among the nation’s 401(k) plans, and the extent of and future prospect for such policies; and the potential benefits and limitations of automatic IRA proposals and state-assisted retirement savings proposals.

A-B-C: Analogues in Business Communication
Luke Strongman (Senior Lecturer, Communication, Open Polytechnic, Lower Hutt, New Zealand)
In series: Business Issues, Competition and Entrepreneurship
Hardcover: 978-1-63484-203-7. $110.00.
The highlight of many peoples’ daily lives is business, the act of communicating and exchanging, negotiating and transacting, of selling and buying. In business, while there is always potential for transaction, nothing happens until the business is explained or the deal is done. Communication is a central ingredient. In fact, good communication alone can constitute a business practice. It is certainly a social and informative activity which facilitates business interaction. However, the study of business communication produces as many questions as there are answers: “What was that order again?”; “How do I best advise my staff of this latest developments and the company’s progress?”; “How do I work with the competition to better our sales?”; “How do I explain this?” The purpose of this book is to understand vital concepts of business communication in eight easy to read, but scholarly chapters. A-B-C: Analogues in Business Communication takes a fresh look at many of the issues that people face in the business world at any level today, including such questions as: “When and how to reduce uncertainty”; “What leads to credibility?” and making decisions, management, leadership and self-esteem; “When to use competition and co-operation?”; “What is selling?” and coping with information overload. Bringing together related concepts in business communication, this book aims to entertain and inform, showing that beneath the plethora of tasks that face us every day in the business world, there are a number of constants, which when understood in more depth, can make business communication easier at a conceptual level for anyone and everyone. Business is about efficiency, it is about suppliers meeting demand. In business, no one wants to take longer to accomplish something than he or she needs to; that is, good business communication saves time. But in order to save time, knowing how to navigate the salient concepts of the business environment is useful. Who has not heard the business aphorism to “make things happen!”? In order to “make things happen” you need to communicate, and you need to be able to understand the communication concerns of your business environment. This is the purpose of A-B-C: Analogues in Business Communication.

Accounting Methods and Standards and Bonus Depreciation: Selected Analyses
Suzanne Thomas
In series: Business Economics in a Rapidly-Changing World
2016. 139 pp.
Hardcover: 978-1-63484-463-5. $120.00.
e-book: 978-1-63484-464-2. $120.00.
This book reviews selected analyses of accounting methods and standard and bonus depreciation. Chapter One of this book briefly explains the different accounting standards and U.S. capital markets. It examines several IFRS policy options Congress might consider and the benefits and challenges of each of those options. Chapter Two introduces the difference between cash and accrual methods by providing an overview of concepts and theories that underlie these accounting methods. It then explores these concepts through the business cycle of a fictitious small business and how the basis of accounting would affect the financial condition of the business. Chapter Three provides a brief explanation of cash and accrual accounting. It then examines the legislative history surrounding the Tax Reform Act of 1986, which set most of the current policies related to cash accounting for tax purposes. Chapter Four discusses bonus depreciation as either a temporary stimulus provision or a permanent part of the tax code. Chapter Five examines the current status, legislative history, and main economic effects (including their efficacy as an economic stimulus tool) of the Section 179 and bonus depreciation allowances.

Advances in Applied Business Research: The L.A.B.S. Initiative
Orlando Manuel da Costa Gomes and Hélder António Fanha Martins (Lisbon Accounting and Business School, Instituto Superior de Contabilidade e Administração de Lisboa, Lisboa, Portugal)
In series: Business Economics in a Rapidly-Changing World
2016. 279 pp.
This book compiles a series of academic contributions based on the theme of applied business. Applied business research is interpreted in a broad sense, comprising all the studies that in some way allow us to better understand how corporations are managed, how organizational data systems are employed to the best use of firms, how financial decisions impact the success of businesses, and how the macro environment influences the performance of individual organizations. The book is divided into five parts. Part I concentrates on the mechanisms through which firms collect, process and use information. Part II is dedicated to corporate finance, to the financial decisions of firms and to the analysis of stock market regularities. Financial issues continue to be the topic of discussion in Part III, though in a different perspective; here, it is more focused on the role of financial institutions and on the architecture of financial systems. Part IV approaches the economic and business environment faced by the organizations, exploring essentially two themes: the spatial distribution of innovation and the economic value of the language. Finally, in Part V, attention is placed on the academy and, particularly, on the involvement of students in business-related experiments. This book was prepared as an initiative of the Lisbon Accounting and Business School (ISCAL), a Portuguese higher education public institution highly committed to
contributing to the advancement of research in the field of applied business.

Advances in Business and Management. Volume 9
William D. Nelson
In series: Advances in Business and Management
Hardcover: 978-1-63484-835-0, $160.00.
The authors of this book examine the latest research in business and management, including the challenges, strategies and impact of implementing an Automated Fare Collection (AFC) system for electronic ticketing in bus transit in emerging markets; territorial competitiveness and social responsibility; the existing relationship between the emotional aspect and decision-making processes; a theoretical application of experiential marketing on festival tourism; an analysis of brand emotion and product design; the literature on Enneagramme as a potential tool for enhancing occupational health and safety; the use of swarm intelligence in the field of information technology; and computing export-import quantities and prices of agricultural commodities for selecting the ports of a country using a transportation model.

Controlling Supply Chains: Theory and Practice
Boguslaw Sliwczynski and Adam Kolinski (Institute of Logistics and Warehousing and Poznan School of Logistics, Poznan, Poland)
In series: Business Economics in a Rapidly-Changing World
In series: Marketing and Operations Management Research
2016. 146 pp.
Softcover: 978-1-63485-071-1, $95.00.
e-book: 978-1-63485-137-4, $95.00.
The book presents the issue of controlling supply chains in a comprehensive manner across enterprises and throughout the supply chain with particular emphasis on market-oriented integrated management. Operational controlling in the supply chain supports enterprise management and creates a supra-functional management system that supports management employees in decision-making and creating mechanisms for effective and efficient management. The great interest by managers for tools of operational controlling is due to the need for a system analysis of the impact of adopted methods and scenarios for the management of processes (e.g. supply, production, distribution, sales, warehousing, and transportation, inventory) on the financial and market results of the enterprise, and anticipatory analysis and multivariate simulation of results for operational activities. The authors indicate the systemic importance of control resulting from the need for relating financial feedback (e.g. revenues, costs, and return on assets) and operational feedback (e.g. performance, efficiency, level of utilization, and reliability), and for shaping the factors of operational management - products, processes and resources - which determine the result. This book includes practical issues of the enterprise’s strategic and operational controlling, taking into account the methods of management accounting, cost calculation and analysis of operational efficiency, controlling of processes in the supply chain, balanced scorecard, the SCOR model, analysis and engineering of values, and information management systems.

Corporate Governance: Principles, Practices and Challenges
Edmund Klein
In series: Business Issues, Competition and Entrepreneurship

Corporate governance is the system that directs and controls the firm’s operations of its business model and strategy. Furthermore, corporate governance also includes the relationship among the stakeholders of a company, such as the board of directors, supervisory board, shareholders, financial providers, customers, suppliers, etc. It is evident that corporate governance requires professionalism of the company’s applied systems, processes, policies, decisions and operational activities. This book discusses the principles, practices and challenges of corporate governance in several different settings.

Council Women and Corporate Performance in the Brazilian Capital Market
Cleia Beatriz Macagnan, Carine De Oliveira and Melissa Gerhard (Sabbatic Time in Massachusetts Institute of Technology, MIT – Sloan School of Management, Senior Prof. Accounting Graduate Program, Universidade do Vale do Rio dos Sinos, Brazil)
In series: Business Economics in a Rapidly-Changing World
2016. 88 pp.
Softcover: 978-1-63485-177-0, $82.00.
e-book: 978-1-63485-201-2, $82.00.
This book is about the inclusion of women in the council of companies. Specifically, it presents an investigation of whether there is a relationship between the share of economic and financial performance of women measured by the return on assets (ROA) and the Tobin Q ratio. Theoretical analysis (institutional theory) suggests that gender may have both a positive and negative (or neutral) effect on the economic and financial performance of the company. Statistical analysis supports the theoretical position of no effect, positive nor negative. The results are consistent with the explanation that institutions represent values, rules, and norms which evolve over time, and therefore the presence of women on the board can change under different circumstances and at different times. Based on the authors’ research, it could not be stated strongly that the presence of women contributes to the economic and financial performance of a company. However, no negative evidence was found either. The result of the study suggests that decisions regarding the appointment of women as board of directors should be based on other perspectives rather than solely basing it on economic and financial performance.

EMV Chip Cards: Background, Fraud, Security and Small Business Issues
Bryan Weber
In series: Business, Technology and Finance
Hardcover: 978-1-63484-434-5, $120.00.
Consumer financial card fraud due to data breaches of card information is an ongoing problem in the United States. The majority of breaches are carried out against point-of-sale (POS) systems, and are facilitated by what many consider to be the weak link in the U.S. retail sales payment process: the continued use of magnetic stripe cards (also referred to as stripe-and-signature cards). These cards are what most U.S. consumers think of when referring to financial cards. In much of the rest of the world, cards that provide a much higher level of security for conducting sales transactions are used: EMV cards, named for the coalition of Europay, MasterCard, and Visa (the EMV Coalition or EMVCo) that developed the specifications for the system in the 1990s. EMV cards store card information on an embedded microchip and are more commonly called chip cards. With these cards, instead of swiping and signing to make a payment, the cardholder inserts the card into the
Management’s (OPM) tools and resources to support employee engagement; and evaluates the Office of Personnel Management’s (OPM) tools and resources to support employee engagement from 2006 through 2014; identifies practices in improving employee engagement. The book also examines what engages Federal employees—that is, what contributes to a heightened connection between Federal employees and their work or their organization.

**Federal Employees and Sexual Orientation in the Workplace: Policy, Perception, and Protections**

*Ross Henderson*

In series: *Business Issues, Competition and Entrepreneurship*

2016. 121 pp.

Hardcover: 978-1-63484-376-8. $120.00.
e-book: 978-1-63484-384-3. $120.00.

Prior to 1975, Federal Government policy considered an individual’s sexual orientation when determining suitability for Federal employment. Although we will never know the exact number of individuals who were denied employment or who had their employment terminated based on their actual or assumed sexual orientation, one estimate places this number between 7,000 and 10,000 in the 1950’s alone. Federal law now prohibits discrimination in employment based on a number of factors, including race, color, religion, sex, national origin, disability, and age. This book examines sexual orientation and gender identity discrimination in employment, and provides policies, perception, and protections against discrimination in the workplace.

**Financial Performance: Analysis, Measures and Impact on Economic Growth**

*Elaine Moreno*

In series: *Business, Technology and Finance*

2016. 156 pp.

Hardcover: 978-1-63484-501-4. $110.00.

Globally, family businesses constitute one of the pillars of social welfare, exerting an active and fundamental role in modern economies by generating wealth and creating jobs. This institution provides security and progress for family participants in the project, and benefits both the community and the national and international economic structure. To analyze its impact on the economy, Chapter One empirically examines the effect of the value generated by family business on economic growth worldwide, nationally and in industry sectors. Chapter Two studies whether the one-rule-fits-all approach adopted by the Nigerian Securities Exchange Commission promotes firm performance irrespective of the firms’ ownership structures in Nigerian family owned firms. Chapter Three takes a close look at how corporate governance practices are evaluated by stock market participants. In Chapter Four, the link between financial inclusion, development and economic growth in low income countries is examined.

**Food Markets: Consumer Perceptions, Government Regulations and Health Impacts**

*Peggy Vaughn*

In series: *Marketing and Operations Management Research*

In series: *Food Science and Technology*


Hardcover: 978-1-63485-789-5. $160.00.

This book provides current research on consumer perceptions, government regulations and health impacts of the food markets. Chapter One discusses the consumer perceptions on health and welfare of European lobsters placed on the market live and how these aspects affect their quality and food safety. Chapter Two uses a large, national survey to identify, describe, and explain differences among three groups of consumers categorized according to their propensity to buy...
and support local food. Chapter Three analyzes Moldova’s transition to organic farming and the prospects for organic food processing and export, taking into consideration the conditions of and opportunities presented by the new agreement. Chapter Four examines how nano-food packaging designed to enhance shelf-life affects consumer willingness to pay (WTP) for perishable products in order to better understand how the controversy surrounding nanotechnology is likely to affect its market success. Chapter Five gives some strategic suggestions regarding how the headquarters of restaurant chains should manage their store networks in domestic context. Chapter Six investigates the accessibility of markets and challenges faced in marketing of mariculture products. Chapter Seven discusses the importance of the normalization of food supplements labeling, particularly the creatine-based ones, and reviews how the labeling of the supplements commercialized in Brazil are related to the respective legislation. Chapter Eight analyzes the most important issues for sustainable value in food retail.

Generational Differences in Work Values and Ethics: An International Perspective
Moshe Sharabi (Head, Department of Sociology and Anthropology, Yezreel Valley Academic College, Israel)
In series: Business Issues, Competition and Entrepreneurship
2016.

Over the course of time, more and more longitudinal and cross sectional data on work values and work ethics has been gathered by researchers and institutions worldwide. Based on this data, more and more studies have been published about changes in work values. This book gathers current global knowledge about cohort or generational differences in work values ethics. Furthermore, this book gives a broad picture of the global changes in the economy, the work force, and Human Resource (HR) practices needed to manage generational diversity and develop Generation Y in organizations. The book presents international perspectives, bringing studies from different countries on different continents. Since Generation Y/Me has been recognized as a generation with unique values regarding family, education, work, politics etc., and since this generation has become more meaningful in the workforce and in management, there is a special emphasis in this book on Generation Y values, attitudes, and ethics regarding working life and the workplace. This book (as well as each chapter) focuses on the applications of this knowledge to managers and Human Resource practitioners. Part One focuses on findings from seven countries (Canada, China, Israel, South Africa, India, USA and Colombia) that can give us an international perspective regarding generational differences/Generation Y in work values and ethics. Part Two is about generational differences in work and leadership values among managers from Eastern and Western Europe. Part Three concludes with the practical applications that can be drawn from the accumulated knowledge about Generation Y work values regarding managing and developing Generation Y leadership roles. Target Audience: The relevant audiences are from the following disciplines: Sociology, Anthropology, Demography, Management, Education, Psychology, Government Administration, History, Industrial Relations, Labor Economics and Human Resources Management.

Innovation and Knowledge-Intensive Business Service Firms: Hong Kong’s Engineering Consulting Sector
Kwok Wai Ma (Hong Kong Institute of Education, Department of Social Sciences, Sai Kung, N.T., Hong Kong, China)

In series: Business Economics in a Rapidly-Changing World
The purpose of this book is to investigate the innovative process in engineering of consulting firms as a knowledge-intensive service sector. Extant literature in a resource-based view of the firm calls for empirical studies to illustrate the process of how human resource systems provide organizations with a competitive advantage. The key issue is on how the different elements of human resource systems interact. The evidence unveiled in this book does just that. Likewise, it has been suggested that resource systems as a source of a competitive edge should not be viewed as a static phenomenon. Sustained competitiveness requires an organization to constantly adjust itself according to the evolving market conditions. Such dynamic capability has been illustrated in cases within this book. On the other hand, literature on innovative studies indicates that new analytical approaches applicable to both manufacturing and service industries can be beneficial to future research in this field. The tactic adopted in this book can serve as a prelude to such an attempt.

Internal Auditing and Enterprise Risk Management (ERM): A Research Approach on the Evolution, Roles of Internal Auditors, Implementation, Challenges and the Impact of the ERM on Organisational Performance
Mohd Ariff Bin Kasim and Siti Rosmaini Binti Mohd Hanafi (Department of Accounting, College of Business Administration, Ajman University of Science and Technology, Ajman, United Arab Emirates)
In series: Business, Technology and Finance
2016. 188 pp.
Hardcover: 978-1-63482-636-5, $190.00.
Despite the fact that there are internal auditing books in the market, these existing books are mainly written from the perspective of internal audit practitioners. Unlike books in accounting theory, the books on internal auditing lack empirical attributes. This book aims to bridge this gap in the market by incorporating research perspectives concerning internal auditing as well as new expanding roles in Enterprise Risk Management (ERM). The enhancement of accounting curriculum and availability of internal auditing programs in most universities certainly demand more than practitioners’ based internal auditing books. This book offers valuable insights based on research perspectives concerning internal auditing and its roles and implications towards the implementation of the ERM. It is specially designed to accommodate the needs of researchers, specifically academic research in internal auditing and ERM. It is packed with key research literature, research questions, directions and theoretical justifications that could facilitate researchers by incorporating existing relevant studies and theories. Moreover, the book could simplify and point researchers in specific directions by integrating detailed literature references, research questions and measurements procedures. Students at both postgraduate and undergraduate levels may find this book extremely useful in assisting them with their research endeavors. The initial part of the book explores the history and evolution of internal auditing as a profession followed by comprehensive theoretical justifications on its relationships with the board. The book offers a list of possible research questions at the end of each chapter that could significantly enhance its value to researchers. Moreover, it has critically analyzed various measurement instruments to assess internal audit effectiveness, internal auditors’ roles in the ERM and the degree of ERM implementation. The second part of the book focuses more on issues concerning the application of ERM. Indeed, theoretical justifications that could facilitate the development of new hypotheses on various internal
auditing and ERM variables using multiple-theoretical approach serves as one of the main contributions of this book. These unique features are hoped to enhance empirical studies in this new area of research. List of Key Features: • Among the first of research-based internal auditing book. • Incorporates the latest research findings and measurements scales. • Includes list of research questions at the end of each chapter to facilitate readers in determining their research directions. • Encompasses details referencing each piece of literature highlighted in the book, enabling readers to directly search the concerned articles. • Integrates detailed explanations and critically analyzed theoretical justifications which simplify and tremendously facilitate researchers (PhD, Graduate and Undergraduate levels) formulating their hypotheses. Researchers at PhD level may just enhance or perhaps modify the highlighted theoretical justification without having to spend their precious time “re-inventing the wheels.”

International Human Resource Management: Trends, Practices and Future Directions
Connie Zheng (Deakin University, Burwood, Victoria, Australia)

In series: Business Issues, Competition and Entrepreneurship
Hardcover: 978-1-63484-983-8. $190.00.

Effective international business operation is not possible without implementing best practices of international human resource management (HRM) to motivate, attract and retain global talent that can help achieve the organizational objectives and market competitive advantages of global firms. The complexity of international HRM among global firms is further epitomized by different cultural and institutional environments of home and host countries, whereby multinationals are operating. Multinational firms are required to constantly adopt new and emerging practices, and adapt to the changing local and global conditions for their effective business operation. Research in the field of international HRM must also keep up with the pace of MNCs’ practices in the real world. This edited research book is aimed at addressing current trends and practices of international HRM of MNCs around the world. It also points to several challenges and future directions in the research and practice of international HRM within the context of international business. The collection in this volume cover several important and emerging topics within the field of international HRM. The main topics range from building a global HRM architecture via clarifying HR roles and responsibilities of multinational companies to developing multicultural teams with culturally-oriented strengths. Chapters also cover the interesting aspect of workplace friendship to facilitate effective expatriate adjustment; the complex process of managing global knowledge transfer between strategic alliance partners; and different perceptions to corporate social responsibility by persons with different cultural values. Both cultural impact on HRM design, delivery and institutional influence on differentiated HRM policies, and practices of MNCs between home and host countries are examined. The diverse topics are competently discussed by leading scholars and researchers in the field of HRM. Using both qualitative and quantitative research approaches, the authors address trends, practices and challenges of international HRM in several countries, including Australia, China, Italy, South Korea, Spain, Taiwan, Thailand, and USA. The volume will be of interest to students, researchers and practitioners who would like to know the leading edge of research and practice in international management, human resource management, and cultural and institutional factors influencing multinationals’ operation in the global marketplace.

Knowledge Creation and Transfer: New Research
Edwin Matos

In series: Business Issues, Competition and Entrepreneurship
2016. 188 pp.
Hardcover: 978-1-63485-656-0. $160.00.

This book provides new research on knowledge creation and transfer. The first chapter of the book reviews social metacognition and knowledge creation in groups of people. Chapter Two presents an Action Research (AR) study during an organizational innovation process in a Portuguese company. Chapter Three presents a review of the literature on the involvement of clinical teams and patients-as-partners in the changes made to clinical practices. Chapter Four helps the readers better understand the role of internal stakeholders in developing countries to offer potential insights into the cross-border transfer of knowledge.

Large Scale Systemic Change: Theories, Modelling and Practices
Shamim Bodhanya (University of KwaZulu-Natal, Westville Campus, Graduate School of Business and Leadership, South Africa)

In series: Business Economics in a Rapidly-Changing World

We face a world of increasing turbulence and uncertainty. As a result, social systems at every level including countries, government institutions, business organisations, labour and civil society have to operate in situations of high causal ambiguity and complexity. This is a world characterised by turmoil, conflict, and seemingly insurmountable social, technological, political and ecological problems. It is a world where cause and effect are not easily separated in space and time, where problem-solving approaches relying on knowledge and skills from individual disciplines is incapable of addressing multi-faceted problems and difficulties, and our attempts at problem solving and improvement are short-lived resulting in transitory change accompanied by more problems and unintended consequences. It is therefore imperative that academics, executives, professionals, managers and other practitioners be equipped with conceptual tools, methodologies, and practices for working under such conditions. Conventional analytical approaches (though useful) are insufficient to handle high levels of complexity, mutual and circular causality and inter-dependence. There is a need for more holistic, pluralistic and participatory approaches in order to survive in a highly interconnected, complex, turbulent environment. This calls for a shift in understanding and working with complexity. It requires a trans-disciplinary mindset, a focus on wholism as opposed to reductionism, a people-centered value orientation, a blend of analytical skills with synthesis, the rationality of science combined with intuitive understanding and appreciation of the art of being human, and a posture of intellectual humility that promotes collective endeavours in learning, living, relating and working in a complex world. The main purpose of this book, which consists of thirteen double blind peer reviewed chapters, is to draw on systems thinking and complexity theory to present and develop theoretical frameworks, conceptual models, methodologies and practical techniques to promote the understanding of complex systems, and to identify ways of intervening to bring about systemic change for improvement. These will apply to all kinds of social systems and organisations, and hence will be appropriate for public sector organisations, corporations, non-government institutions and civil society in general.

Privatization: Policies, Developments and Challenges
Amelia Hansen
Quality Assurance: Analysis, Methods and Outcomes
Craig Coleman
In series: Business Issues, Competition and Entrepreneurship
Softcover: 978-1-63485-748-2, $95.00.
e-book: 978-1-63485-768-0, $95.00.
This book analyzes the methods and outcomes of quality assurance in different fields. Chapter One reviews the concept of quality and its applications in forensic science laboratories. Chapter Two discusses the concepts around quality assurance in safety promotion to enhance the safety culture as well as practical views to make the measures taken more visible. Chapter Three identifies and develops a theoretical model of the internal quality assurance system of higher education based on a model system that explores beliefs and values of a university. Chapter Four examines quality assurance in higher education in Japan. Chapter Five addresses a new approach in quality assurance for X-ray units in medical institutions.

Risk Management: Past, Present and Future Directions
Darnell Bowers
In series: Management Science - Theory and Applications
Risk can be defined as the effect of uncertainty on objectives. It can originate from various sources. For example, uncertainty and threats from project failures in any phase (e.g., analysis, design, development, testing and production); from failures in corporate business across industries (e.g., information technology and software engineering, oil and gas, manufacturing, civil engineering, mechanical engineering, finance incl. financial markets, etc.). Substantial risk can also be created by accidents, natural causes and disasters, as well as deliberate attacks from an adversary or events of an uncertain or unpredictable cause. In general, risk management is a process of identification, assessment, and prioritization of risk followed by the coordination of actions and deployment of resources to minimize, monitor, and control the probability and impact of undesired events. The objective of risk management is to ensure that uncertainty does not affect the achievement of business goals. In this book, Chapter One reviews a novel six sigma approach to risk management. Chapter Two aims to provide readers with a tool to identify evaluate and treat quality management system (QMS) risk. Chapter Three elaborates on economic approaches for the evaluation of risk deterioration on health of the population under the influence of negative factors.
capital to small businesses to stimulate the national economy was, and remains, the SBIC program’s primary objective. This book describes the SBIC program’s structure and operations, focusing on SBIC eligibility requirements, investment activity, and program statistics.

Small Business Tax Compliance: Burdens and IRS Response Efforts
Sheri Patton
In series: Business Economics in a Rapidly- Changing World
Hardcover: 978-1-63484-565-6. $120.00.
e-book: 978-1-63484-566-3. $120.00.
A challenge the Internal Revenue Service (IRS) faces is balancing efforts to minimize taxpayer burden with efforts to ensure compliance with the tax code. Small businesses are a vital source of economic growth in the United States. Reducing their costs for complying with the tax code may free up resources to expand, hire new employees, and contribute to the growth of the U.S. economy. This book describes characteristics of the small business population; describes how characteristics of a small business affect compliance burden; describes how IRS integrates small business compliance burden considerations in decision-making; and assesses IRS’s plan for evaluating its payment card pilot.

Social Marketing: Global Perspectives, Strategies and Effects on Consumer Behavior
W. Douglas Evans, Ph.D. (Professor of Prevention and Community Health & Global Health, The George Washington University, Milken Institute School of Public Health, Washington, DC, USA)
In series: Marketing and Operations Management Research
e-book: 978-1-63485-780-2. $89.00.
This book aims to capture the current state of social marketing theory, research, and practice across different subject matters and global settings. The main objectives are to synthesize recent developments in theory and research methods, especially those brought about by information technology. It is also one of the goals of the authors to illustrate those developments through a series of case studies.

Systems Thinking: Foundation, Uses and Challenges
Prof. Moti Frank (Vice President for Academic Affairs, Holon Institute of Technology, Israel), Dr. Haim Shaked (Bar Ilan University & Colleges of Education, Israel) and Dr. Sigal Koral-Kordova (Holon Institute of Technology, Israel)
In series: Management Science - Theory and Applications
Systems thinking, a holistic approach that puts the study of wholes before that of parts, is an effective means of dealing with real-world situations. Emphasizing the interrelationships between the system’s components rather than the components themselves, systems thinking allows us to increase our personal and professional effectiveness, and transform our organizations. Specifically, systems thinkers are able to conceptually analyze the system without knowing all the details, metaphorically recognizing the forest through the trees. They can see beyond the surface to the deeper patterns that are really responsible for creating behavior. This book provides a wealth of knowledge about systems thinking, enables readers to deeply understand what systems thinking is, and why it is so important in their work. Readers will learn the conceptual foundations of systems thinking, as well as its tools and the proper ways to use them. These tools will facilitate defining problems and designing solutions in an environment increasingly characterized by chaos and complexity. Since systems thinking is not a discipline, but rather an interdisciplinary conceptual framework used in a wide range of areas, this book presents the applications of systems thinking in different domains, including systems engineering, project management, healthcare, psychology and education. The editors, who are experts in the field of systems thinking due to numerous studies they conducted on this subject, have skillfully created a multidimensional view on systems thinking, including theory and practice, research and application, in a wide variety of fields. Therefore, this book will be useful for researchers and practitioners, as well as suitable for beginners and specialists alike.

The Institution of Hukou-based Social Exclusion in Contemporary China and Strategies of Multinationals: An Institutional Analysis
Mingqiong Mike Zhang (Department of Management, Monash Business School, Monash University, Australia)
In series: Business Economics in a Rapidly-Changing World
Hardcover: 978-1-63484-451-2. $190.00.
From the early 1980s, China entered into an age of rural-urban migration. Millions of farmers have flooded into cities and towns for work and significantly reshaped the character of Chinese society. This book is the first to examine the social exclusion of rural migrant workers from the perspective of institutionalism. It integrates several institutional disciplines – institutionalism, international business and HRM – in one study through combining both the process and variance approaches. It contributes to the literature of institutionalism and institutional analysis, as well as the scarce research on the strategic responses of MNEs to the institutional characteristics of host countries at the subsidiary level. The findings of this study have implications for HRM research, workforce diversity management, MNEs’ legitimacy management and the improvement of employment governance in China.

BUSINESS AND FINANCE

Bank Regulation: Proposed Relief Legislation and Burden on Small Banks
Miranda Schmidt
In series: Banks and Banking Developments
Hardcover: 978-1-63485-520-4. $150.00.
The 114th Congress is considering legislation to provide “regulatory relief” for banks. The need for such relief, some argue, results from the increased regulation that was applied in response to vulnerabilities that became evident during the financial crisis that began in 2007. In the aftermath of the crisis, the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), a wide-ranging package of regulatory reform legislation, was enacted. Bank failures spiked during the crisis, and changes to banking regulation were a key part of financial reform. As financial regulators have implemented the Dodd-Frank Act and other reforms, some in Congress claim that the
Earnings Management: Global Perspectives, Performance and Future Research
Kathleen Yates
In series: Management Science - Theory and Applications
2016. 149 pp.
Softcover: 978-1-63485-511-2, $95.00.
Earnings management is an issue that directly affects the overall integrity and quality of financial reporting and to date, many studies have been conducted in an attempt to gain an understanding of whether firms are engaging in earnings management, why they do so, what are the motives that drive managers’ discretionary behaviour, what are the economic consequences and whether investors can see through this behaviour? In this book, Chapter One reviews the developments and the trends in the contemporary earnings management research and discuss several possible avenues for future research. Chapter Two provides an overview of the most recent studies on earnings management in relation to the financial crisis and the institutional environment and firm characteristics. Chapter Three provides a description of the nowadays most commonly used methods for measuring earnings management in accounting and finance literature. Chapter Four examines earnings management and corporate social responsibility as an entrenchment strategy.

Federal Interventions in Response to the Financial Crisis: A Retrospective of Costs
Alyssa G. Harrington
In series: Financial Institutions and Services
Softcover: 978-1-63485-347-7, $62.00.
In August 2007, asset-backed securities (ABS), particularly those backed by subprime mortgages, suddenly became illiquid and fell sharply in value as an unprecedented housing boom turned into a housing bust. Losses on the many ABS held by financial firms depleted their capital. Uncertainty about future losses on illiquid and complex assets led to firms having reduced access to private liquidity, sometimes catastrophically. In September 2008, the financial crisis reached panic proportions, with some large financial firms failing or having the government step in to prevent their failure. Initially, the government approach was largely ad hoc, addressing the problems at individual institutions on a case-by-case basis. The panic in September 2008 convinced policy makers that a system-wide approach was needed, and Congress created the Troubled Asset Relief Program (TARP) in October 2008. In addition to TARP, the Treasury, Federal Reserve (Fed) and Federal Deposit Insurance Corporation (FDIC) implemented broad lending and guarantee programs. The primary goal of the various interventions was to allow the financial panic and restore normalcy to financial markets, rather than to make a profit for taxpayers. This book presents how much the programs ultimately cost (or benefited) the taxpayers based on straightforward cash accounting as reported by the various agencies. This book describes the various actions by the Federal Reserve to stabilize the financial markets and how those actions are likely to affect the federal budget in coming years. The book also presents estimates of the risk-adjusted (or fair-value) subsidies that the Federal Reserve provided to financial institutions through its emergency programs.

Knowledge Creation: Going Beyond Published Financial Information
Waymond Rodgers (Chair Professor in Accounting, University of Texas, El Paso, TX, USA, and Hull University Business School, Hull, UK)
In series: Business, Technology and Finance
Hardcover: 978-1-63485-278-4, $190.00.
e-book: 978-1-63485-290-6, $190.00.
Financial statement analysis involves an understanding of an entity by applying analytical techniques to its accounting numbers. However, financial statement analyses are going through a transformation similar to the manufacturing age changing to information centered orientation. That is, it is no longer sufficient to understand the tools for analyzing financial accounting information. Other types of relevant information that are not directly captured by financial statement information have a profound effect on creditors, investors, reporting bureaus, governmental agencies and regulators. This text differs from other financial statement textbooks in that it not only takes the traditional analysis of financial information, but also management and economic information that is not directly measurable or easily derived from financial accounting reports. Further, this textbook emphasizes the measurement and valuation of brand, sustainability, ethical systems and trusts systems. Moreover, this text also differs in that it provides a modeling viewpoint of information analysis linked with decision makers’ perception and judgments before arriving at a decision. The modeling perspective enhances financial statement analysis by: 1. Including not only financial information, but also management and economic information 2. Combining the passive tools used in investment and financial analysis (e.g., ratio analysis) with individual’s framing of the problem (perception) and analysis (judgment) before arriving at a decision 3. Viewing information analysis through a camera lens reinforced by a basic two stage modeling approach in order to support decisions regarding a particular course of action to implement. Further, this text transforms what other financial statement analysis textbooks emphasize as an “input-output and static analysis” approach to a more “dynamic and process” approach. In addition, this textbook divulges from a “financial analysis” viewpoint to a “knowledge creation” perspective. This new “knowledge creation” perspective is intended for upper level undergraduates and graduate students, such as accounting, economic, finance, information systems, marketing, organizational behavior students, and psychology and sociology students. In addition, this book can be beneficial to government, non-profit and business oriented individuals.

Lender-Placed or Force-Placed Insurance on Home Mortgages: Overview and Oversight Issues
Debra Lambert
In series: Housing Issues, Laws and Programs
2016. 74 pp.
Softcover: 978-1-63484-737-7, $62.00.
Mortgage servicers use lender-placed insurance (LPI) to protect the collateral on mortgages when borrower-purchased homeowners or flood insurance coverage lapses. The 2007-2009 financial crisis resulted in an increased prevalence of LPI. Because LPI premiums are generally higher than those for borrower-purchased coverage, state insurance regulators and consumer groups have raised concerns about
costs to consumers. This book addresses the extent to which LPI is used; stakeholder views on the cost of LPI and state and federal oversight of LPI. Furthermore, this book evaluates the financial impact of the LPI market upon Fannie Mae and Freddie Mac (collectively, the Enterprises); and determines whether the Federal Housing Finance Agency (FHFA), in its role as the Enterprises’ conservator, should undertake additional LPI-related actions.

Policy Options and Long-Term Projections for Social Security
Juanita Harmon
In series: Retirement Issues, Plans and Lifestyles
Hardcover: 978-1-63485-443-6. $150.00.
Social Security (comprising Old Age and Survivors Insurance (OASI) and Disability Insurance (DI)) is the largest single program in the federal government’s budget. In 2010, annual outlays for the program exceeded annual revenues (excluding interest) credited to the combined trust funds. A gap between those amounts has persisted since then, and in fiscal year 2015 outlays exceeded tax revenues by almost 9 percent. As the baby-boom generation retires over the next 10 years, the Congressional Budget Office (CBO) projects, the gap will widen between amounts credited to the trust funds and payments to beneficiaries. This book considers 36 policy options that are among those commonly proposed by policymakers and analysts as a means of restoring financial security to the Social Security program. Furthermore, this book presents additional information about CBO’s long-term projections for Social Security in the form of 15 exhibits that illustrate the program’s finances and the distribution of benefits paid to and payroll taxes collected from various groups of people.

Retirement Security: National and International Efforts to Expand Coverage
Rafael Wilkins
In series: Retirement Issues, Plans and Lifestyles
Hardcover: 978-1-63485-001-8. $120.00.
e-book: 978-1-63485-000-1. $120.00.
Millions of U.S. workers have little or no savings for retirement, potentially adding to future strains on state and national safety net programs. In addition to federal efforts, a growing number of states have proposed efforts to expand coverage in private sector workplace retirement savings programs. Other countries have also implemented similar efforts. This book examines recent estimates of coverage, including access and participation, as well as characteristics of workers who lack coverage; strategies used by states and other countries to expand coverage; and challenges states could face given existing federal law and regulations.

Supply Chain Management: Applications for Manufacturing and Service Industries
Assoc. Prof. Dr. Md. Mamun Habib (Asia Graduate School of Business, UNITAR International University, Selangor, Malaysia)
In series: Management Science - Theory and Applications
Hardcover: 978-1-63484-987-6. $190.00.
Supply Chain Management (SCM) has been widely researched in numerous application domains in manufacturing and service industries during the last decades. There are several attempts made by researchers and practitioners to appropriately define SCM and its applications. This book entitled Supply Chain Management: Applications for Manufacturing and Service Industries is comprised of twelve chapters. Chapter One develops a mathematical model in a four layer supply chain including supplier, manufacturer, distributor and customers using the product life cycle factors to obtain the optimal number of products and the fulfillment of an activity in product life cycle. Chapter Two presents a recent and exhaustive review on important integrated supply chain management problems and the current research on integration between different supply chain management functions. Chapter Three illustrates a comprehensive multi criteria decision making (MCDM) methodology for the selection of a third party logistics service provider. Chapter Four explains the capabilities of Google Spreadsheet as a tool, using its tool inventory distribution management, risk pooling and transshipment at retailer levels for integrated operation of the supply chain. Chapter Five describes the agent-based modelling approach to simulate the interaction and negotiation behavior of palm oil supply chain (POSOC) actors, which attempt to obtain highest added-value, but must consider overall supply chain profitability and sustainability. Chapter Six intends to signify the performance measurement practices in the industries and also presents the need of supply chain performance measurement in textile industry with a case study. In Chapter Seven, a generic method has been developed in order to assist and assess complex supply chain network design and analysis considering different types of uncertainty factors. Chapter Eight proposes a mathematical model to determine the optimal location for a warehouse. Several factors like locations of distributors, nature of demand etc. have been considered to formulate the optimization model, which has been solved using differential evolution. Chapter Nine is a study of sport-related location and layout strategies as they relate to the location of a firm (i.e., intermediate variables/functions, superior firm performance). Chapter Ten illustrates the various approaches to implement the green principles by different researchers. The main objective of the green supply chain management (GSCM) approach is to eliminate/minimize the impact of the GHG emissions into the environment throughout the supply chain process. Chapter Eleven focuses on increasing the supply chain value by looking into the color, image and typography of water product in influencing customers’ intention to purchase. Finally, Chapter Twelve aims to investigate scenarios for the new setting of the Center of Sterilized Material (CSMs) health system of Rio de Janeiro, Brazil. To build and evaluate scenarios for the CSMs, an exploratory methodology based on gravity center approach for location of storage facilities and distribution of materials was adopted.

Supply Chain Management: Practices, Applications and Challenges
Assoc. Prof. Dr. Md. Mamun Habib (Department of Operations Research/Decision Sciences, School of Quantitative Sciences, Universiti Utara Malaysia (UUM), Kedah, Malaysia)
In series: Business Economics in a Rapidly-Changing World
Hardcover: 978-1-63484-096-5. $190.00.
Supply Chain Management (SCM) has been widely researched in numerous application domains during the last few decades. Despite the popularity of SCM research and applications, there remains considerable confusion as to the clarity of its meaning. There are several attempts made by researchers and practitioners to appropriately define SCM and its challenges. This book entitled Supply Chain Management: Practices, Applications and Challenges is comprised of eleven chapters. Chapter One entails strategic supply chain partnerships which can have dramatic effects on a firm’s financial success. Certainly, partnering at both production and sales levels can help to shorten the supply chain and lower costs on the entire production process of a company. Chapter Two highlights global outsourcing—also known as off-shoring—and explains the issues of
off-shoring. This chapter explains global outsourcing, past and present trends, and lessons learned from the US perspective based on US companies that have various outsourcing issues. In Chapter Three, a decision model is developed aiming to optimize the costs related to the shipment of goods from one or more suppliers to the wholesaler. That model is able to provide expert advice to support the decision to be made by the wholesaler, taking into consideration all the expected costs and achieve the minimization of total logistics costs. Chapter Four allows readers to explore the ways location can contribute to success or struggle through the evaluation of location strategies. In Chapter Five, the balanced resilience framework for the management of supply chain performance is introduced based on an outline and an evaluation of the prevalent focused frameworks (e.g. agile, resilient, and lean SCM) as well as blended frameworks (i.e. leagile, anti-fragile, and sustainable SCM). An increasing pressure to invest in renewable energy sources is getting high priority due to alarming global warming, pollution and skyrocketing prices of the conventional energy sources. In Chapter Six, HOMER software, an implementation of renewable energy sources, has been used to perform simulations of hybrid systems for street-lighting applications. Chapter Seven depicts some of the more common approaches to strategic competitive advantage via the successful tools associated with outsourcing. Continued outsourcing activities will better their business strategy, even with increasing pressure from both the government and unions as difficult decisions and possible job shifts lie ahead in a world of increasing income disparity. Chapter Eight describes the different stages of the cement manufacturing process in India. The strategies of Green Supply Chain Management are defined clearly for evaluating cement industrial process analysis. In Chapter Nine, three frameworks—particularly the ranking, the portfolio, and the ecosystem framework—are outlined for the effective and efficient handling of interconnected conflicts. Chapter Ten illustrates how an organization has grown at unprecedented rate for the last few decades by utilizing the best practices in supply chain management. Finally, Chapter Eleven demonstrates the development of a spreadsheet-based simulation package, which supports the analysis of inventory policies in a four-stage serial supply chain.

The Future of Social Security: Goals, Outlook, Options
William L. Harmon
Softcover: 978-1-63485-191-6. $95.00.
e-book: 978-1-63485-192-3. $120.00.
The last decade has presented major challenges for many Americans’ economic security. The most severe recession since the 1930s significantly impacted the national economy and household budgets. With high unemployment and a slow recovery, many Americans sought income from various sources, including unemployment and disability benefits, and some claimed Social Security retirement benefits earlier than they had planned. Through all of this, Social Security has remained the bedrock of retirement security, providing benefits to tens of millions of older Americans, while also providing benefits to survivors and other dependents, as well as workers with disabilities and their families. Social Security has helped reduce poverty among older Americans and people with disabilities; many beneficiaries rely on Social Security for the majority of their income. However, demographic shifts associated with the aging baby boom generation, along with the effects of the 2007 to 2009 recession, have strained Social Security’s finances. This book is intended to describe, in a concise and easy-to-understand way, the complexities of Social Security, the challenges the programs face, and the options available to address these challenges.

The Use of Big Data: Benefits, Risks, and Differential Pricing Issues
Diana Simpson

Social Science

In series: Business Economics in a Rapidly-Changing World
Hardcover: 978-1-63485-318-7. $145.00.
As the use of online technologies and digital engagement by consumers has expanded, the amount of consumer data that flows throughout the economy has increased. The analysis of this information can guide the development of products and services but concerns have been raised about whether certain uses of big data analytics may harm consumers. This book discusses the benefits and risks created by the use of big data analytics, the application of equal opportunity and consumer protection laws to big data, considerations for business and policy considerations raised by big data research. The book also discusses big data and differential pricing.

Unemployment: Economic, Political and Social Aspects
Tabitha Fletcher
In series: Economic Issues, Problems and Perspectives
2016. 231 pp.
Hardcover: 978-1-63485-181-7. $190.00.
e-book: 978-1-63485-218-0. $190.00.
This book discusses unemployment and its relations to economic, political and social aspects. The first chapter studies the relationship of unemployment to the level of confidence that characterizes some macroeconomic relevant agents, such as consumers or investors. Chapter Two investigates the effects of productivity growth shocks on unemployment, both in the short run and in the medium - long run. Chapter Three reviews finite sample inference for unemployment-inflation tradeoff. Chapter Four focuses on understanding how the Great Recession of 2007-2009 and/or long-term labor market changes may have separately or jointly affected health among employed workers in 2010. Chapter Five evaluates the persistence of the unemployment rate in the following emerging European countries: Slovenia, Slovakia, the Czech Republic, Poland, Hungary, Cyprus, Malta, Estonia, Latvia and Lithuania. Chapter Six discusses the case of the election results on the political aspects of unemployment. Chapter Seven studies the relationship between unemployment and the (individual) perceived levels of well-being, such as life satisfaction or happiness. Chapter Eight assesses the association between homelessness and survival in a population of unemployed individuals in one region of northern Poland. Chapter Nine studies the impact that educational level and vocational training programmes had on the labour market of semi-peripheral EU countries, using Greece as a case study. Chapter Ten estimates the effects of area unemployment rate on smoking and drinking in China.

CENTRAL AMERICA

Violence and Endurance: Representations of War and Peace in Post-War Central American Narratives
Astvaldur Astvaldsson (Senior Lecturer in Latin American Literary and Cultural Studies, Department of Modern Languages and Cultures, University of Liverpool, Liverpool, United Kingdom)
In series: Central America and the Caribbean
This is a volume of essays on post-civil war Central American narrative, bringing together leading experts in Central American literary and cultural studies from the USA, Central America and
Europe to access recent developments in the region’s artistic output – including the emergence of Mayan literature – and the criticism it has received inside and outside Central America. The authors draw on the pioneering (though often scattered and difficult to locate) academic work that has been produced so far, and aspire to bring it into focus to produce its own coherent body of criticism as well as point out themes and avenues for future research in the field. The essays address issues that are crucial for the understanding of what has been happening in Central American literature since the late 1980s, and how it relates to earlier literary output in the region. Hence, this book significantly contributes to the knowledge and understanding of Central American textuality over the last few decades, offering new insights into the development of both literary content and aesthetic quality. The main focus is on post-civil war literature, and how it tends to be different in content and style from literature published during the long years of social conflict and armed struggle. While all the essays focus on the main topic, they are wide-ranging, covering literature from the five countries most affected by civil war: Guatemala, El Salvador, Honduras, Nicaragua, and Costa Rica.

CHILDREN
After Adoption: Postadoption Assistance, Parenting, Impacts and Information Access
Elmer Romero
In series: Children’s Issues, Laws and Programs
Hardcover: 978-1-63485-343-9. $120.00.
e-book: 978-1-63485-344-6. $120.00.

It is common for adoptive families to need support and services after adoption. Postadoption services can help families with a wide range of issues. They are available for everything from learning how to explain adoption to a preschooler, to helping a child who experienced early childhood abuse, to supporting an adopted teen’s search for identity. Experience with adoptive families has shown that all family members can benefit from some type of postadoption support. Families of children who have experienced trauma, neglect, abuse, out-of-home care, or institutionalization may require more intensive services. This book serves as a guide to postadoption assistance.

Child Abuse and Neglect: Perceptions, Psychological Consequences and Coping Strategies
Michelle Martinez
In series: Children’s Issues, Laws and Programs
Hardcover: 978-1-63484-785-8. $110.00.

Child abuse and neglect (CAN) continues to be a serious public health problem in the United States, affecting approximately 19% of victims and costing approximately $124 billion to society. When a child is removed from their parent’s custody due to parental abuse or neglect, the child is sometimes placed in temporary custody through dependency court. Difficult and emotionally laden legal decisions occur within dependency court, including determining whether (and where) a child should be temporarily placed or whether a child should be returned to the parent’s custody. Over 6 million children experienced some type of child maltreatment in 2013, with 144,000 receiving foster care services (Child Maltreatment, 2013). Legal decision-makers, including judges, case workers, and social workers have the important task of determining what placement is in the best interest of the child. What factors shape decisions in child custodial cases? Chapter One of this book reviews empirical evidence suggesting that the race of the child and parent plays a role in shaping child custodial decisions. Chapter Two presents a feminist, social constructionist theoretical conceptualization, entitled relational trust theory, that describes the effects of gendered power dynamics on the perception of the other partner as trustworthy in adult-survivor couple interactions; and expounds on the findings of a longitudinal grounded theory study that identified clinical processes of Socio-Emotional Relationship Therapy (SERT) that helped adult-survivor couples transform their gendered power disparities and engage in relationally safe ways that supported a trusting emotional culture. Chapter Three provides a description of Parent-Child Interaction Therapy (PCIT), a rationale for its use with parents and children who have experienced CAN, and an overview of PCIT’s evidence base for both intervening with and preventing future CAN.

Child Maltreatment: Emerging Issues in Practice, Care and Prevention
Angelo P. Giardino (Texas Children’s Hospital, Houston, Texas, USA)
In series: Children’s Issues, Laws and Programs
Hardcover: 978-1-63484-877-0. $190.00.

This book addresses a broad array of issues and topics related to child maltreatment and seeks to honor the sacred trust that former UN Secretary-General Annan speaks of by shedding light on how best to serve children and families confronting various forms of victimization. Topics span from how decisions are made by child protection professionals to the tools needed to effectively advocate for system reform at the community and state levels. Section One, Practice Consideration, contains four chapters written by leading frontline professionals who explore decision making among child protection professionals, how medical and nonmedical team members ideally interact and share their expertise in the context of a team, and finally how advanced training in Child Abuse Pediatrics is now being provided to physicians who make an additional 3-year commitment beyond residency to become board certified in this relatively new specialty. Section 2, Providing Care, consists of four chapters that examine human trafficking, the emergence of post-traumatic stress disorder (PTSD) in children and adolescents who have experienced child maltreatment, and takes on an international flare and explores the trends in child maltreatment in the setting of multiple births in Japan. Section 3, Prevention and Advocacy, ends the book with five chapters that seek to go upstream and which work toward systematic efforts to prevent child maltreatment. Using a quality improvement methodology, a hospital-based abusive head trauma program is implemented and evaluated in granular detail, concluding with lessons learned at the front line, where all programs either rise or fall. Next, the growing awareness of childhood adversity and the role that these early negative experiences can play in the health and wellbeing of children as they grow and develop is explored from a public health perspective. The book concludes with a call to action for effective advocacy at the community and state levels to reform the systems we have institutionalized to manage the problem of child maltreatment.

Child Nutrition and School Meals Programs: Elements, Trends, and Policy Issues
Lorene Romero
In series: Children’s Issues, Laws and Programs
2016. 132 pp.
Hardcover: 978-1-63484-334-8. $120.00.
e-book: 978-1-63484-342-3. $120.00.

“Child nutrition programs” is an overarching term used to describe the U.S. Department of Agriculture’s Food and Nutrition Service (USDA-FNS) programs that provide food for children in school or institutional settings. This book presents an overview of the benefits and services these programs and related activities provide as well as participation and funding information. The book emphasizes details for the school meals programs and provides an orientation to the operations of the other programs. Moreover, this book analyzes school lunch and

Social Science 177
Foster Children and Youth in Congregate Care
Settings: Overview, Issues, and Reduction Efforts
Aubrey E. Watson
In series: Children’s Issues, Laws and Programs
Softcover: 978-1-63485-349-1, $62.00.
About 14 percent of the more than 400,000 children in foster care nationwide lived in congregate care at the end of fiscal year 2013, according to Department of Health and Human Services (HHS) data. This book examines how selected states have reduced their use of congregate care; and some challenges with reducing congregate care placements, and efforts HHS has taken to help states reduce congregate care.

Rehoming of Adopted Children: Addressing Unregulated Custody Transfers
Nicolette Hunter
In series: Family Issues in the 21st Century
2016. 113 pp.
Softcover: 978-1-63484-870-1, $62.00.
Parents have the legal responsibility to protect and care for their children. However, recent media reports have illuminated a practice involving unregulated custody transfers of adopted children. Commonly referred to as “rehoming,” this practice involves parents who turn to the internet or other unregulated networks to find a new home for their child. These media reports found instances in which adopted children were placed in dangerous situations where they were harmed by the adults who received them. This book examines the reasons adopted families consider unregulated child custody transfers, and services that exist to support these families before they take such an action; what is known about the prevalence of these transfers; and actions selected states and federal agencies have taken to address such transfers.

Chinese Studies
China’s Military and Naval Forces: Overview, Modernization, Implications, and Issues
Heidi Watson
In series: China in Transition
Hardcover: 978-1-63484-693-6, $145.00.
China is building a modern and regionally powerful military with a modest but growing capability for conducting operations away from China’s immediate periphery. The question of how the United States should respond to China’s military modernization effort is a central issue in U.S. defense planning and foreign policy. Congress’ decisions on this issue could affect U.S. defense strategy, budgets, plans, and programs, and the U.S. defense industrial base. This book provides a brief overview of the Chinese military. It provides background information and issues for Congress on China’s naval modernization effort and its implications for U.S. Navy capabilities.

Chinese Civilization in the 21st Century
Andrew Targowski and Bernard Han (Western Michigan University, MI, USA)
In series: China in the 21st Century
Hardcover: 978-1-63321-960-1, $170.00.
Softcover: 978-1-63485-356-9, $89.00.
e-book: 978-1-63321-983-0, $170.00.
The authors of this book believe that the 5,000 year-long-history of Chinese Civilization is the main factor in the re-emergence of China in the 21st century. It is a well-known fact that the Chinese economy became the second largest economy in the world in 2014. With some predictions, in the near future perhaps China will surpass the United States. The main media interprets this progress as the result of a Western Civilization strategy, which forced manufacturing to be outsourced to China and made it become the World Factory. Certainly, outsourcing was the trigger and an important factor at the end of the 20th century. However, today, in China and its diaspora (Chinese Civilization) are decisively moving from the “robot” of the West to a master in economy and politics. This book, primarily focused on analyzing Chinese accomplishments nowadays, is not confined only to the economic dimension; it also takes into account the legacy and practice of the Chinese, i.e., its society, culture, religion, and infrastructure - the main components of any civilization. China had 24 dynasties and elaborated administrative systems (run by Mandarins) that contributed to the Chinese receptive subordination to political power. The Mandarins’ management of knowledge, wisdom, and skills were supported by Confucianism - an ethical and philosophical system based on the teachings of the Chinese philosopher Confucius. Also, family is most important to the Chinese. There is a special relationship within the family-based complex system that is hinged on Chinese kinships and clans. Technology - the Four Great Inventions, i.e., the compass, gunpowder, papermaking, and printing, were among the most important technological creations by Chinese. They were known in Europe by the end of the Middle Ages, which was 1000 years later than their existence. The Chinese junks (ships) were better than Portuguese caravels in the 15th century, which discovered America and went around Africa to China. Therefore it is not surprising that today the fastest computer was built in China and now the country has the largest network of high-speed railroads. This book maintains that China should not follow proposed recommendations by advisors from the Western Civilization since they might remake China a la America. Their recommendations usually mimic Americanism. Today Americanism is not doing very well even in America. China has the chance to develop its own political system that may be adequate for the current state of the worlds’ civilization's affairs. Perhaps it can be a

Children and Families
Adoption Records and Postadoption Contact Agreements: State Statutes
Ebony Bartlett
In series: Family Issues in the 21st Century
Hardcover: 978-1-63485-437-5, $150.00.
In nearly all States, adoption records are sealed and withheld from public inspection after an adoption is finalised. This book discusses state laws that provide for access to both nonidentifying and identifying information from an adoption record by adoptive parents and adult adopted persons, while still protecting the interests of all parties. Furthermore, the book discusses postadoption contact agreements, which are arrangements that allow contact between a child’s adoptive family and members of the child’s birth family or other persons with whom the child has an established relationship, such as a foster parent, after the child’s adoption has been finalised. These arrangements, sometimes referred to as cooperative adoption or open adoption agreements, can range from informal, mutual understandings between the birth and adoptive families to written, formal contracts.
system that eventually will be accepted by other countries elsewhere. This new emerging political system may be called “sustainable market socialism and people power with Chinese character,” and it may lead to Sustainable China for Ever (SCE). Its Seven Principles are defined in this book. Of course, this system may not be ideal. But, have we found any political system ideal to date? The weakness of SCE is its inability in removing corruption and cronyism. On the other hand, the political system based on the turbo-capitalism, without human face and lobbyist-driven democracy, has the same shortcomings (e.g., corruption, cronyism) that are almost incurable nowadays. The choice, then, is the lesser of the two evils between these two political systems. Eventually, we will approach the famous question — is it better to live better but shorter, or longer but worse?

Intellectuals and the Chinese Communist Party: Radical Education during the Rising Age of Communism in China from 1920 to 1949
Shiling McQuaide (Athabasca University, Alberta, Canada)
In series: China in Transition 2016.
Hardcover: 978-1-63485-833-5. $230.00.
Revolutionary Intellectuals and the Chinese Communist Party: Radical Education during the Rising Age of Communism in China from 1920 to 1949 provides an analytical survey of the Communist education and propaganda programs from 1920 to 1949. Four parts constitute the book, covering various periods of the Communist revolution. Part One deals with the early years of the Communist Party (1920-1927), when revolutionary intellectuals endeavoured to publish labour journals, formed workers’ schools, and set up cadre training sites in metropolitan centres and industrial towns. Part Two discusses Jiangxi Era (1929-1934), during which the party leaders launched experimental projects to build an education structure strikingly different from modern bourgeois schooling systems. Part Three on the Yan’an decade (1937-1945), in which the Communist higher learning institutions are elaborated, mass education in Shaan-Gan-Ning border region is surveyed, and the contention between Maoist reformers and professional educators is tackled. The last part of the book observes the Civil War Years, a period that began with ferocious warfare, but ended in a twilight of peace. By late 1948, regularization attempts had terminated the chaotic situation to dominate Communist schools in which the descendants of the labouring classes are now enrolled. This work looks at the changing relation between revolutionary intellectuals and the Communist party through the prism of the party’s radical education, an area that is not clearly charted and well explored in the English-speaking world. In the early years of the revolution, although the party’s painstaking propaganda efforts invigorated labour activism and militancy, its inflammatory messages contained paradoxes and discrepancies, the seeds leading to intellectuals’ degradation. By 1926 and 1927, harsh criticism of the educated people culminated into a policy to proletarianize the vanguard organization, turning intellectuals, and the indispensable force of education into “suspicious elements”. The same policy line went through the entire Jingxi Era. Making “use of heretofore little-known publications of archival materials”, this book “shows how campaign-style politics and suspicion of intellectuals were already present in those early years” (Michael Szonyi). The Yan’an decade is represented as a significant new phase of the party-intellectual relation as the party leader Mao Zedong not only eagerly enlisted and rewarded intellectuals’ service, but also imposed ideological and organizational conformity on his educated subordinates. Overall, “this is a defiantly brave book”, which deals with “a politically charged subject such as political education”. “Scholars will find in her account much with which they may disagree”. “(This is a book to learn from” (Bryan Palmer). Target Audience: This book appeals to three groups of readers. It will be interest to academic specialists and students who study modern Chinese history, especially China’s communist revolution. It will also attract attention from adult educators and students because this work provides extensive discussions on learning programs, teaching pedagogy and instruction tactics initiated by the CCP educators as well as on radical education reforms introduced by the party leaders. In addition, it may become an appealing book for ordinary readers because of its exploration of the paradoxical relations between the CCP and China’s intelligentsia. Books on Chinese communist revolution and intellectuals are often selected as university textbooks for upper level undergraduate courses and graduate courses. When increasing universities in North America are developing courses in China studies, this book has good potential to be read by university students in history, education, and political science.

COMMUNICATIONS

Local Governments in the Digital Era: Looking for Accountability
Beatriz Cuadrado-Ballesteros and Isabel María García-Sánchez (University of Salamanca, Facultad de Economía y Empresa, Salamanca, Spain)
Hardcover: 978-1-63485-891-5. $230.00.
Accountability is essential for good governance, so it is important to provide means and measures needed to enable citizens to assess the legal and managerial responsibility of governments, especially at the local level. This book highlights the role of digital technologies to improve responsibility and awareness of governments at the local level. The use of the internet and social media may facilitate the citizens’ participation in local governments as it may be considered as a way to improve transparency and reduce politicians’ discretion. Digital technologies play a fundamental role in promoting electronic government or e-government, which is extensively implemented around the world. In addition, this book refers to reforms on how financial resources are managed by public organizations, and how changes affect accounting, budgeting, structural organization, management systems, and/or law systems that may lead local governments to be more accountable and responsible.

Microstrip Antennas Modeling For Recent Applications
Amel Boufiroua (Electronics Department, Technological Sciences Faculty, University of Mentouri Brothers, Constantine, Algeria)
Hardcover: 978-1-63485-251-7. $160.00.
Today, the state of the art antenna technology allows the use of different types and models of antennas, depending on the area of application considered. The rapid progress in wireless communications requires the development of lightweight, low profile, small size, flush-mounted and wideband multi-frequency planar antennas. This book reviews recent advances in designs of various microstrip patch antenna configurations. Microstrip patch antennas have been widely used in the
range of microwave frequencies over the past twenty-five years, and over the past few years, single-patch antennas have been extensively used in various communication systems due to their compactness, economical efficiency, light weight, low profile and conformability to any structure. The main drawback to implementing these antennas in many applications is their limited bandwidth. However, the most important challenge in microstrip antenna design is to increase the bandwidth and gain. Theoretical study of various patch antenna configurations will be carried out in this book. The study is performed by using full wave analysis and analytical techniques for the characterization of these structures. Several techniques are used in this book to achieve multi-band performances such as multilayer stacked patches, multiple patches and insertion of slots of different shapes and sizes in the patch antennas. In addition, some novel patch antenna designs for modern applications are given, and some challenges of patch antenna designs are addressed. This book is divided into seven chapters and presents the latest research in this dynamic field. Target Audience: This book is designed to serve as a useful reference for students, researchers and for engineers who are interested in the analysis and design of microstrip antennas.

**COUNTRIES**

**China: Regional Growth and Sustainability from an Environmental Perspective**

Yanqing Jiang (School of Economics and Finance, Shanghai International Studies University, Shanghai, P. R. China)

In series: *China in Transition*


China has achieved spectacular growth in the past forty years, and its economic structure has experienced great transformation. The country has also gradually opened up to foreign trade and direct foreign investment, transforming itself from a virtually completely closed economy into a major trading nation, and the largest developing-country destination for foreign direct investment in the world. However, since this reform, China has become a “superpower” in energy consumption. It has also become a big producer of pollution emissions. It has been widely argued that China’s rapid processes of industrial development and opening up were relying too heavily on increasing inputs of environmental resources. Unsustainable environmental practices posed serious threats to China’s natural environment. A growing concern China now faces is that the current pattern of economic development may not be sustainable, because it tends to lead to irreversible depletion of natural resources and deterioration of the ecological environment. The relationship between regional growth, sustainability in development, and the natural environment in China is thus an interesting and important issue that deserves further in-depth studies. Environmental practices play an important role in shaping China’s regional growth, interregional inequality, and its future development strategies. Sustainability in growth and development from an environmental point of view exerts strong influences on the continuous restructuring and upgrading of the Chinese economy. The analyses in the present book delve into issues related to regional growth, interregional inequality, and the prospect of sustainable development in China from an environmental perspective. This book provides the reader with related facts, thoughts, models, and empirical results as well as discussions that shed light on those issues.

**Countries of the World: Developments, Issues, and U.S. Relations. Volume 5**

Rabecca E. Rouse

In series: *Countries of the World: Developments, Issues and U.S. Relations*


Hardcover: 978-1-63484-994-4. $120.00.
e-book: 978-1-63484-995-1. $120.00.

This series addresses new developments, issues and U.S. relations with countries around the world. Topics discussed in this compilation include background information and U.S. relations with Libya, Sudan, Turkey, Israel, Japan, and Cambodia.

**Poland: Conditions, Issues, and Foreign Relations**

*Nadine Tucker*

In series: *European Political, Economic, and Security Issues*


Softcover: 978-1-63485-441-2. $62.00.

Over the past 25 years, the relationship between the United States and Poland has been close and cooperative. The United States strongly supported Poland’s accession to the North Atlantic Treaty Organization (NATO) in 1999 and backed its entry into the European Union (EU) in 2004. In recent years, Poland has made significant contributions to U.S.- and NATO-led military operations in Iraq and Afghanistan, and Poland and the United States continue working together on issues such as democracy promotion, counterterrorism, and improving NATO capabilities. Given its role as a close U.S. ally and partner, developments in Poland and its relations with the United States are of continuing interest to the U.S. Congress. This book provides an overview and assessment of some of the main dimensions of these topics.

**The People’s Republic of China: Human Rights Issues and Abuses, In Focus**

*Priscilla Robinson*

In series: *Human Rights: Contemporary Issues and Perspectives*


Hardcover: 978-1-63485-530-3. $150.00.
e-book: 978-1-63485-531-0. $150.00.

Human rights conditions in the People’s Republic of China (PRC) remain a central issue in U.S.-China ties. Different perceptions of human rights are an underlying source of mutual misunderstanding and mistrust. Frictions on human rights issues affect other issues in the bilateral relationship, including those related to economics and security. China’s weak rule of law and restrictions on information affect U.S. companies doing business in the PRC. People-to-people exchanges, particularly educational and academic ones, are often hampered by periodic Chinese government campaigns against “Western values.” For many U.S. policymakers, human rights conditions in China represent a test of the success of overall U.S. policy toward the PRC. Some analysts contend that the U.S. policy of cultivating diplomatic, economic, and cultural ties with China has failed to promote meaningful political reform, and that without fundamental progress in this area, mutual trust and cooperation in other areas will remain difficult to achieve. The U.S. government has employed an array of efforts and tactics aimed at promoting democracy, human rights, and the rule of law in China, although their effects have been felt primarily along the margins of the PRC political system. Many analysts have observed that China’s leaders have become less responsive to international pressure on human rights in recent years. This book examines human rights issues in the People’s Republic of China (PRC), including ongoing rights abuses, and legal developments.
CRIME

Crime and Criminal Behavior

*Analise Klein*

In series: *Criminal Justice, Law Enforcement and Corrections*


Softcover: 978-1-63485-566-2. $95.00.

In this book, Chapter One begins with a discussion on the use of dogs in the courtroom. Chapter Two explores the research on the criminal narratives of general offending populations, and introduces new insight into Mentally Disordered Offenders (MDOs), and the impact various mental disorders may have on the structure of criminal narratives. Chapter Three critically examines the link between personality disorders and violent offending, and raises several issues that have obscured its nature. Chapter Four reviews the status of Life Course Persistent Antisocial Behavior, as well as its importance for providing future directions for the study of crime and criminal behavior in the next half century. Chapter Five reviews the nature and causes of quality-of-life crime, the indicators for measuring or benchmarking the extent of quality-of-life crime, the development of the Quality-of-Life Crime Index (QLCI), and the practical, policy and research implications of this index. Chapter Six analyses taxi driver’s everyday security practices in their networks and nodes, calling attention to their conception of space and their risk management techniques.

CRIMINAL JUSTICE AND LAW ENFORCEMENT

Arrest-Related Deaths: Statistics and Coverage Assessments

*Miranda Houston*

In series: *Criminal Justice, Law Enforcement and Corrections*

2016. 98 pp.

Softcover: 978-1-63484-992-0. $62.00.

From 2003 through 2009, a total of 4,813 deaths were reported to the Bureau of Justice Statistics’ (BJS) Arrest-Related Deaths (ARD) program. The ARD program is a national collection of persons who die in the custody or under the restraint of state or local law enforcement personnel. Deaths are reportable to the program without considering whether physical custody had been established or whether a formal arrest process had been initiated prior to the time of death. The ARD collection also includes the deaths of persons attempting to elude law enforcement during the course of apprehension. This book examines statistics and coverage assessments of arrest-related deaths.

Challenges to the Federal Prison System and Mitigation Initiatives

*Bryan M. Walker*

In series: *Criminal Justice, Law Enforcement and Corrections*


Hardcover: 978-1-63484-236-5. $120.00.
e-book: 978-1-63484-237-2. $120.00.

The federal inmate population has increased more than eight-fold since 1980, and the Department of Justice (DOJ) has identified prison crowding as a critical issue since 2006. DOJ’s Bureau of Prisons' (BOP) rising costs and offender recidivism present incarceration challenges to both DOJ and the nation. DOJ has implemented three key initiatives to address the federal incarceration challenges of overcrowding, rising costs, and offender recidivism, which includes the return of offenders to prison after release. This book discusses DOJ’s initiatives to address federal incarceration challenges; the extent to which DOJ is measuring its efforts; and the extent to which DOJ is coordinating across its components to implement the Smart on Crime Initiative. Moreover, this book examines the 5-year post-release offending patterns of persons released from state prisons in 2005 by offender characteristics, prior criminal history, and commitment offense. It provides estimates on the number and types of crimes former inmates commit both prior to their imprisonment and after release. The book includes different measures of recidivism, including a new arrest, court adjudication, conviction, and incarceration for either a new sentence or a technical violation. It also documents the extent to which the released prisoners committed crimes in states other than the one that released them.

Law Enforcement Accountability and Public Trust: Federal Regulatory Limits and Financial Tethers

*Shawn W. Nelson*

In series: *Criminal Justice, Law Enforcement and Corrections*

2016. 175 pp.

Hardcover: 978-1-63484-378-2. $120.00.
e-book: 978-1-63484-386-7. $120.00.

Recent events involving conflict between the police and citizens have generated interest in what role Congress could play in facilitating efforts to build trust between law enforcement and the people they serve while promoting effective crime reduction. This book provides a brief overview of police-community relations and how the federal government might be able to promote more accountability and better relationships between citizens and law enforcement. It examines several constitutional principles relevant to the extent to which the Constitution permits the federal government to regulate the actions of state and local law enforcement and judicial officers and applies them to the various legislative proposals. Furthermore, this book provides background information on the Edward Byrne Memorial Justice Assistance Grant (JAG) program; discusses community oriented policing services; reviews federal support for local law enforcement equipment acquisition; and addresses police misconduct laws enforced by the Department of Justice.

Mass Murder Inc.: National Incidents, Trends, and Firearms Commerce

*Darlene Perez*

In series: *Law, Crime and Law Enforcement*

2016. 159 pp.

Hardcover: 978-1-63484-648-6. $145.00.

Mass shootings are arguably one of the worst manifestations of gun violence. As discussed in this book, media outlets, gun control and rights advocates, statute, law enforcement agencies, and researchers often adopt different definitions of “mass killing,” “mass murder,” and “mass shooting,” contributing to a welter of claims about the prevalence and deadliness of mass shootings. For the purposes of this book, “mass shooting” is defined as a multiple homicide incident in which four or more victims are murdered with firearms, within one event, and in one or more locations in close proximity. Chapter One of this book analyzes mass shootings for a 15-year period (1999-2013). Chapter Two examines the United States use of two national data collection systems to track detailed information on homicides: the Federal Bureau of Investigation’s Supplementary Homicide Reports and the Centers for Disease Control and Prevention’s Fatality Injury Reports. Chapter Three presents data on homicide trends from 1992 to 2011. It describes homicide patterns and trends by age, sex, and race of the victim. It explores weapon use, with a focus on trends in firearm use and homicide trends by city size. It also includes special
discussions of missing offender data and firearm use in nonfatal violent victimizations. Chapter Four provides comparative data from as far back as 1986 for context and analyses of firearms manufacturing trends over the years, and a broad picture of the state of firearms commerce in the United States today. It includes a state-by-state breakdown of the federal firearms licensees and a state-by-state breakdown of the National Firearm Act tax revenue information available through 2014.

**Perspectives on Policing: Selected Papers on Policy, Performance and Crime Prevention**

*Holly Wheeler*

In series: *Law, Crime and Law Enforcement*


Hardcover: 978-1-63484-555-7. $145.00.


Can the police reduce crime? In 1991, when the first Executive Session on Policing concluded, the answer to that question was generally described as being in the eye of the beholder. Based on the scientific and practical knowledge available at the time, some well-respected criminologists and police scholars concluded that the police were not able to reduce crime. Promising evidence, however, suggested that if the police changed their approach to crime control and prevention, then they might be able to reduce crime. This book outlines the changes in the nature of police crime control conversations resulting from an unprecedented growth in rigorous evaluation research on what works in police crime prevention; examines what it means to be a leader within the policing field, and advocates for reframing leadership through the adoption of “learning organizations” to increase the capacity to fight crime; describes “rightful policing,” which looks at elements of procedural justice in police encounters with the public as a way to organize police work; advocates for democratic ideals within law enforcement to combat the mindset that law enforcement officers are at war with the people they serve; presents the ideas for what police executives might do to alleviate the problems of race in contemporary policing; examines the term “black-on-black” violence, a simplistic and emotionally charged definition of urban violence that can be problematic when used by political commentators, politicians and police executives; summarizes current understanding of the effects of ongoing trauma on young children, how these effects impair adolescent and young adult functioning, and the possible implications of this for policing; and finally, describes strategies police organizations could employ to more effectively measure their performance.

**Police Use of Force and Federal Tactical Teams: Background and Considerations**

*Beverly Guzman*

In series: *Law, Crime and Law Enforcement*


Hardcover: 978-1-63484-557-1. $120.00.

e-book: 978-1-63484-558-8. $120.00.

Several high-profile police shootings and other law enforcement-related deaths in the United States have sparked intense protests throughout the country and a fierce debate in Congress concerning the appropriate level of force police officers should wield in a society that equally values public safety and the lives of each of its citizens under law. These incidents have been the subject of several congressional hearings, have prompted the introduction of various legislative measures, and have catalyzed a new civil rights movement in the United States aimed at reforming the criminal justice system. Reformers claim that police work too closely with local prosecutors resulting in insufficient oversight and have called for greater involvement by the federal government. The law enforcement community and its supporters have countered that these recent deaths are anomalous in otherwise exemplary police conduct, and that placing the federal government in direct regulation of state and local police would present an unwarranted intrusion into state and local affairs. To provide legal context for this debate, this book will address three overarching questions: what are the constitutional rules governing an officer’s use of force; what role has Congress played in providing a remedy for a violation of these rules; and what are the potential reforms to these rules and remedies? The authors of this book advocate for democratic ideals within law enforcement to combat the mindset that law enforcement officers are at war with the people they serve.

**Risk Assessment and Sentencing in the Criminal Justice System: Considerations and Proposals**

*Julia Campbell*

In series: *Law, Crime and Law Enforcement*


Hardcover: 978-1-63484-561-8. $120.00.

e-book: 978-1-63484-562-5. $120.00.

The number of people incarcerated in the United States has increased significantly over the past three decades from approximately 419,000 inmates in 1983 to approximately 1.5 million inmates in 2013. Concerns about both the economic and social consequences of the country’s growing reliance on incarceration have led to calls for reforms to the nation’s criminal justice system. There have been legislative proposals to implement a risk and needs assessment system in federal prisons. The system would be used to place inmates in rehabilitative programs. Under the proposed system some inmates would be eligible to earn additional time credits for participating in rehabilitative programs that reduce their risk of recidivism. Such credits would allow inmates to be placed on prerelease custody earlier. The proposed system would exclude inmates convicted of certain offenses from being eligible to earn additional time credits. This book provides information on the use of risk and needs assessment in the criminal justice system. It starts with an overview of risk and needs assessment and a discussion of some of the critiques of it, and also discusses issues policymakers might consider if they debate legislation to expand the use of risk and needs assessment in the federal prison system. Moreover, the book reviews mandatory minimum sentencing legislation in the 114th Congress.

**DEFENSE AND SECURITY**

**Counterfeit Parts in the Department of Defense Supply Chain: Reporting Challenges and Risk Issues**

*Erik Dawson*

In series: *Defense, Security and Strategies*

2016.


The Department of Defense (DOD) supply chain is vulnerable to the risk of counterfeit parts, which have the potential to delay missions and ultimately endanger service members. To effectively identify and mitigate this risk, DOD began requiring its agencies in 2013 and its contractors in 2014, to report data on suspect counterfeit parts. This book examines, among other things, the use of the Government-Industry Data Exchange Program (GIDEP) to report counterfeits; GIDEP’s effectiveness as an early warning system; and DOD’s assessment of defense contractors’ systems for detecting and avoiding counterfeits.

**Female Officers in the Department of Defense and Coast Guard: Increasing Recruitment and Accessions**

*Patricia Vaughn*

In series: *Defense, Security and Strategies*

2016. 74 pp.

Softcover: 978-1-63485-397-2. $95.00.

Since the end of the Second World War, the role of women in the military has been evolving. Changes to laws and Department of Defense (DOD) policies have either eliminated or clarified restrictions on women serving in the military. A 2011 Military Leadership Diversity Commission reported that women comprise more than 50 percent of the recruiting pool for the officer corps. Public Law 113-291 included a provision for United States Government Accountability Office (GAO) to review the Armed Forces’ outreach and recruitment efforts directed at women’s representation in the officer corps, among other things. This book evaluates the extent to which accessions of women into the officer corps have increased, and DOD and the Coast Guard have determined resources and funding to increase the accessions of women into the officer corps; and DOD and the Coast Guard have initiatives and an oversight framework to increase the recruitment and accessions of female officers.

Homeland Security: Selected Congressional Issues and Appropriations
Malcolm Leonard Moreno
In series: Defense, Security and Strategies
Hardcover: 978-1-63484-754-4, $145.00.
In 2001, in the wake of the terrorist attacks of September 11th, “homeland security” went from being a concept discussed among a relatively small cadre of policymakers and strategic thinkers to a broadly discussed issue in Congress. Debates over how to implement coordinated homeland security policy led to the passage of the Homeland Security Act of 2002 and the establishment of the Department of Homeland Security (DHS). Evolution of America’s response to terrorist threats has continued under the leadership of different Administrations, Congresses, and in a shifting environment of public opinion. This book outlines an array of homeland security issues that may come before the 114th Congress. It provides a brief discussion of the definitions of homeland security, the homeland security budget, and the role of homeland security actors in the intelligence community; discusses the FY2016 appropriations for the DHS and provides an overview of the Administration’s FY2016 request; and discusses appropriations for the components of DHS included in the second title of the homeland security appropriations bill.

National Critical Infrastructure Policy: Background and Select Cybersecurity Issues
Sheldon Yates
In series: Defense, Security and Strategies
Hardcover: 978-1-63484-756-8, $185.00.
The nation’s health, wealth, and security rely on the production and distribution of certain goods and services. The array of physical assets, functions, and systems across which these goods and services move are called critical infrastructures. The national security community has been concerned for some time about the vulnerability of critical infrastructure to both physical and cyberattack. Following the destruction and disruptions caused by the September 11 terrorist attacks in 2001, the nation directed increased attention toward physical protection of critical infrastructures. Over the intervening years, policy, programs, and legislation related to physical security of critical infrastructure have stabilized to a large extent. However, current legislative activity has refocused on cybersecurity of critical infrastructure. This book discusses in more detail the evolution of a national critical infrastructure policy and the institutional structures established to implement it; highlights two primary issues confronting Congress going forward, both in the context of cybersecurity: information sharing and regulation; provides an overview of the 2013 cybersecurity executive order; and examines the extent to which the Department of Homeland Security (DHS) and other stakeholders are prepared to address cyber risk to building and access control systems in federal facilities.

Sexual Assault Prevention by the Department of Defense: Strategy and Assessment
Jonathan Maldonado
In series: Defense, Security and Strategies
Hardcover: 978-1-63485-351-4, $120.00.
Sexual assault is a crime that devastates victims and has a far-reaching negative impact for The Department of Defense (DOD) because it undermines DOD’s core values, degrades mission readiness, and raises financial costs. DOD developed its strategy to prevent sexual assault using the Centers for Disease Control and Prevention (CDC) framework for effective sexual-violence prevention strategies, but DOD does not link activities to desired outcomes or fully identify risk and protective factors. This book addresses the extent to which DOD developed an effective prevention strategy; implemented activities department-wide and at military installations related to the department’s effort to prevent sexual assault; and developed performance measures to determine the effectiveness of its efforts to prevent sexual assault in the military.

The Goldwater-Nichols Department of Defense Reorganization Act: Reforms and Considerations
Malcolm Quinn
In series: Defense, Security and Strategies
2016.
Hardcover: 978-1-63485-912-7, $150.00.
Thirty years after its enactment, Congress has undertaken a review of the Goldwater-Nichols Department of Defense Reorganization Act (GNA) as well as the broader organization and structure of the contemporary Department of Defense (DOD) more broadly. Most observers agree that in principle a comprehensive review of the Goldwater-Nichols legislation is warranted at this juncture. Further, a broad consensus appears to exist among observers that DOD must become considerably more agile while retaining its strength in order to enable the United States to meet a variety of critical emerging national security challenges. Agreement seemingly ends there. There appears to be little consensus on what should be changed within DOD and what specific direction reform ought to take. Discussions have begun to coalesce around a number of proposals, including reforming defense acquisition processes, further strengthening the Joint Staff, reducing Pentagon staffs, and better empowering the services in the joint arena. Ideas vary, however, on how, specifically, to achieve those outcomes. Disagreement also exists as to whether or not reorganizing DOD alone will be sufficient. Some observers maintain that a reform of the broader interagency system on national security matters is needed. This book is intended to assist Congress as it evaluates the variety of reform proposals currently under discussion around Washington.

The National Biosurveillance Integration Center: Roles, Challenges, and Strategic Plan
Natasha Jennings
In series: Defense, Security and Strategies
Softcover: 978-1-63484-924-1, $62.00.
The National Biosurveillance Integration Center (NBIC) has activities that support its integration mission, but faces challenges that limit its ability to enhance the national biosurveillance capability. A biological event, such as a naturally occurring pandemic or a terrorist attack with a weapon of mass destruction, could have catastrophic consequences...
for the nation. This potential threat underscores the importance of a national biosurveillance capability—that is, the ability to detect biological events of national significance to provide early warning and information to guide public health and emergency response. The 9/11 Commission Act of 2007 addresses this capability, in part, by creating NBIC within the Department of Homeland Security (DHS); it was tasked with integrating information from human health, animal, plant, food, and environmental monitoring systems across the federal government, to improve the likelihood of identifying a biological event at an earlier stage. This book discusses extent to which NBIC is implementing its roles as a biosurveillance integrator, and options for improving such integration.

Utility Resilience at Department of Defense Installations: Issues and Risk Mitigation

Denise Larson

In series: Defense, Security and Strategies


Hardcover: 978-1-63484-571-7, $120.00.

Continuity of operations at Department of Defense (DOD) installations is vital to supporting the department’s missions, and the disruption of utility services—such as electricity and potable water, among others—can threaten this support. DOD installations have experienced utility disruptions resulting in operational and fiscal impacts due to hazards such as mechanical failure and extreme weather. Threats, such as cyber attacks, also have the potential to cause disruptions. This book addresses whether threats and hazards have caused utility disruptions on DOD installations and, if so, what impacts they have had; the extent to which DOD’s collection and reporting on utility disruptions is comprehensive and accurate; and the extent to which DOD has taken actions and developed and implemented guidance to mitigate risks to operations at its installations in the event of utility disruption. Moreover, DOD relies overwhelmingly on commercial electrical power grids for secure, uninterrupted electrical power supplies to support its most critical assets. This book also examines the extent to which DOD’s most critical assets are vulnerable to disruptions in electrical power supplies and the extent to which DOD—both within and outside of the Defense Critical Infrastructure Program—has attempted to assure the availability of electrical power supplies to its most critical assets.

Drug Trade and Programs

Countering the Drug Trade in West Africa: Assessments and Perspectives

Cristina Webster

In series: Drug Transit and Distribution, Interception and Control

2016. 208 pp.

Softcover: 978-1-63485-867-0, $62.00.

In recent years, West Africa has played an increasing role in the global drug trade. In the early 2000s, drug traffickers searching for new routes and markets began shipping South American cocaine to Europe through West Africa. Criminal groups have now expanded their operations in the region to include heroin trafficking and methamphetamine production. While cocaine trafficked through West Africa typically reaches Europe rather than the United States, illicit activities surrounding the West African drug trade jeopardize U.S. goals in the region. The drug trade destabilizes governments and funds terrorist organizations, including Hezbollah and Al Qaeda in the Land of the Islamic Maghreb. In 2011, the State Department launched the West Africa Cooperative Security Initiative to coordinate the U.S. response to these threats. This has been a positive start, but the Caucus believes more must be done. This book provides eight recommendations on how the United States can better assist our partners in West Africa.

FDA’s Expedited Drug Programs: Analysis, Postmarket Monitoring and Industry Guidance

Gary Lawrence

In series: Drug Transit and Distribution, Interception and Control

2016. 113 pp.

Softcover: 978-1-63485-772-7, $95.00.

The Food and Drug Administration (FDA) oversees the safety and effectiveness of drugs sold on the U.S. market. When there is an unmet need for the treatment of a serious condition, FDA may use one or more of its expedited programs, such as fast track and breakthrough therapy designation, which are intended to bring drugs to market more quickly. FDA is also responsible for monitoring the safety of drugs and reporting on those efforts. This book examines the number and types of requests for fast track or breakthrough therapy designation; the number and types of FDA-approved drug applications that used an expedited program; and the extent to which FDA’s data on tracked safety issues and postmarket studies allowed the agency to meet its reporting and oversight responsibilities.

State Marijuana Legalization: Issues and Effects

Jermaine Stone

In series: Drug Transit and Distribution, Interception and Control

2016.

Softcover: 978-1-63485-910-3, $62.00.

An increasing number of states have adopted laws that legalize marijuana for medical or recreational purposes under state law, yet federal penalties remain. In 2012, Colorado and Washington became the first states to legalize marijuana for recreational purposes. In 2013, the Department of Justice (DOJ) updated its marijuana enforcement policy by issuing guidance clarifying federal marijuana enforcement priorities and stating that DOJ may challenge those state marijuana legalization systems that threaten these priorities. This book examines, among other issues, DOJ’s efforts to monitor the effects of state marijuana legalization relative to DOJ’s 2013 guidance; and factors DOJ field officials reported affecting their marijuana enforcement in selected states with medical marijuana laws.

Economics

An In-Depth Analysis of Rising Household Indebtedness in an Upper Middle – Income Economy – The Case of Mauritius

Sanjeev K. Sobhee, Verena Tandrayen-Ragoobur, Harshana Kasseeah, and Ruben Thoplan (Department of Economics and Statistics, University of Mauritius, Reduit, Mauritius)

In series: Economic Issues, Problems and Perspectives

2016.

Softcover: 978-1-63485-782-6, $95.00.
e-book: 978-1-63485-797-0, $95.00.

This book is based on a study of household indebtedness in an upper-middle income economy known as Mauritius, and authored by a vibrant team of researchers from the University of Mauritius. The novelty of this publication is that it fills the gap with respect to the paucity of microeconomic studies pertaining to and relevant for
developing countries. At the local and regional level, there is no consolidated work that studies household indebtedness with so much rigour and with such deep-rooted analysis. All in all, this publication uses different data sources and a mixed methodology approach to investigate the factors related to household indebtedness. The main advantage of this publication is that is based on a comprehensive survey of indebted households in Mauritius. While the survey questionnaire tracks micro-socioeconomic characteristics of households, the empirical analysis is highly scientific and uses the latest statistical and econometric tools, techniques and softwares. It has a good review of literature backed by sound macroeconomic analysis and puts into practice the state of the art of econometric analysis. The discussions are clear and provide insights into expenditure patterns, financial constraints and vulnerability of households both within and among different income categories. The findings uncover specific traits of the typical Mauritian household debtor. The findings in this book are also compared with studies based on other developed and developing countries. Moreover, the book probes deeper into cases of over-indebtedness and the different reasons that could explain various financial commitments of a typical household debtor. Policy recommendations are provided to open the outreach to policy makers and researchers. Lastly, the book is also useful to the academic community and students in terms of its academic endeavors and achievements. Target Audience: • Academic community and Research students – The scientific rigor which entails sophisticated analytical tools (statistical and econometrics) could be of interest to academic circles in terms of providing insights into tested theoretical hypotheses within the real life context. The book clearly links up the findings to established economic theories. Besides, there are comparative inferences made with studies done by international scholars in this area. • Policy makers – There are several policy recommendations which are provided and useful to decision makers and policy makers, having implications for regulations and institutional changes and monitoring. • Financial institutions – The findings from the study or from this book may provide very interesting and useful information not easily available to commercial banks, the Bank of Mauritius and private enterprises with respect to credit monitoring and over-indebtedness. • General public – This book would serve as a useful piece of information to members of the public in better understanding the causes of households’ indebtedness and how does it vary across different people. The policy implications could be informative to consumers in general and consumer society in particular. • International community – Being comparative in nature, the book provides additional empirical evidence on an upper middle income economy for which little information is available. The findings are compared and contrasted with findings from different countries- European, African, Asian, Australian amongst others.

Climate-Related Supply Chain Risks: Federal Management and Company Disclosure Issues

Emanuel Castro

Softcover: 978-1-63485-185-5. $62.00.

The federal government obligated about $445 billion in fiscal year 2014 for goods and services such as disaster response products and telecommunications. Agencies with missions that depend on the secure and efficient transit of goods and services have had their supply chains disrupted and supplies disrupted by weather-related events, such as Superstorm Sandy. According to the National Climate Assessment, the severity and frequency of such events is expected to increase. Agencies developed adaptation plans in response to executive orders and implementing guidance issued by the Council on Environmental Quality’s (CEQ), which coordinates federal environmental efforts. This book examines the extent to which selected federal agencies have identified climate-related risks to their critical supply chains; the extent to which they have identified and implemented actions to manage these risks; and what is known about the federal government’s fiscal exposure to such risks. Furthermore, the book examines the types of climate-related supply chain risks companies are disclosing in their Securities and Exchange Commission (SEC) filings and other channels through which companies may disclose climate-related supply chain risks; how SEC considers climate-related supply chain risks when monitoring and enforcing compliance with disclosure requirements; and what actions, if any, SEC has taken to identify climate-related supply chain risk information that investors may need.

Consumers and Markets: Analyzing Behavioral Shifts and Emerging Challenges

Rajagopal, Raquel Castaño and David Flores (EGADE Business School, Tecnologico de Monterrey, Mexico)

In series: Marketing and Operations Management Research
Hardcover: 978-1-63485-122-0. $190.00.

Explaining consumer behavior today appears to be more complex than interpreting the conventional paradigm of perceptions, attitude, and behavior led by the classical cognitive theories. As the marketplace environment is changing rapidly in the twenty-first century following the growth of innovation, technology, market communications, and changing socio-cultural patterns, consumer behavior is largely driven by emotions, peer influence, and perceived values. When a company connects with consumers’ emotions, the returns may be huge. This book documents the current consumer behavior development in changing business paradigms and suggests managerial implications for the companies to follow for gaining competitive advantage. The discussion on the topics of consumer behavior is built in the book around the ten chapters comprising evolving global consumer markets, understanding consumers through marketing research, consumer-market symbiosis, consumer health information and decision-making, catalyzing buying propensity, innovation, technology and consumption, dysfunctional consumption patterns, serving consumers in emerging markets, managing consumer experiences, and the future of consumers.

Development, Growth, Environment and Social Equity

Alexander Cotte Poveda, Astrid Geovana Muñoz Ortiz, Gustavo Correa Assmus (Department of Economics, University of Göttingen, Germany)

Hardcover: 978-1-63484-780-3. $190.00.
e-book: 978-1-63484-794-0. $190.00.

Developing countries need to design projects to increase the growth and wellness of its human population, which involves the inclusion of topics associated directly with the sustainable development of these countries and their particular social problems. This book examines the interrelations between development, growth, the environment and inequality, especially in developing countries and taking into account qualitative and quantitative approaches. Increasing welfare of the population is important to the increase of human development through the improvement of developmental and environmental conditions, generating sustainable development where it is key to seek changes in public policies, economic, technological and social factors. This book aims to analyze different contexts from micro to macro level relationships between development, growth, inequality, environment and human development, and evaluate what the actual conditions in emerging economies are and how developing new strategies could improve the well-being of developing countries. The book is organized as follows: Saiz-Alvarez and Ganez identify the main components to propose an entrepreneurship model that includes distance, education, and information and communication technologies (ICTs) as alternatives to generate wealth and development in developing
countries. In Chapter Two, Cutolo et al. describes an approach to current situations of water vulnerability in watersheds of metropolitan regions in tropical countries of South America, and the importance to improve the strategies to promote environmental health in these regions. In Chapter Three, Hashim shows a comparison from a historical point of view between two crops, one of them native to South America (quinoa) and the other from Africa (pearl millet). The comparison leads to the questions of whether or not reflexions consider pearl millet as an alternative to food security in African countries and as an incentive for women farmers. In Chapter Four, Palmer and Correa applied three groundwater indicators: a groundwater extraction indicator, a groundwater extraction for public supply per capita indicator and a groundwater vulnerability indicator to describe the different characteristics of the environment and propose this analysis as a tool to make decisions in environmental management within the Cove Basin at the Island of San Andrés (Colombia). Correa in Chapter Five analyzes and assesses the impact that poverty and access to water have on labor productivity of the economically active population in Colombia. In Chapter Six, Daronco and Wartchow clarify how the Brazilian policies about water resources have been based on the laws developed at the time of discovery in 1500. Additionally, it regards the culminating active level in the National Water Resources System (NWRs) today. Finally, Castellanos conducts a search and reflection of bioethical dilemmas in veterinary medicine, identifying sources of stress and coping strategies in Chapter Seven.

**Economy, Politics and Governance Challenges for the 21st Century**

**Víctor M. González-Sánchez** (UNED – National University of Distance Education Departamento de Economía Aplicada/Department of Applied Economy)


The main objective of this book is to analyze some of the major challenges of the world during the twenty-first century from a multidisciplinary perspective. Global problems do not always have a unique approach, and the study of these problems requires a research effort based on a rigorous and understandable methodology. From this idea, the works contained in each chapter demonstrate the existence of significant links between economics, politics and governance. This book is divided based on these three subjects. One part of the book contains a study of the global economic situation and its existing inequalities. From there, some challenges related to matters such as entrepreneurship and financial literacy will be addressed. On the other hand, political inequality and demographic shortcomings — along with the international geopolitical reality — are the common thread that tie together other chapters of the book. Both a national perspective and regional cross comparison are present within this book. Finally, different analyses related to governance complete the third block of this catalog. In this regard, the important influence that the economy and functioning policies have on the governance of states and decision making processes is noted.

### Globalization: Economic, Political and Social Issues

**Bernadette Gonzalez**


Hardcover: 978-1-63485-453-5. $230.00.


Globalization, as an international phenomenon, has contributed to or assisted in the development of major economic, political and social change in the new millennium. For the last half century, the forces of globalization have been accelerating through the developing and developed worlds. While the importance of globalization or the economic and social linkages binding the world together has been widely acknowledged, scholars and policy-makers disagree vehemently about whether globalization is inevitable; whether it is, on balance, positive or negative; who, if anyone, controls the processes; who are the winners and losers in the fundamental transformations being wrought by globalization; and what policies should be adopted in the face of globalization. This book focuses on the economic, political and social issues of globalization.

### Hermeneutics of Capital: A Post-Austrian Theory for a Kaleidic World

**Carmelo Ferlito** (INTI International College Subang, Subang Jaya, Malaysia, and Institute for Democracy and Economic Affairs (IDEAS), Kuala Lumpur, Malaysia)


Softcover: 978-1-63485-129-9. $82.00.

e-book: 978-1-63485-235-7. $82.00.

In presenting Hermeneutics of Capital, the author fears that most modern economists are not prepared or even interested in the approach that has been taken in this book. Today, economists are more likely to search for “exact” theories functional relationships between often logically independent variables rather than to question the nature of their science and its main task. This book argues that “economics is about human nature, human conduct and human institutions”, or what Mises called human action. The present book, however, is not an epistemological one. It is about capital theory. The attempt of Hermeneutics of Capital is to reconcile man and capital, which are often presented as competing elements in a conflictual world. What the author tries to do is even more than looking for a simple reconciliation; following Ludwig Lachmann’s application of hermeneutics to economics, the author tries to define capital as the outcome of subjective mental processes, determined by individual intentions and expectations and not by specific physical or economic features. The author defines the theory of post-Austrian. In fact, the author’s attempt is to further develop the Austrian School of Economics teaching, trying to contribute in enhancing concepts and theories which are believed to be necessarily reshaped. The author connected his capital theory with a consistent entrepreneurship theory, which goes beyond the usual contraposition between Kirzner’s and Schumpeter’s entrepreneurial theories and builds a synthesis centred on the idea of entrepreneurship as a subset of Misesian action involving specific capital formation processes. Moreover, the author took into account the traditional version of the Austrian Business Cycle Theory and critically revised it, arguing that crises are not simply the consequences of monetary manipulations, but they are the natural consequence of every expansionary wave. Shackle reminded us that a “good economist is like a bottle of wine. He must begin by having the luck to be laid down, as it were, in a vintage year, when he himself and his class companions are the high-quality stuff in which ideas and theories ferment and discourse sparkles in a glow of golden light. But this is not enough. He must mature”. This book helps guide readers to understand reality.

### Labor Markets: Analysis, Regulations and Outcomes

**Jonathan Murray**


Softcover: 978-1-63484-942-5. $82.00.

e-book: 978-1-63484-973-9. $82.00.

This book analyzes the regulations and outcomes of labor markets. Chapter One studies the minimum wage effects on selectivity and job specialization by using a matching model in which agents are horizontally differentiated and where the nature of jobs is endogenous. It discusses the interactions between public policies and a firms’
technological choice. Chapter Two answers the question of whether labor market models should be unrealistic and false, or realistic and true. The third chapter focuses on occupational welfare in Denmark.

Law and Economics of Corporate Governance and Insider Trading
Georgios I. Zekos, Ph.D. (Advocate and Economist, Serres-Macedonia-Hellas, Greece)
In series: Business Economics in a Rapidly-Changing World
Hardcover: 978-1-63485-282-1. $230.00.
The regulation of insider trading prohibits insiders from using inside information in securities transactions, and the central goal of the regulator is to preclude non-public information from circulating in the stock markets. The goal of legislation against insider trading is the same as that of legislation against market manipulation, making certain the integrity of EU financial markets and so boosting investor confidence in those markets. Market manipulation and insider trading are interrelated and based on circulation of information, and so cyberspace & e-logistics of information could be the key to neutralizing people from taking advantage of their privilege to govern information within a company. Insider trading moves prices because outsiders decode information from the trade itself. Insider trading increases capital costs for the reason that insider trading raises the cost to market-makers in a company’s securities relative to other companies, decreasing the anticipated return to uninformed shareholders. Corporate insiders are clearly informed about their own firms. The insiders’ outperformance derives from either their analytical skill or the handling of superior information about their companies when trading. Insiders benefit from unexpected losses on top of gains and so have a perverse incentive to trigger the company to underperform if insider trading is permitted. Securities are vital, not only as investment vehicles, but also as devices for corporate control. A peaceful European Revolution should bring forward European nations and the USE/European Federation, which can deal with insider trading, criminal law, and other political/economical components in a harmonious way while avoiding any conflict among the various jurisdictions taking place in the present EU.

Law and Economics of IPRs
Georgios I. Zekos, Ph.D. (Advocate and Economist, Serres-Macedonia-Hellas, Greece)
In series: Intellectual Property in the 21st Century
2016. 423 pp.
Hardcover: 978-1-63484-586-1. $270.00.
Intellectual property is at the centre of the “new economy.” New economy products are characterized by declining average costs over a range of output, high rates of innovation, and network effects. The return deriving from IPRs is directly correlated to the duration as well as the scope of those rights. The center of IP rights has moved further and further upstream over the past century, to the point of now protecting living organisms, basic research tools, and procedural methods as well as mathematical algorithms and databases. Globalization and the exploitation of ICT open up opportunities for promoting democracy and wealth in poorer countries. Efficiency-seeking FDI increases competitiveness and the trademark of the competition law is the protection of those principles and practices which facilitate the efficient functioning of markets. Capital flows, in particular FDI, are one of the crucial components of globalization and international integration. FDIs capitate more benefits than other types of financial flows in addition to increasing domestic capital stock. This book describes in detail the law and economics of IPRs.

Manipulation Effects of Managerial Discretion on Executive Compensation: A Comparative Study between Fresh CEOs and Senior CEOs
Zhang Changzheng (School of Economics and Management, QuJiang Campus of Xi’an University of Technology, Xi’an, China)
In series: Economic Issues, Problems and Perspectives
Hardcover: 978-1-63484-045-3. $190.00.
Facing with the ever increasing change of the business environment, the firms have recognized that their persistent competitive edge increasingly depends on whether or not they own the dedicated, experienced and capable CEOs. In the global practice, more and more firms have tried, or are trying, or will try to change their CEOs in order to get higher firm performance or just to get out of recession. Especially it is true in China. However, in theory, the literature in the related fields, such as the corporate governance, the strategic human resource management, the strategy management, the principal-agent theory and so on, has only addressed how to arrange managerial discretion and executive compensation reasonably under the normal circumstances, while ignoring the conditions of CEO change. Therefore, each stakeholder in the post-CEO change period has no clear theoretical guidances on how to reallocate managerial discretion and reset executive compensation for the fresh CEOs. Such a theoretical research gap has led to a large number of failures in the issue of CEO change. In order to make up this gap, this book tries to investigate the relationship between managerial discretion and executive compensation under the conditions of CEO change, which can not only practically guide the re-balancing of the corporate governance and further improve the success possibility of CEO change, but can theoretically enrich the contributions in managerial discretion approach and executive compensation theory. Based on the comparative study perspective, by drawing on the data from Chinese listed companies as the sample and adopting the Correlation Analysis, Multiple Linear Regression and Hierarchical Models as the statistical analysis methods, the book investigates how managerial discretion, respectively for the fresh CEOs and the senior CEOs, manipulates each dimension of executive compensation, i.e. executive compensation level, CEO pay-performance sensitivity, executive compensation gap and executive-employee compensation gap. The book makes two valuable new findings: First, the book confirms that both the fresh CEOs and the senior CEOs have the motives and capabilities to manipulate each dimension of executive compensation, but varying by intent and intention; Second, the book proves that the fresh CEOs show higher firm-serving motives when they manipulate each dimension of executive compensation by performing managerial discretion, while the senior CEOs show relatively higher self-serving motives. Based on the research results, the book builds the fresh-keeping mechanisms of firm-serving motives of the fresh CEOs during their whole CEO tenure, which are of great meanings for the government, the scholars and the practitioners and so on.

Money, Economics, and Finance: Developments, Analyses and Research. Volume 5
Clifford Dobrowski
In series: Money, Economics, and Finance: Developments, Analyses and Research
Hardcover: 978-1-63485-726-0. $150.00.
In this fifth book of the series “Money, Economics, and Finance: Developments, Analyses, and Research”, topics discussed include an overview of monetary policy and the Federal Reserve; the debt limit since 2011; policy issues related to credit union lending; the economics of paid and unpaid leave; and federal investments.
Networks, Competition, Innovation and Industrial Growth
Hans W. Gottinger (Professor of Economics, STRATEC, Munich, Germany)

In series: Economic Issues, Problems and Perspectives
2016. 182 pp.
Hardcover: 978-1-63484-015-6. $190.00.

Some structural elements of networks carry over to features of dynamic competition in network industries that, through increasing return mechanisms on innovation based industries, generate sustainable growth and create industrial linkages as a backbone to industrial/economic growth. The project focuses on the integration of network structure, industrial competition and industrial growth processes into a coherent mechanism design. This text should be of interest to policy analysts/makers, industry strategists/consultants, students of industrial economics/orGANization, entrepreneurship/management and economic journalists alike with interest in and focus on strategic and structural foundations of network economies and their industrial implications. The book is also designed to be used as a text for a course in business strategy as it could serve as a supplementary text to industrial organization and being part of the micro-foundations of economic growth and development neglected in the mostly macro-centered economic growth literature. Content-wise, links are drawn from the structure of networks to dynamic competition in innovation focused industries, its restrictions and abuses of dominance in market structures and potential future markets for antitrust, to the growth of industries through increasing returns mechanisms in complementary markets and the consequences for industrial growth and development. Coverage includes: 1. Integrating Networks, Dynamic Competition and Industrial Growth, 2. Networks, Technology and Competition, 3. Dynamics of Competition and Market Dynamics, 4. Increasing Returns Mechanism, 5. Industrial and Economic Growth: A Review, 6. Mechanism Design for Economic Development, and 7. Network-centered Industrial Growth. The central theme of this compilation is the interplay of competition, innovation, cooperation and market structure along vertical and horizontal industry lines. Interaction and interdependencies are facilitated and sometimes bottlenecked through networks most naturally prevalent in high technology industries. This forms the core basis of business strategy relating to the growth of business and complementary activities through innovation, mergers and acquisitions (M&As) and related strategic choices.

Non-Linear Modeling of the Impact of the Crisis on the Interactions among Financial Markets and Macroeconomic Variables in CEE Countries
Lucian Liviu Albu and Petre Caraiani (Institute for Economic Forecasting, Romanian Academy, Romania)

In series: Economic Issues, Problems and Perspectives
Softcover: 978-1-63484-932-6. $95.00.
e-book: 978-1-63484-964-7. $95.00.

Following the last economic and financial crisis, there is strong motivation for academics to better explain the connection between the stock market and the macroeconomy. This book aims at fulfilling this need with an accent on the case of emerging markets in Central and Eastern Europe. The book generally focuses on nonlinear techniques. The book consists of several chapters, each using state-of-the-art techniques in modeling that address specific issues related to the focus of the book. The topics range from studying the transmission mechanism of monetary policy in CEE economies, to issues like the impact of quantitative easing on the emerging markets or network based approaches that advance our understanding of the financial relationships in these markets. The book also includes a paper on the wavelets modeling of the relationship between uncertainty and equity premium. Given the nature of the CEE economies, i.e. aspiring Euro Area members, a special chapter is dedicated to convergence issues and the nonlinear relationship between economic growth and finance.

Overall, in the present context of the post-financial crisis, this book constitutes a step forward in the modeling of the linear and nonlinear relationships between the financial markets and the macroeconomy, especially in an unstable context and for the particular case of emerging economies.

Opening Views against the Closure of the World
Peter Herrmann (EURISPEs – Istituto di Studi Politici, Economici e Sociali, Rome, Italy)

In series: Economic Issues, Problems and Perspectives
Hardcover: 978-1-63484-090-3. $190.00.
e-book: 978-1-63484-091-0. $190.00.

The chapters of the present book analyze contemporary societal challenges and changes in light of the social quality approach and French regulationist thinking. This means going beyond the mainstream concept, aiming at an integrated social science approach * Critique of economism is important, though we should not forget that the question is not about “how much” but about what kind of economy * Increasingly obvious is the lack of social integrity of contemporary growth policies, but less obvious is what is needed to fundamentally change the scene * Treating globalization as a matter that goes beyond widening and deepening relations of countries and regions around the globe, seeing it as a news stage of world systems By working along these different frontlines, the chapters take up important issues that can be found in different areas as “growth beyond GDP”, human development”, “quality of life”, “world systems” and the like. In the end, it is about looking at the current political-economic patterns and the possibilities they entail when it comes to the claim that “another world is possible”.

Progress in Economics Research. Volume 34
Albert Tavridze

In series: Progress in Economics Research
2016. 175 pp.
Hardcover: 978-1-63484-622-6. $160.00.
e-book: 978-1-63484-640-0. $160.00.

In this new volume of Progress in Economics Research, chapters include research on the elements that are important for the understanding of international development; the intellectual property rights’ impact upon foreign direct investment inwards and foreign direct investment outwards and trade; the selection of the best energy mix on the basis of the most efficient utilization of all available energy sources for the generation of electricity to ensure its future economic and social development; the efficiency of resource utilization of twenty OECD countries; liquidity management under the principal-agent conflict; a discussion on the estimated surplus land value of real estate benefited by the public investment on infrastructure considering only the land value without the construction value and spatial location; the determinants of inventory investment; the prisoners' dilemma, congestion games and correlation; and rational choice theory, state abortion policy, unintended pregnancy and its economic implications.

Selected Issues in Macroeconomic and Regional Modeling: Romania as an Emerging Country in the EU
Emilian Dobrescu, Bianca Pauna and Corina Saman
(Center for Macroeconomic Modeling, National Institute of Economic Research “Costin C. Kiritiescu,” and Institute for Economic Forecasting, Romanian Academy, Bucharest, Romania)
In series: *Economic Issues, Problems and Perspectives*
Hardcover: 978-1-63484-936-4. $190.00.
This volume brings together eighteen studies on macroeconomic and regional modeling, dedicated to founding of the Macroeconomic Modelling Seminar of the Romanian Academy. All authors participated — at one time or another — in its business activity. The first section is a collection of studies devoted to research on macroeconomics considered as a branch of economics that characterize the behavior of an economy as a whole. These studies focus on issues raised by modeling and forecasting aggregated indicators, such as industrial production, GDP growth rate, and price indexes (exchange rate, inflation) to understand how the economy functions. Exchange rate is one of the most important macroeconomic variables, especially in recent decades when the openness of the economies has grown due to the fact that development is based on competitiveness and international trade, and thus exposed them to exchange rate risk. Understanding underlying trends of inflation, focusing on expectations and the interaction among inflation, output growth and respective uncertainties are important problems in emerging countries, where the inflation is considered to be one of the main phenomena of instability of the economic environment, and the uncertainty about future inflation can lead to uncertainty about other economic variables. These contributions from the researchers affiliated with the Macroeconomic Modelling Seminar gathered in this section propose some perspectives on these issues, emphasizing how econometric techniques can be used to model macroeconomic variables and how to capture uncertainty, structural breaks determined by the integration of Romania into EU, and/or by the latest major economic crises. Several issues are hence considered, each emphasizing some aspects of the theme proposed: (i) forecasting exchange rate based on monetary fundamentals; (ii) capture uncertainties; (iii) understanding underlying trends of inflation, focusing on expectations; and (iv) assessing forecast accuracy for underlying models. Performing analysis only at an aggregate level tends to obscure valuable information regarding regional disparities in terms of resources, economic development, socio-economic conditions. Therefore, there is a need to broaden the picture from national to regional in order to identify regional vulnerabilities, which is acknowledged by the articles from the second section of the volume. The methodological section, the third and final volume, assembles some contributions that address specific issues about: (i) the measurement of jumps in high frequency data; (ii) the application of multiple attribute decision making models; (iii) the identification of the collinearity in regression models; (iv) the usefulness of Onicescu information energy together with the Shannon entropy to measure nominal variables; and (v) methodological advancements in the estimation of potential output.

**Small States in a Global Economy – Crisis, Cooperation and Contributions**

*Hilmar Þor Hilmarsson, Ph.D. (University of Akureyri, Akureyri, Iceland)*

In series: *Economic Issues, Problems and Perspectives*
Hardcover: 978-1-63463-032-0. $170.00.
Softcover: 978-1-63484-299-0. $89.00.

In an era of globalization, no country can be an island disconnected from the rest of the world and small states are now integrated in the global economy. The analysis in this book shows that the experiences of small states can be valuable for other countries but at the same time, small states can be vulnerable. This book discusses several issues that are of global importance and analyses how small states are affected, why they can be vulnerable and how their experiences can be beneficial globally, including for larger states. The issues discussed include the 2008 global economic and financial crisis; governance issues and vulnerabilities in small states with small institutions and limited administrative capacity; international development cooperation; and how small states can contribute to the global transition to clean energy. Each chapter is a case study. The first chapter discusses how Iceland and Latvia were affected by the 2008 crisis, how they responded and what the post crisis results are both economically and in terms of human progress. The second chapter talks about governance failure in Iceland that resulted in excessive expansion of its banking system and then the total collapse of its financial system. It also discusses the response of the international community, failures in EU financial integration, and tensions between Iceland and “friendly” nations that refused to assist the Icelandic government when it tried to rescue its banking system. The third chapter discusses how the Baltic States, which have transformed themselves from being provinces in the former Soviet Union into modern states, can assist other less advanced transition countries. The chapter argues that the transition experience of the Baltic States can be particularly relevant to emerging countries in Europe and Central Asia. The fourth chapter discusses Iceland’s unique transition to clean energy and how it could assist developing countries in their quest to utilize more of their own clean energy sources for their own as well as for global benefit. In this chapter the role of international financial institutions is analysed to show how they, in partnership with a small country like Iceland, can contribute more effectively to the global transition to clean energy in developing countries. The fifth and final chapter is a concluding chapter that discusses what lessons can be learned from the previous chapters, challenges small states are faced with in a global world, and how they can contribute constructively to the development and well being of other countries globally.

**Some Quantitative Methods and Models in Economic Theory**

*Alexander V. Prasolov (Saint Petersburg State University, St. Petersburg, Russia)*

In series: *Economic Issues, Problems and Perspectives*
Hardcover: 978-1-63484-937-1. $190.00.

This book takes an intermediate place between monographs and textbooks: on the one hand, it contains known, yet unusually portrayed facts, and on the other hand, the author brings his own results corresponding to the field of research. It is already obvious from the title that while reading the book, attention and concentration are required, as it is always necessary when studying books with mathematical content. Mathematical models and methods in the economic theory are very various. They are as follows: econometrics, the game theory, operation research, nonlinear and chaotic dynamics and many other aspects as well. The book will be interesting only to those who are already familiar with corresponding tasks as well as to students at all levels specializing in economic dynamics, in decision-making methods, in forecasting effects of management and in the analysis of interaction of economic agents. In terms of the most interesting and new models of economic dynamics, the authors emphasize multidimensional nonlinear systems of the differential equations of Lotka-Volterra type. These models have been constructed and analyzed, and scopes of their application and various methods of coefficients identification have been offered for them. The analysis of the competition between various economic agents (i.e. branches of economy, rival companies and sellers in the market) has been made. Another fact unusual to similar monographs is the inclusion of the theory of differential equations with the retarded argument. In economic theory, there are numerous examples of models being used with discrete time (they also have been given attention here) and with time lags (concentrated or distributed). Such an approach gives more adequate models without lags, but in the differential equations with continuous time, the introduction of delay complicates systems while the growth of delay the qualitative behavior of trajectories is changed. Additionally, there appear fluctuations such as stability being changed by instability, etc. As the author has belonged to the St. Petersburg
Mathematical School for more than thirty-five years, the list of references contains many Russian names which may be unknown to Western readers. However, the list also includes world classical scientists who devoted their works to mathematical methods in economics. In this monograph, an attentive reader will find numerous points for further analysis which can become a subject of publications or theses. In some cases, the text is conducted in a polemic manner—that is, the author is always open for discussions and does not consider his work to be "the ultimate truth".

**The Measurement of Well-Being in the Current Debate**

**Enrico Ivaldi, Guido Bonatti and Riccardo Soliani**

(Department of Political Science, University of Genova, Italy)

In series: *Economic Issues, Problems and Perspectives* 2016.

Hardcover: 978-1-53610-005-1, $160.00.


The assessment and measurement of the level of well-being in a society have been on the radar of researchers and institutions for many years. The commonly held opinion was that this kind of research was useful for developing economies, whereas the Western world, thanks to its long-established high standards of living, would have no need for this kind of research. However, the political and economic events of the Seventies and Eighties have called this paradigm into question, highlighting the increasing inequality even in high-income countries, in the access to both resources and services. At the same time, there has been growing awareness of the consequent need of overcoming natural resources and pollution. Consequently, sustainability issues have been raised alongside equity issues. All of this provided the basis for an approach to research that would look beyond the mere monetary value and evaluate different aspects of the quality of life. Now, we have reliable evidence of how well people live in society and how much is available to develop human faculties. These measurements help policymakers determine whether the choice of policies are suitably geared towards the improvement of citizens’ well-being and where greater efforts should be made. The authors have developed their analysis in this context. By aggregating variables, they have built a multidimensional indicator of well-being able to balance the trade-off between the immediate availability and completeness of information. The book is organised as follows: The first chapter provides a concise definition of well-being and lists the issues that arise from the measurement of well-being through GDP. It then examines and discusses the different approaches to measurement: the capabilities of Amartya Sen and the indicators of Dasgupta. The second chapter provides a general description of the main measurements of well-being. The third chapter analyses the literature where the authors’ research falls. The fourth chapter describes the development and methodology of the indicator, whilst the fifth chapter discusses the results of the indicator and draws some conclusions. This book describes a multi-speed Europe, where only a few countries, sparsely populated, enjoy high standards of well-being. Larger countries with a variety of needs and preferences have greater difficulties. Finally, several countries that have recently joined the EU must lay the groundwork for the implementation of policies for the well-being of their citizens. The European Union should guarantee the pursuit of economic and human development in all Member States. In order to do this, the policies should be focused not only on improving the economic reference parameters, but also on increasing the well-being of all citizens. The political authorities need to realise that the enlargement of the European Union, which includes heterogeneous countries, requires a different way of operating and tackling the challenges of the future. The cultural differences and changes in the global economy should be the starting point for political and economic actions so that Europe can seize new opportunities and guarantee well-being prospects for all of its citizens.

**The Paraíso Factor: The Irresponsible Pursuit of Paradise**

**Jim L. Bowyer** (Director, Responsible Materials Program, Dovetail Partners, Inc., Prof. Emeritus, Dept. of Bioproducts and Biosystems Engineering, University of Minnesota, Minneapolis, MN, USA)

In series: *Economic Issues, Problems and Perspectives* 2016.

Hardcover: 978-1-63485-022-3, $190.00.


This book focuses on several well-entrenched practices that together add up to irresponsible behavior in the present, and potentially serious trouble for future generations. On the one hand, growth is almost universally accepted as the key to prosperity. Growth of populations and economies are seen as not only desirable, but essential, and this view dominates government and business thinking in the most advanced countries. On the other hand, many of the highest consuming countries steadfastly resist acceptance of responsibility for environmental impacts of their own consumption. The United States, where the economy is driven by consumer spending, is a prime example. Despite ongoing and massive consumption of basic raw materials needed to support high levels of consumption, consumer spending is foremost in thinking, with periodic reminders throughout the year of the importance of shopping to the economy. At the same time, stiff resistance to domestic extraction of raw materials has become routine; citizens who devote time and energy to disrupting, halting, or delaying raw material extraction are viewed as heroes in some circles, while many scornfully view those involved in raw materials procurement. These individuals include miners, oil field workers, and loggers. A key metric used to judge the environmental accomplishments of politicians is how much land area is placed off limits to mining, drilling, or logging. There are many reasons, including the question of ethics, that require us to self-examine current practices. Many of the raw material exporting countries, long characterized by low per capita incomes and consumption, are now experiencing rapid economic growth and increases in consumption that accompany such growth. They are, in other words, rapidly becoming competitors for raw materials coveted by the most economically developed countries. In addition, rapid increases in basic raw material consumption worldwide have triggered concerns about environmental impacts of that consumption, as well as the potential for conflict as resource competition intensifies. These realities, coupled with changing global demographics, suggest a need to rethink the relationship of the most economically sound countries to the rest of the world, and such is one of the main discussions of this book, as well as the authors’ re-examination of the long-term viability of consumer-based economies.

**Education**

**Academic Performance: Student Expectations, Environmental Factors and Impacts on Health**

**Carly H. Gallagher**


Hardcover: 978-1-63484-031-6, $190.00.

e-book: 978-1-63484-040-8, $190.00.

Academic performance is determined by several factors. The aim of the first paper in this book is to describe the relationship between the goals of adolescents, their everyday life and the influence these factors have on academic achievement. Chapter two focuses on a longitudinal investigation of students’ well-being experiences within the framework of motivational beliefs. Chapter three aims to analyze differences in academic self-attributions and learning strategies between aggressive
and nonaggressive Spanish adolescents, and to identify the predictive role of self-attributions and learning strategies in academic promotion of aggressive Spanish adolescents. Chapter four analyzes a simulation software and sensitivity analysis for future student academic performance. Chapter five establishes how personal self-regulation and different contexts of stress produce differences in the coping strategies used by students, whether university students or graduates who are preparing for competitive exams. Chapter six provides a model with the main variables that can predict, with a certain degree of accuracy, school achievement and success, in order to put forward interventions and counseling to prevent students from dropping-out of health professions degree courses. Chapter seven critically reviews the different assessments and processes used within medical training and considers the affective implications for students, educators and eventually patients. Chapter eight addresses the teaching of physiology in different continents, and particularly, that of laboratories, and discusses a historical review of medicine in Mexico as well as the birth of Physiology in our country. Chapter nine analyzes student performance on the Grade 8 Texas Assessment of Knowledge and Skills (TAKS) Mathematics exam for students in two Texas school districts to determine the extent to which differences were present as a function of Saxon Math instruction. The final chapter examines school district size and its impact on black student performance.

Advocacy for Change in Educational Culture
Dale H. Eberwein (Founder FPeLearning Systems, University of Phoenix SAS Alumni, Association of Leadership Educators (Submission Review Board), CITI certified human subject researcher)
In series: Education in a Competitive and Globalizing World

Educational culture continues to languish due to edification’s inability to provide student-based technology-enhanced strategies that encourage and nurture students while embracing a student-centric approach to learning. Providing student-based technology-enhanced educational strategies shows promise as a means to shift educational practices and augment student performance outcomes. Advocacy for Change in Educational Culture intends to provide a compilation of conceptual frameworks, research in the field of educational technologies, available educational technologies, implications for career and leadership, and developmental architectures for pedagogical practices, whether face-to-face, hybrid, or virtual that is evolving educational culture. Combining technology and the creativity of students, providing remote access, and designing curricular presentations that make use of student-centric architectures, may promote enhanced performance outcomes academically as the student enjoys non-stereotypical educational culture. Offering virtual and technology-enhanced educational culture many times tasks students with their own edifying progress. This shift in responsibility nurtures critical thinking and seems to develop intellectual maturity as the student navigates curriculum via technology-enhanced means. Advocacy for Change in Educational Culture reports and proposes alternatives to traditional educational practices, offering stakeholders options for an educational culture not widely present in modern education. By exploring educational technologies and focusing on what works in disseminating curriculum, Advocacy for Change in Educational Culture introduces educators to skill-set opportunities that evolve current educational culture.

Career Development: Theories, Practices and Challenges
Tanya V. Martin
In series: Professions - Training, Education and Demographics
Hardcover: 978-1-63484-076-7. $190.00.

A hallmark of career development and counseling is exploring various career options throughout life. With the rapid changes in the work world, from globalization of the workforce to technological developments the process of career exploration has evolved and continues to change. The first chapter in this book reviews the theories and research regarding career development and barriers to career exploration, including personal variables and relationships, challenges to exploring careers as well as resources available to aid in the career exploration process. Chapter two focuses upon the influence of opportunity structures in shaping individual career development. Chapter three provides valuable new knowledge and insights relevant to career development theory that could potentially inform human resource practices aimed at promoting change-supportive and adaptive behaviours in a knowledge-driven economy and society. Chapter four studies career counseling for people in psychosocial situations of vulnerability and flexibility. Chapter five applies concepts of emotional intelligence, emotional labour (EL) and career adaptability (CA) to explore how these variables may relate to kindergarten teachers’ avoidance of professional burnout and their ability to cope with career challenges. The last chapter reviews the historical background and theoretical development of the feedback construct in the broader social sciences, proposes a definition of career-related feedback applicable to young adults, critically reviews the literature on the construct of career-related feedback in the context of goal-oriented theories, and, finally, explores the practical implications for career practitioners who work with young adults.

College and University Endowments: Overview, Tax Policy Options, Perspectives
Jeanette O’Brien
In series: Education in a Competitive and Globalizing World
2016. 86 pp.
Hardcover: 978-1-63485-675-1. $62.00.

Colleges and universities maintain endowments to directly support their activities as institutions of higher education. Endowments are typically investment funds, but may also consist of cash or property. Current tax law benefits endowments and the accumulation of endowment assets. Specifically, endowment fund earnings are exempt from federal income tax. Additionally, taxpayers making contributions to college and university endowment funds may be able to deduct the value of their contribution from income subject to tax. The purpose of this book is to provide background information on college and university endowments, and discuss various options for changing their tax treatment.

Deep Learning: Fundamentals, Methods and Applications
Julius Porter
In series: Education in a Competitive and Globalizing World
2016. 93 pp.
Softcover: 978-1-63484-225-9. $82.00.
e-book: 978-1-63484-226-6. $82.00.

Deep Learning is gaining more and more popularity due to its success in various applications like Natural Language Processing (NLP), Image recognition and other Machine Learning (ML) paradigms. There are three conventional approaches that formed the basis for deep learning, Convolutional Neural Networks (CNNs), Deep Belief Networks (DBNs) and Stacked Auto-encoders. Following the tradition of other
ML paradigms, deep learning also adopted non-conventional approaches for improving the performance. This book presents research on the fundamentals, methods and applications of deep learning. The first chapter provides a detailed description of the aforementioned non-conventional approaches and their applications. The second chapter presents research on deep learning in a digital learning environment and raises the question if digital instructional designs can catalyze deeper learning than traditional classroom teaching. The final chapter discusses in detail eight distinctive components of student well-being experiences that the authors believe could foster and optimize positive educational and non-educational outcomes.

**Digital Stories and Their Integration in Early Childhood and Primary Education: Teaching Scenarios and Practical Ideas**

*Jim Prentzas (Democritus University of Thrace, School of Education Sciences, Department of Education Sciences in Early Childhood, Nea Chili, Alexandroupolis, Greece)*

In series: *Education in a Competitive and Globalizing World* 2016.

Hardcover: 978-1-53610-001-3, $160.00.

This book is an edited collection of chapters regarding the integration of digital stories in the classroom, focusing on early childhood and primary education. Storytelling has always been an effective way of teaching all ranges of subjects at all educational levels, especially in early childhood and primary education. Digital storytelling combines the advantages of storytelling and digital tools. Digital stories attract the interest of students and provide them with motives to take part in learning activities in collaboration with their classmates and teachers. They have become a popular resource of Information and Communications Technology (ICT). Digital stories can be a valuable tool to educators. However, as is the case with many ICT resources, teachers need practical ideas about how to integrate them in teaching and learning. This book covers a gap in the international bibliography regarding digital storytelling. It discusses teaching scenarios that exploit digital stories in a wide range of subjects in early childhood and primary education. Subjects covered in teaching scenarios discussed in this book include language, time concepts, music, poetry, social tolerance in multicultural societies, mathematics, environmental issues, foreign language learning, healthy nutrition, mythology and geography. Such a diversity of issues concerning integration of digital stories in early childhood and primary education has not been dealt with in other published books until now. The discussed teaching scenarios involve two- and three-dimensional digital stories implemented with the visual programming tools Scratch and Alice. Scratch is implemented by the Massachusetts Institute of Technology (MIT) and enables the creation of two-dimensional multimedia applications. Alice is implemented by Carnegie Mellon and enables the creation of three-dimensional multimedia applications. Both of these tools are available at no charge and are popular in education throughout the world. The created digital stories have been combined with self-assessment e-activities created with JClic to provide further advantages to students. JClic is a free software tool implemented in Spain that enables the creation of interactive assessment activities addressed to early childhood and elementary education. The book is organized into three main parts and consists of ten chapters. The first part consists of two chapters discussing general background issues concerning storytelling, ICT and digital storytelling in education. The second part consists of four chapters discussing teaching scenarios involving early childhood education. The third part consists of four chapters discussing teaching scenarios regarding primary education. Target Audience: • Early childhood teachers, school teachers as well as academic and teaching staff members of Universities that would like to integrate digital stories in learning and teaching. • Undergraduate/postgraduate students as well as academic and teaching staff members of University Departments educating pre-service and in-service teachers, • Undergraduate/postgraduate students as well as academic and teaching staff members of Computing Departments, • Researchers working in the field of education, educational technology, digital storytelling, multimedia and computing education, • Programmers and researchers developing tools concerning digital storytelling, multimedia and computing education, • Computer Science school teachers who are interested in: (a) teaching students how to create interdisciplinary multimedia applications while learning programming concepts and (b) collaborating with teachers teaching other fields.

**E-Learning: Evolution, Strategies and Technologies**

*Damon Flores*

In series: *Education in a Competitive and Globalizing World* 2016. 201 pp.

Hardcover: 978-1-63484-189-4, $160.00.

Traditional, on-line e-learning theories are contextually driven and influenced largely by learning management systems (LMS) through the use of mere technology. The whole idea of e-learning was to allow a student to have a high degree of learner self-direction and personalization within the learning process. The rapid development of technologies within the field of “E-learning and Web 2.0” is allowing for new educational strategies to support self-regulated learning in higher education contexts through the use of personal learning environments (PLE) and Cloud to provide a more tailored learning experience. The first chapter of this book explores the communications and creativity formats that web 2.0 social media can offer students within the higher education sector for supporting learning opportunities by exploring different types of learning theories and how to integrate Web Based Platform technologies into the delivery and what supporting mechanizing will be required while exploring E-learning in the Cloud. Chapter two describes the practice and evaluation of an e-learning training program for vegetable growers, and focuses on the effects of periodic learning support through the sharing of learning progress reports in the e-learning program. Chapter three explores the good practice of Estonian e-learning community to evaluate and assesses the quality of e-learning courses. Chapter four verifies that some e-learning challenges are unique to the e-environment, and are specific to the learner’s expectations, experiences, satisfaction, and performance. Chapter five describes how to develop remote real-time signals monitoring mechanism via Internet with the cloud using a case study. Chapter six reviews the challenges for education and training in non-surgical oncology, the e-learning resources that are currently available and compares them against best practice guidance on technology enhanced learning. Chapter seven studies how to develop learning systems to support English vocabulary learning by analyzing learning log data and automatically detecting personalized weak points on listening comprehension. The last chapter explores the significance of correlates of academic dishonesty in e-learning in relation to variables such as age, student status, academic class status, and academic success in higher education in the United States.

**Education in America: Issues, Analyses, Policies, and Programs. Volume 5**

*Veronica M. Thompson*


This series provides an overview on education in America today, with a focus on the current issues, analyses, policies and programs being implemented and challenged. This volume provides an overview of the
mechanics of Coverdells; studies the amount of money invested in education by different race and ethnic groups and examines different factors that could contribute to the differences in expenditures; discusses the price of attending a college; addresses possible sources of federal support for schools and local educational agencies that have enrolled unaccompanied alien children; discusses gender differences in science, technology, engineering, and mathematics (STEM) interest, credits earned, and National Assessment of Educational Progress (NAEP) in the 12th grade; reviews teacher staffing and pay differences in public and private schools; studies law enforcement on campuses; and discusses characteristics of the investing in innovation fund.

Education in Hong Kong: Service Leadership for University Students
Daniel TL Shek, Cecilia Ma, Li Lin, and Joav Merrick
(Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hong Kong, China)
In series: Public Health: Practices, Methods and Policies
Edited by: Joav Merrick (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel)
Leadership training is beneficial for the development of every human being, but few leadership models have focused on leadership qualities under service economies. In view of the lack of leadership models designed for service economies, the service leadership model was proposed by the Hong Kong Institute of Service Leadership and Management. To promote service leadership in the growing service economies, there is an obvious need to develop service leadership education for young people, particularly university students who are pillars of society in the future. In this book, the core beliefs and basic assertions of the service leadership model are highlighted, and integration of Western notions of leadership and Chinese philosophies (e.g., Confucian virtues) is attempted. Students are expected to integrate the academic content of the subject with their real life experiences. Finally, several evaluation mechanisms have been used to evaluate the subject. The authors’ hope to generate more interest, discussion, and further development of service leadership education within and outside of Hong Kong.

Education, Society, and Cultures: Hong Kong Higher Education in Transition
Wai-Chung Ho (Department of Music, Hong Kong Baptist University, Kowloon Tong, Kowloon, Hong Kong, China)
In series: Education in a Competitive and Globalizing World
Hardcover: 978-1-63484-706-3. $110.00.
Higher education is an important resource for any country, and it serves as the key agent in forming a better society. The development of higher education has aroused widespread concerns among stakeholders in the sector, including policymakers, university administrators, academics, parents, and students. While there is a growing trend toward incorporating general education into the compulsory curriculum of higher education, this topic is under-researched. The broader societal benefits of including cultural understanding in higher education have received less attention, but these benefits are fundamental to the well-being of society. No direct research between the learning and teaching of cultures or musical cultures in higher education can be found in academic references. Dialogue on this issue will help to map humanities and social studies, education policies, and practices in contemporary and future higher education. This book addresses the overriding issues concerning the consequences of links between higher education and social change. The main objective of this book is to present information and scholarly research on the development of and challenges to social change, cultures, and higher education in Hong Kong. Major trends and movements in the literature of education and their effects on cultural diversity and social experiences will be reviewed in order to develop a framework for the study of diverse cultures and higher education. This study will trace the development of education and musical cultures in Hong Kong from 1984 to 1989 framed by the 1984 Sino-British Joint Declaration Agreement, as well as the return of Hong Kong’s political sovereignty from the United Kingdom to Mainland China on July 1, 1997. It will also discuss the sociopolitical contexts and cultural practices of the Hong Kong Chinese community and show how the interactions between globalization, localization, and Chinesenization have created their respective conditions under the influence of diverse musical cultures. Particular reference will be made to a study of the General Education Course “Music, Culture, and Society”, which is one of the core requirements offered in the history and civilization category at Hong Kong Baptist University. The principal research question of the study focuses on two issues: To what extent might students be helped in knowing and understanding music and society, and how might such cultural and social awareness be perceived by students and inform contemporary educational practices? This study will report the researcher’s recent survey data and the students’ assignments collected from the general education course, delivered to three different sessions of the course “Music, Culture, and Society” between Spring 2013 and Autumn 2014. The data will also include the students’ reflection assignments on the 2014 Umbrella Movement, where popular songs were used to support pro-democratic activities.

Educational Technologies: Challenges, Applications and Learning Outcomes
Lijia Lin and Robert Atkinson (School of Psychology and Cognitive Science, East China Normal University, Shanghai, China)
In series: Education in a Competitive and Globalizing World
2016.
The book Educational Technologies: Challenges, Applications and Learning Outcomes contains fourteen chapters contributed by leading experts from the United States, China, Germany, Australia, Spain, Singapore and other countries across the globe. The chapters address the current challenges faced by researchers and professionals in the field of educational technology and how a variety of educational technologies can impact learning. In addition, these chapters provide educational technology applications, lessons learned from implementations, and recommendations for research and practices. Our contributors provide expertise on a wide range of topics that include educational values of social media, game-based curricula, transient effect in multimedia learning, using visuals to enhance learning, data visualization tools, self-monitoring, portfolio assessment systems, feedback via educational technology, embodied cognition via touch-screen technology, technological pedagogical content knowledge, classroom orchestration systems, adaptive learning systems, technology-supported language learning, and college algebra redesign with technology infusion. Target Audience: The book will be of interest to a diverse audience including: (a) researchers from education, psychology, computer science, and other interdisciplinary areas; (b) instructional designers, media specialists, assessment specialists, developers, and other professionals; (c) administrators and policy makers; and (d) students from educational technology, educational
Federal Student Aid and the Rising Cost of Higher Education: Analyses, Impacts, Perspectives
Wilfred Newman
In series: Education in a Competitive and Globalizing World
Softcover: 978-1-63485-681-2. $95.00.
College affordability is an issue that has received considerable attention from federal policy makers in recent years as concerns have arisen that a college education may be out of reach for an increasing number of students and families. While there is little disagreement that escalating college prices pose a problem, there is not a consensus about the precise causes for these increases. Among the possible explanations for price increases, one that has surfaced with some frequency in recent years is the notion that the availability of or increases in federal student aid policies that aim to enhance access and affordability. This book has been undertaken in response to numerous congressional requests to explain what is actually known about the relationship between student aid and prices. In this book, this task is approached first through analysis of trends in prices, examining different measures and concepts of price. This is followed by a brief examination of trends in student aid, and an examination of many of the competing explanations for why prices are increasing. Finally, the book explores what is known about the possible causal relationship between student aid and price increases, principally through a survey of primary studies that attempt to isolate the effects of student aid on college prices.

Higher Education: Global Perspectives, Emerging Challenges and Opportunities
Cassandra Harmon
In series: Education in a Competitive and Globalizing World
2016. 280 pp.
Hardcover: 978-1-63485-182-4. $190.00.
Higher education is universally viewed as essential, not only to economic prosperity in an increasingly globalized, knowledge-driven economies, but also to individual aspirations for intellectual fulfillment, expanding life options and the presumable economic rewards. This book discusses global perspectives, emerging challenges and opportunities of higher education.

Improving Services to Aboriginal and Torres Strait Islander Students: A Critical Study
Tiffany Jones, Keita Takayama, Guido Posthausen, Katherine Carter, Brian Landrigan, Debra Bennell, Colin Ahoy, Chloe Parkinson, and Carleigh Wallace
(School of Education, University of New England, Armidale, Australia)
In series: Education in a Competitive and Globalizing World
2016. 150 pp.
Hardcover: 978-1-63484-982-1. $110.00.
Aboriginal and Torres Strait Islander people have historically been marginalised in the Australian education system in multiple ways. A literature review of the field has shown that training of more Aboriginal and Torres Strait Islander teachers has been a key effort proposed to redress marginalisation, alongside other efforts at making...
schooling contexts more proactive and inclusive. However, Australian universities’ studies have shown Aboriginal and Torres Strait Islander education students have higher rates of withdrawal from their teaching programs and there is little information on why or how this can be overcome in a practical sense. Applying a critical approach, this book is distinctive in that it reports on a study investigating why Aboriginal and Torres Strait Islander students succeed and withdraw from education units/degrees. This is based on the university responsible for the producing the most teachers in Australia, and under the advice of Aboriginal and Torres Strait Islander reference groups. It draws on data from a survey, discussion-board blogs and focus groups developed with the aid of local communities. Its findings offer important insights to university administrators and lecturers in education, schools, Aboriginal and Torres Strait Islander people and current/returning students of education on such themes as the diversity of this student group, elements that lead to success and elements impacting withdrawal from education programs for the group. The study approached its participants’ experiences holistically, considering contextual elements such as university curricula, support features, advice conduits, and also experiences of racism and cultural sensitivity on teaching practicums, for example. The study allowed opportunities for students to talk about their diverse cultural groups and to narrate their own stories of success and withdrawal directly, so that they contribute to their co-construction in the book. The result is a book that is informative to its stakeholders, but also genuinely affirming of all contributing participants, which concentrates the focus of future actions on institutions rather than problematizing individuals. The final chapter contains a set of clear research-based recommendations that can be enacted.

Information Literacy Education in Japanese Libraries for Lifelong Learning

Midori Kanazawa (Department of Human Sciences, Toyo Eiwa University, Miho-cho, Midori-ku, Yokohama-shi, Kanagawa, Japan)

In series: Education in a Competitive and Globalizing World

2016. 188 pp.
Hardcover: 978-1-63483-990-7. $190.00.

Basic library skills and Information Technology skills are foundations of information literacy competences. Information literacy is also essential for everybody to continue lifelong learning independently. In this sophisticated information society, it becomes more serious that an information gap between library users with information literacy and those without information literacy is increasingly expanded by the spread of the Internet in recent years. Library use education, in all kinds of libraries, is necessary for every library user to improve one’s own information literacy and make use of information resources. Many different kinds of libraries, such as school libraries, public libraries and academic libraries, carry out information literacy education and library use education for library users to perform their own lifelong learning in Japan. This book “Information Literacy Education in Japanese Libraries for Lifelong Learning” clarifies the issues of information literacy education in school libraries, public libraries and academic libraries from a viewpoint of lifelong learning for every library user. For example, the main issues in school libraries in Japan are to create their own school library websites, to provide meaningful and appropriate contents for library users, and to provide user-friendly Web-OPAC for children in their own school library websites. On the other hand, in public libraries in Japan, the main issues concerning children’s web pages and young adult web pages in public library websites are: to provide adequate web content especially for library use education toward children and young adults; to improve the usability of web contents; and to provide Web-OPAC for children, which is different from Web-OPAC for adults. Meanwhile, the main issues in Japanese academic libraries are to have a variety of educational content, as well as to execute more advanced library use education far beyond library orientations. Also, it is important for academic libraries to make use of Computer-Assisted Instruction for library use education in order for every library user with to learn different content at their own pace. This book describes unique and important studies of information literacy education concerning school libraries, public libraries, and academic libraries in both Japan and the USA. Also, this book is of great significance in regards to finding the essential guidelines for library use education and information literacy education. This book will be of great interest to undergraduate students, graduate students, researchers, and librarians in Library and Information Science.

Intelligent Tutoring Systems: Structure, Applications and Challenges

Robert Kenneth Atkinson (The School of Computing, Informatics, and Decision Systems Engineering, Ira A Fulton Schools of Engineering, Arizona State University, Tempe, Arizona, USA)

In series: Education in a Competitive and Globalizing World

2016. 221 pp.
Hardcover: 978-1-63485-167-1. $160.00.

Intelligent Tutoring Systems: Structure, Applications and Challenges contains eight chapters from leading experts from across the globe, chronicling recent developments in the design, development, and implementation of intelligent tutoring systems (ITSs). The chapters bring together viewpoints from diverse contexts including medicine, the military and education. Various types of ITSs are covered, including simulators, virtual environments and game-based systems designed to teach new skills, improve existing ones, and provide assessment, feedback and remediation. Our contributors provide expertise on topics that include artificial intelligence, case-based reasoning, algorithms, data-mining, predictive student action models, feature extraction, automated assessment engines, system design, natural language processing and classroom implementation. This book discusses challenges and new trends in system design and development, including new methodologies for automation of assessment in ITSs by presenting chapters that focus on system design by presenting frameworks to aid in the development of ITSs, as well as techniques and algorithms useful in implementing systems using data mining, machine learning. Additional chapters give consideration to the inclusion of effective information as an input and part of the student module. Additionally, discussions of system usability including user experience design and testing, in addition to successful system implementation, are covered. This book will be of interest to a diverse audience, including software developers, educational technologists, computer scientists, and researchers working in artificial learning, as well as interactive and adaptive learning environments.

Interactive Learning: Strategies, Technologies and Effectiveness

Lewis M. Hunt

In series: Education in a Competitive and Globalizing World


Active learning is a model of educational instruction that allows learners to be responsible for developing problem solving skills. Technology can enhance active learning strategies by fully engaging students in the learning process. While this type of active learning allows learners to work at their own pace in order to understand the material presented, they can also apply it to the activity at hand to assess their baseline understanding. Most of what we need to know about interactivity in an e-learning environment can be derived from
careful consideration of how a student and a teacher interact in a face-to-face setting. The first chapter presents a review of interactivity in the online medium with a focus on the student point of view. Chapter two presents situated learning episodes with a focus on natural hazards that may strongly affect lives of many people around the world while being highly underestimated by formal education. Chapter three describes the development and implementation of simulation software activities to facilitate learning in a doctor of pharmacy program critical care pharmacotherapy elective course. Chapter four examines technology and learning processing in childhood. The final chapter proposes a learning strategy—peer assessment by questions and answers—to enhance the effectiveness of interactive learning in the flipped classroom.

Interdisciplinarity in the 21st Century Global Dispensation: Research in Language, Literature, and Education in Africa
Rosalyn Mutia and Eric Enongene Ekembe (Professor of American Literature, University of Yaoundé, Cameroon, and The Higher Teacher Training College (ENS) Yaoundé, Cameroon)

In series: Education in a Competitive and Globalizing World

This peer-reviewed book adopts a multidisciplinary perspective to re-examine the complicated nature of societal challenges, resulting from man’s quest for an increasingly reduced world. PART I: Interface Between Humanity and Contextual Realities Chapter One discusses methodological innovations in teaching in Rwanda to postulate how culturally-adapted resources liberate learners from the top-bottom colonial pedagogy. Chapter Two derives from Virginia Woolf’s To the Lighthouse to establish that human beings, as replicated by Woof’s characters, seem to be much more defined by biochemical factors than by socioeconomic and cultural factors. Chapter Three posits the centrality of environmental factors in language learning in examining the effective instruction. Chapter Four exposes the double-edged international diplomacy, which victimised Sudan, and suggests solutions that anticipate the preventive diplomacy of the United Nations in the 20th and 21st centuries, with reference to D.H. Lawrence’s The Rainbow. PART II: Crossbreeding and Byproducts Chapter Five examines political discourses in Taylor’s The Land of the Saracen to show how a redefinition of orientalism experienced by early Americans leads to an ambivalent Americanised orientalism. Chapter Six reviews principle axioms of postcolonial theory asserts that literature teaching in Africa has shifted from exclusive literary dogmas to a multifactorial approach, which enhances human construction. Chapter Seven sees elderly people in Africa as mediators and socio-political mentors necessary for cross generational fertilization needed for sustainable development. Chapter Eight analyses ways through which both Nigerian and Cameroon English maintain their norm developing status according to Kachru’s concentric circle. PART III: Identity, Religion, and Gender Sensitivity Chapter Nine argues that the Book of Genesis in the Bible venerate women, contrary to Christian attributes of betrayal. It argues that God is not wholly potent and must learn from the failings of his creation to perfect his art. Chapter Ten examines gender roles in Cameroonian myths to argue that new societal trends are offshoots of images constructed by myths. Chapter Eleven explores the bond between the English language and education and challenges linguistic imbalances that undermine 21st Century Africa’s educational system. Chapter Twelve discusses women’sSabotage roles in the spread of Islam evidence in Salman Rushdie’s The Satanic Verses and contends that Rushdie empowers female prophet as a way of eliminating values of subjugation in which they find themselves. PART IV: Redefining Structures and Values Chapter Thirteen contends that in postcolonial or postmodern contexts, rules on

poetic drama may be an empirical farce as there is always a dramatic depiction of events, which portrays the poet dramatist’s impressions. Chapter Fourteen analyses the structure of negative constructions in a Bantu language—Limbum—to propose an outer shell NegP and an inner core NegP contrary to common understanding. Chapter Fifteen argues that, the motives for which Cameroonians were made to learn English in state-run pilot linguistic centres have been submerged by the new global dispensation thereby contesting the relative value of the centres. Chapter Sixteen sees the emergence of a more Francophonised English in Cameroon, which sets a new order for the definition of Cameroon English.

Latin@ Voices in Multicultural Education: From Invisibility to Visibility in Higher Education
Festus E. Obiakor and James Martinez (Dewar College of Education and Human Services, Valdosta State University, Valdosta, GA, USA)

In series: The Silenced Voices in Education
Edited by: Festus E. Obiakor (The City College of New York, NY, USA)


In this unique, innovative, and visionary book, Latin@ Voices in Multicultural Education: From Invisibility to Visibility in Higher Education, Obiakor and Martinez highlight the visible voices of Latin@ teacher-scholars, professionals, and leaders. The authors agree with many Chican@ / Latin@ scholars (Cantú & Fránquiz, 2010) by using the term “Latin@” for the book as an all-inclusive label instead of “Latina/o” to de-emphasize the cisgendered “o/a” and uneven “Hispanic” terminology regarding individuals of Latin American heritage. These voices come from personal narratives of Latin@’s in the United States (US) higher education. While their narratives expose different viewpoints and come from different personalities, institutions, and geographical locations, the complexities of their journeys have similar elements of true survival in unfamiliar Eurocentric terrains. In their respective chapters, they share their stories with veracity, acknowledge their remarkable contributions to their profession, and demonstrate that it is possible to be seen and heard in academic environments that have historically tried to silence their voices. Because of their pride, dedication, energy, resiliency, and courage, they are worthy of emulation; and all individuals, in spite of their culture, race, and national origin, can learn from them. Clearly, Latin@ Voices in Multicultural Education is a book for this day and age. It is intended for use by both undergraduate and graduate students, multicultural education scholars, faculty and staff in teacher preparation programs, higher education administrators, policy makers, and internal and external stakeholders in higher education. Hopefully, this book will motivate its readers to think and act differently, and to a large measure, shift their paradigms on how they treat and interact with individuals who appear different and atypical. Finally, this book will help everyone to value human differences; nurture multicultural dispositions and contexts; and navigate successfully through the mazes of bilingualism, multilingualism, multiculturalism, nationalism, and globalization.

Learning Environments: Emerging Theories, Applications and Future Directions
Kristy Wallace

In series: Education in a Competitive and Globalizing World

The environment in which the process of learning and teaching is conducted, is one of the key elements of the effectiveness of the entire educational process. This environment arises in the context of formal
and non-formal education. The ability to create individual student’s personal learning environment (PLE) is particularly important from the point of view of lifelong learning. Both personal learning goals, preferred forms and methods of learning as well as the necessary resources and educational tools should be taken into account in PLE. Today, in the era of electronic media, learning environments are being built in both the traditional and digital space. The authors of this book provide recent research updates on emerging theories, applications and future directions of different learning environments.

**Learning Styles and Strategies: Assessment, Performance and Effectiveness**

*Nathan Preston*

In series: *Education in a Competitive and Globalizing World*

2016. 159 pp.

Hardcover: 978-1-63485-655-3. $95.00.

The concept of learning style may include more than 70 different models with conflicting assumptions about learning and with different designs and starting points (Coffield et al., 2004). There are many different theories and models of learning styles with varying dimensions and variables (Evans & Graft, 2008). They focus on different aspects of cognitive processes, skills, sensory modalities, the process of learning, and thinking styles. Theories of learning styles assume that anyone can learn, albeit in different ways and on different levels. In this book, Chapter One sets out to explore research and outcomes into learning styles, which refer to the broadest range of preferred modes and environment for learning. Chapter Two identifies, describes, and examines the need for structure among teachers and students, as well as to understand students’ perceptions of this need. Chapter Three analyses the way students explain their academic results, their preferred modes and environment for learning. Chapter Two identifies, describes, and examines the need for structure among teachers and students, as well as to understand students’ perceptions of this need. Chapter Three analyses the way students explain their academic results, their preferred modes and environment for learning. Chapter Four combines knowledge from pedagogy and recommendation systems, and analyzes how combining four different learning style models (cognitive styles, epistemic styles, epistemological styles, and perceiving styles) influences the choice of preferred types of multimedia materials. Chapter Five investigates whether learning using clicker technology with learning styles encourages academic performance and increases pass rate in mathematics. Chapter Six reanalyzes previous research on learning styles in the Scandinavian context in relation to international research.

**Leveraging Community-University Engagements for Social Impact with Lifelong Panchants**

*Rebeca Nthogo Lekoko and Keitseope Nthomang (University of Botswana, Department of Adult Education, Gaborone, Batswana)*

In series: *Education in a Competitive and Globalizing World*

2016. Softcover: 978-1-63484-814-5. $95.00.
e-book: 978-1-63485-971-4. $95.00.

Worldwide, universities are considered assets for empowering local communities, hence making “community engagement” or “third mission of universities” popular. Community-university engagement has thus become a strategy for universities to generate, apply, use knowledge and other university resources outside academic environments. While arguments in this book indicate that universities have great potential to empower communities, it also remains largely true that communities also empower universities in many respects. The potential for each partner to contribute can be compromised when conditions necessary for success are not considered. Communities, for example, lose trust and resent exploitation of their resources when universities alone gain from these exchanges. Both parties should participate actively to contribute to national development agendas such as poverty reduction, illiteracy and youth unemployment, just to mention a few. An emphasis on social impact through community-university engagements exists as well. This is particularly needed where engagement agendas are traditionally underrepresented or marginalized in development activities. This book was inspired by the authors’ experiences as community development experts with special interest in development agendas that address social exclusion. When properly conceived, community-university engagements can offer unlimited benefits in respect to community empowerment. Different chapters of this book map out essential characteristics and conditions for effective engagements.

**Lifelong Learning: Concepts, Benefits and Challenges**

*Eugenia A. Panitsides and Jonathan P. Talbot (Hellenic Open University, School of Humanities, Patra Greece, and University of Chester, UK)*

In series: *Education in a Competitive and Globalizing World*


Hardcover: 978-1-63484-617-2. $190.00.

Since the second half of the twentieth century, Lifelong Learning (LLL) has become a fashionable mantra, a political slogan, and an active tool to stimulate economic growth and foster social cohesion. However, where does its dominance lie? According to Rogers (2006) LLLs main success is that it has predominantly achieved to become mainstream, as it provided a convincing rationale for embracing the natural learning process which continues unifying education into a common process, challenging the distinctiveness of educational sectors, and acknowledging that learning takes place in different contexts, thus relocating learning in both formal and informal settings. Thence, recent conceptualizations of LLL, under the universally rising awareness that learning is but an integral part of our everyday lives, and tends to continually expand, accommodating the multitude of types, sites, practices or modes of learning, both intentional and incidental. On these grounds, this book has been conceived to explore contemporary concepts, practices, benefits and challenges associated with LLL at formal, non-formal and informal levels. How LLL is currently perceived? What are the “regimes of truth”? LLL is informed by? What are the influences, constraints and impact of the diverse LLL sites and practices? What are the effects on learning and learning outcomes? What are the implications for policy making, as well as for the development and implementation of LLL initiatives? These are some indicative inquiries which guided the structure and the selection of themes in the present volume. Furthermore there has also been an effort to reach for multiple perspectives from different nations around the globe. The book is structured around two principal axes (theory-based and research-based studies) so as to provide in depth insights into debates and challenges that revolve around LLL, whilst combining theory and empirical research in a dialectical fashion. It may thus be of particular interest to a wide range of audiences — such as researchers, policy makers and practitioners — who wish to get an international perspective in LLL. This occurs through chapters that prompt reflection, showcase innovative professional practices and provide impressive scopes of field research.

**Mentoring: Perspectives, Strategies and Impacts on School Performance**

*Wanda Slater*

In series: *Education in a Competitive and Globalizing World*

2016. 182 pp.

Hardcover: 978-1-63484-080-4. $110.00.
e-book: 978-1-63484-081-1. $110.00.
This book provides current research on the perspectives of mentoring, different strategies and the impacts mentoring has on school performance. Chapter one begins with a discussion on the Balu and Du mentoring program. Chapter two studies the use of peer mentoring to implement multicultural education in preschool classrooms. Chapter three reviews and analyzes a variety of mentoring supports including supports such as providing content resources and materials, teaching observations with meaningful feedback, a listening ear, common planning time with mentors, and release time to observe other teachers. Chapter four reports on the successful uptake of mentoring in an education setting; more specifically among beginning teachers in the secondary schools. Chapter five provides recommendations for helping school-based partners prepare for and transition to clinically-based teacher preparation. Chapter six studies a structured on-the-job training model that incorporates bidirectional mentoring in teacher professional learning communities. Chapter seven introduces e-mentoring as a way to increase student satisfaction and/or retention. Chapter eight examines how mentoring undergraduate and graduate students through student assistant positions in an academic library increases academic success. The last chapter studies the influence of task, social and knowledge characteristics on peer mentoring.

Moral Classroom Management in Early Childhood Education
Clodie Tal (Head of MED Program in Early Childhood Education, Levinsky College of Education, Tel Aviv, Israel)

In series: Education in a Competitive and Globalizing World
Hardcover: 978-1-63485-806-0. $110.00.

This monograph addresses the following questions: What is MCM and how is it viewed by teachers and student-teachers? What are the methodological tools that could help improve classroom management competencies on an ongoing basis? How has the model proposed here been applied to various issues – the diversity of children in preschools, coping with challenging behavior (and applying boundaries and rules), planning and implementing curriculum that promotes participation and learning? What improved or changed in the preschools following implementation of the MCM model? What are the main lessons learned about enhancing teachers’ classroom management competencies derived from applying the proposed model? Part I describes a theoretical model that defines MCM as a meta-competency. This theoretical model serves as a conceptual foundation for understanding interventions in educational settings that are focused on the enhancement and improvement of classroom management competencies. In the second chapter of Part I, we define the research methodologies employed by student-teachers and teachers in their attempts to understand the educational setting and improve their classroom management practice – an analysis of social episodes, action research, and case studies. The subsequent chapters provide an analysis and interpretation of cases showing employment of the MCM model by student-teachers and teachers in several main areas of preschool work. Part II looks at the application of the MCM model in dealing with children’s challenging behavior. Part III examines MCM’s influence on curriculum and discourse that promotes learning. Finally, Part IV analyzes the role of MCM in understanding and coping with diversity (ethnic, functional, and other). Collaboration with staff and parents as well as time and space management are embedded in the various domains of preschool work, and as such are indirectly addressed in Parts II, III and IV and summarized in the concluding chapter. Exposition, interpretation, and analysis of the cases are presented in the concluding chapter and show the following: Educational decisions in complicated situations and social-moral planning of classroom work involves activation of all the components in the MCM model – leadership based on proactive and ecological thinking in conjunction with self-regulation and good relations with children, staff, and parents.

• The MCM model was successfully implemented in various communities and content domains (e.g., sciences, arts, the Bible).
• Collaboration between staff and parents involves intentional planning, which requires more than forming and maintaining good relations among the stakeholders. • Classroom management emerged as an evolutionary process reflected in daily actions of observation, planning, decision making, leadership of learning encounters, setting rules and routines, coping with conflicts, designing space, and planning time. • The evolution of classroom management involves both the development of perceptions and competencies and, at times, a real transformation of perspectives that enables improved classroom management. • Improvement in classroom management competencies was associated with improved emotional reactions, social competencies, and learning in young children. • The development and transformation of perceptions and improved classroom management competencies were driven by the commitment of the teaching staff to the children’s well-being and learning, and by a systematic, active, and cyclical approach to dealing with problems and difficulties.

Multicultural Education in Global Era: New Perspectives and Practices in Contemporary Society
Kyong-Ho Shin (Professor of Sociology, Northwest Missouri State University, Missouri, USA)

In series: Education in a Competitive and Globalizing World
Hardcover: 978-1-63485-320-0. $160.00.

This book is a collection of scholarly works that give us an overview of how theory, research, and practices in the field of multiculturalism and multicultural education are advancing and developing in the era of globalization today. The authors of each chapter in this volume illustrate the ways globalization as a social change on a world scale affects theoretical conceptualizations and various modes of intersections between multiculturalism and social factors of race, gender, and language in contemporary societies. A diversity of conceptual analyses and practices of multiple cases for the advancement in the processes of curriculum development to embrace the elements of global multiculturalism are offered in the volume. The curriculum in higher education needs to include global issues and multiculturalism, which reaches into the meanings of global capital flights and implications of domestic crises of culture. It is because global education in universities and colleges involves dimensions of curricula adjustment, assessments and feedback, and communications among students, teachers, and the community. When multicultural education has global components that help students develop cosmopolitan attitudes and become effective world citizens, students are able to develop a multiple number of allegiances to their racial or ethnic group, their own nation, and the globe.

Native American Schools: Management Challenges and Health and Safety Issues
Michelle Hendrix

In series: Education in a Competitive and Globalizing World
Softcover: 978-1-63485-683-6. $95.00.

Bureau of Indian Education (BIE) is responsible for providing quality education opportunities to Indian students. It currently oversees 185 schools, serving about 41,000 students on or near Indian reservations. Poor student outcomes raise questions about how well BIE is achieving its mission. This book discusses Indian Affairs’ management challenges in improving Indian education, including its administration of schools; staff capacity to address schools’ needs; and accountability for managing school construction and monitoring school spending.
Furthermore, the book reviews the extent to which Indian Affairs has information on the safety and health conditions at BIE school facilities and supported schools in addressing any safety and health deficiencies at school facilities.

Open Distance Learning (ODL) through the Philosophy of Ubuntu

Moeketsi Letseka (College of Education, University of South Africa (UNISA), Editor-in-Chief: Africa Education Review, South Africa)

In series: Education in a Competitive and Globalizing World

Hardcover: 978-1-63484-403-0. $190.00.

Access to university education in South Africa poses a number of challenges. First, South Africa is said to be one of the most unequal societies in the world, with an estimated Gini coefficient that ranges between 0.63 and 0.69 (Human Sciences Research Council, 2014; Statistics South Africa, 2014). The wealth gap between the country’s rich and the poorest of the poor is both growing and getting worse. Second, UNISA is an open distance learning (ODL) institution that seeks to intervene and manage the above challenges by offering access to higher education opportunities to millions of South Africans, the majority of whom are descendants of sections of society that were denied opportunities to access higher education by a myriad of institutionalized apartheid policies and legislation which were racist and discriminatory. With these concerns in mind, the author compiled Open Distance Learning (ODL) Through the Philosophy of Ubuntu, which is a sequel to the author’s previous publication, Open Distance Learning (ODL) in South Africa (Nova Publishers: New York, 2015); it explores the potential for the philosophy of Ubuntu to meaningfully shape UNISA’s ability to deliver its ODL mode of teaching and learning. The philosophy of Ubuntu, which is also known as humaneness and/or human dignity, is an African worldview or normative concept that encapsulates moral values and principles such as kindness, generosity, compassion, benevolence, respect for persons, care and concern for others, as well as human dignity. The book draws on the philosophy of Ubuntu as a guiding conceptual framework to explore ways in which UNISA’s vision of an “African university in the service of humanity” might be meaningfully driven and realized. This collection of fourteen chapters that constitute the book grapples with a wide range of critical questions such as: How might embracing the philosophy of Ubuntu impact UNISA’s ability to meaningfully deliver a humane, open distance education to its students in South Africa, on the African continent, and on a global scale? How, for instance, would grounding UNISA’s curricular offerings in the philosophy of Ubuntu turn the university into a uniquely African ODL institution? How would embracing the values and principles of Ubuntu shape UNISA’s inclusive focus, research and innovative conceptual framework and imperatives, ODL teaching and learning, assessment and quality assurance, communication and public relations profile, among others? Finally, Open Distance Learning (ODL) Through the Philosophy of Ubuntu explores the plausibility of a radical change of mindset from business as usual to business unusual by re-imagining and recasting UNISA’s ODL mission through the values and principles of the philosophy of Ubuntu. The book is the second offering of the planned trilogy of books on ODL in Southern Africa. The final volume, Praxeological Learning: Service-Learning in Teacher Education

Christian Winterbottom (University of North Florida, FL, USA) and Vickie E. Lake (University of Oklahoma, OK USA)

In series: Education in a Competitive and Globalizing World

2016. 269 pp.

With the most recent educational reform through the implementation of the Common Core Standards, Praxeological Learning: Service-Learning in Teacher Education can provide a fresh look at educational transformation through the lens of service-learning in teacher preparation. As Butin (2003) referenced over a decade ago, “service-learning rejects the banking model of education, where the transfersences of information from knowledgeable teachers to passive students is conducted in 45-min increments. It subverts the notion of classroom as graveyard – rows and rows of silent bodies – for an active pedagogy committed to connecting theory and practice, schools and community, the cognitive and the ethical.” The pedagogy of service-learning has significant implications for teacher education. Its transformative aspects have far reaching potential to address teacher candidate dispositions and provide deeper understanding of social justice. Knowledge of the pedagogy and how to implement it in candidates’ future classrooms and in the community could modify education to a more powerful experience of democracy in action and enhance the civic mission of schools. The current and ongoing research found within this textbook is meant to continue supporting the notion of educational reform.

Preschool Children: Social Skills, Educational Development and Health Disparities

Deanna Arnold

In series: Education in a Competitive and Globalizing World

Softcover: 978-1-63485-131-2. $95.00.
e-book: 978-1-63485-148-0. $95.00.

Today, vast research evidence exists supporting the importance of social skills across the lifespan. Although no consensus of the definition of the concept exist, commonly social skills are explained as social behaviors that lead to positive relationships. This book begins with a chapter on the concept of social skills and relating concepts like social competence and social emotional learning in preschool children. The following chapter presents the Social Perception Training program and associated risk factors in young children with autism. Chapter Three discusses teaching strategies aimed at developing preschool social-emotional competency within a balanced pre-literacy approach. Chapter Four compares the message strategies of parents and preschool teachers for persuading young children and reveals the effect of parenting and teaching experience on strategies adopted. Chapter Five analyses the demographic and clinical profile of pre-school children referred to a Child Development Centre (CDC) of a North West of England Local Authority. The last chapter studies total body potassium, total body water, creatinine excretion of infants and preschool children longitudinally and establishes changes in relation to growth.

Problem-Based Learning: Perspectives, Methods and Challenges

Ruth Henderson

In series: Education in a Competitive and Globalizing World

Hardcover: 978-1-63485-183-1. $190.00.

In PBL, under the guidance of a skilled “tutor,” small groups of students engage with “ill-structured” problems to identify gaps in their knowledge and understanding which they then research during the
Progress in Education. Volume 38
Roberta V. Nata
In series: Progress in Education
Hardcover: 978-1-63484-353-9, $190.00.
The ongoing Progress in Education series presents substantial results from around the globe in selected areas of educational research. Schools are institutions that sail in the tempest of educational issues, reforms, strategies, data and tools, as well as reflect changes in society. Embedded in all of these are technology, diversity, and innovation - their inevitability has been demonstrated in our schools and communities. The first chapter of this volume focuses on the importance of social and emotional learning (SEL) during the preschool period. The following chapters examine emotions in prospective secondary teachers’ first teaching experiences; examine a series of events that took place in West Germany at a specialized school for students with emotional and social needs; review entrepreneurial education in Europe today, the requirements of these programs and issues with how these programs are currently being delivered and explores the use of mentoring in supporting such programs and methods and best practices in the area of VET entrepreneurial education; discusses supervision as a personnel development device; examines how the multi-tiered educational system influenced teachers’ implementation of the ELA CCSS; and discusses common core state standards and teacher preparation for teaching complex texts with close reading strategy.

Progress in Education. Volume 39
Roberta V. Nata
In series: Progress in Education
Hardcover: 978-1-63485-034-6, $190.00.
The ongoing Progress in Education series presents substantial results from around the globe in selected areas of educational research. Schools are institutions that sail in the tempest of educational issues, reforms, strategies, data and tools, as well as reflect changes in society. Embedded in all of these are technology, diversity, and innovation - their inevitability has been demonstrated in our schools and communities. The first chapter of this volume reviews several assessment techniques for students’ mathematics knowledge, and discusses the advantages and disadvantages of each. The following chapters include topics on interprofessional education in the healthcare setting; adaptive learning systems for developing and improving reading comprehension skills; shared cultural identity in group work activities of adult learners; value-added effect of credit-based transition programs after controlling for preexisting student characteristics; a multiyear, statewide analysis of high school size and attendance rate differences for Texas Hispanic students, as well as dropout rate differences; and factors affecting Taiwanese adolescents’ academic burnout and work engagement.

Progress in Education. Volume 40
Roberta V. Nata
In series: Progress in Education

Hardcover: 978-1-63485-516-7, $250.00.
The ongoing Progress in Education series presents substantial results from around the globe in selected areas of educational research. Schools are institutions that sail in the tempest of educational issues, reforms, strategies, data and tools, as well as reflect changes in society. Embedded in all of these are technology, diversity, and innovation - their inevitability has been demonstrated in our schools and communities. The first chapter of this volume discusses the phenomenon of joy and peace in teaching. Chapter Two provides the reader with an understanding of the challenges that medical education in the workplace can present, along with the benefits of education within this setting to benefit the learning journey of a doctor. Chapter Three presents the main aspects of the analysis of the online training courses offered by the Center for Basque Studies at the University of Nevada (Reno, UNR) after carrying out a longitudinal study based on the students’ evaluation. Chapter Four describes a collaborative STEM education project aimed at enhancing primary school teachers’ and students’ experiences of STEM. Chapter Five examines differences in postsecondary enrollment status of Texas high school graduates from schools based on their enrollment of students who were at-risk. Chapter Six studies the extent to which differences were present in mathematics skills of Grade 6, 7, and 8 Black boys in Texas as a function of their economic status. Chapter Seven addresses the extent to which differences were present in graduation and persistence rates as a function of developmental education enrollment in Texas community colleges.

Progress in Education. Volume 41
Roberta V. Nata
In series: Progress in Education
2016.
Hardcover: 978-1-63485-963-9, $190.00.
The ongoing Progress in Education series presents substantial results from around the globe in selected areas of educational research. Schools are institutions that sail in the tempest of educational issues, reforms, strategies, data and tools, as well as reflect changes in society. Embedded in all of these are technology, diversity, and innovation - their inevitability has been demonstrated in our schools and communities. The first chapter of this volume reviews studies on the associations between children’s temperament dimensions and academic achievement. Chapter Two analyzes the psychometric properties as well as the validity of a newly developed scale for measuring preadolescent students’ self-concept of L2 grammatical competencies. Chapter Three examines differences in reading skills of Texas high school students as a function of gender. Chapter Four presents a longitudinal study of a sample of prospective teachers which analysed the evolution from before to after their teaching practices of their personal metaphors about themselves as teachers and about their pupils’ role, and the emotions associated with those metaphors. Chapter Five explores the perception of Taiwanese secondary teachers on self-regulated learning-based instruction. Chapter Six reviews differences in high school completion rates by high school size for Hispanic students in Texas. Chapter Seven examines the effect of student and family background and student academic preparedness on success in college. Chapter Eight determines the extent to which differences were present in college-ready rates in reading, mathematics, and in both subjects for Asian boys and Asian girls as a function of their economic status in Texas high schools for 2005-2006 through 2011-2012.

Quality, Mobility and Globalization in the Higher Education System: A Comparative Look at the Challenges of Academic Teaching
Nitza Davidovich, Zehavit Gross, Yuri Ribakov, and Anna Slobodianiuk (Ariel University of Samaria, Ariel, Israel)
In series: *Health and Human Development*
Edited by: Joav Merrick (National Institute of Child Health and Human Development, Ministry of Social Affairs, Jerusalem)
e-book: 978-1-63485-012-4. $190.00.
This book deals with the challenges of academic teaching in higher education with regard to quality, mobility, and globalization. The articles reflect a unique interdisciplinary effort at collaboration, generated by colleagues and partners who joined together to form a community that aimed to chart the course of academic teaching. The book is divided into five parts: • Part One: Academic teaching and learning • Part Two: Academic teaching and learning in the humanities • Part Three: Teaching and learning in engineering and architecture • Part Four: New approaches and technologies in physics instruction • Inquiry-based education in a post-industrial society • Part Five: Teaching and learning in the health sciences.

Redefining Teacher Education for the Post-2015 Era: Global Challenges and Best Practices
Maria Assunção Flores (University of Minho, Portugal) and Thuwayba Al Barwani (Sultan Qaboos University, Oman)
In series: *Education in a Competitive and Globalizing World*
This book commemorates the 60th Anniversary of the World Assembly of the International Council on Education for Teaching (ICET). During its 57th World Assembly in Thailand, the ICET Board approved the proposal presented by the Chair of the Board and the previous Chair to invite the board and ICET members to write on issues and challenges facing teacher education and how different countries are responding to the demands of the post-2015 era. This collection of chapters therefore is both a celebration of ICET’s continued global reach and a comprehensive view of the state of teacher education around the globe. Around the world, the teaching profession is undergoing critical stages of reform. The last twenty-five years have particularly been important as key players introduced significant initiatives that strongly influenced the shape of the education landscape. Thus to meet the demands of society and the goals of schooling, educators around the globe have been calling for change and transformation in the preparation and professional development of teachers. To this end, ideas, policies, models and best practices have been tried and shared and issues such as teacher recruitment and selection, curriculum of teacher preparation, induction, teacher evaluation and professional development of teachers have been discussed as a way of ensuring high quality teachers for highly demanding schools of the 21st Century. The chapters included in this book provide readers with international perspectives, frameworks and a wealth of insights, models and case studies from around the globe that serve to create an understanding of the role of teacher education in the Post 2015 education agenda. The editors hope that they inspire the readers to challenge teacher education in their own contexts and to change the future of education in more successful and renewed ways. This book will be an excellent resource for university faculty members and students concerned with teacher education in general and specifically those who have comparative and international interests. It will also be helpful to policy-makers, planners and higher education specialists.

Reflections on Science Teaching in New Zealand Schools
Doreen Vikashni Chandra (Head of Faculty- ECE, ACG Tertiary and Careers Group, New Zealand Career College, Auckland, New Zealand)
In series: *Education in a Competitive and Globalizing World*
Hardcover: 978-1-63483-428-5. $110.00.
e-book: 978-1-63484-023-1. $110.00.
This publication presents findings on students’ perceptions of their teaching experience in New Zealand science classrooms. It highlights some important issues associated with underachievement of students in science education in New Zealand schools and the possible reasons for declining science enrollment rates in high schools. Furthermore, it attempts to identify the best ways of teaching the sciences to students in New Zealand for the benefit of all learners, including diverse learners. Research to date is limited in explaining diverse students’ perceptions of their teaching experiences in secondary science. Therefore, this book aims at expanding and understanding the issues affecting achievement in science education by particularly identifying pedagogies of teaching that helped and hindered students learning of science in New Zealand schools. In doing so, this book offers examples of the “best practices” in science teaching to teachers of science, preferred by diverse learners in current New Zealand secondary science classrooms. It is evident from the findings that students’ learning in science was assessment-centered and knowledge-centered, and instructions and tasks were designed according to curriculum, content and assessment goals, which is problematic. The empirical findings in this book strongly support the need for situating students’ learning within the community of learning when considering quality science teaching for all students. This publication is a practical guide for professionals such as university academics involved in science teacher training programmes, ministry of education for policy-making and funding, university students becoming science teachers, current primary and secondary science teachers, school principals and emergent researchers.

Science Education towards Inclusion
Silvija Markic and Simone Abels (IDN- Chemistry Education, University of Bremen, Bremen, Germany)
In series: *Education in a Competitive and Globalizing World*
Hardcover: 978-1-63485-361-3. $190.00.
e-book: 978-1-63485-381-1. $190.00.
This is the first book dedicated to inclusive science education from an international perspective. The topic is getting more and more important in science education and science education research. In many countries, different researchers are focusing on inclusion. However, sometimes it is not clear what is meant by the term “inclusion”; often, inclusion is reduced to the perspective of special needs education. Thus, the book presents not only the special needs perspective, but a broader view on inclusion and diversity, like ideas from second language learning or intercultural pedagogy that are combined with science education and science education research. Each chapter is written with the goal in mind to focus on at least one of the dimensions of the diversity wheel. On one hand, this book is meant to give an overview of the research on inclusion and science education; on the other hand, it also suggests ideas to practitioners about dealing with inclusion in science classrooms. The focus of the book is inclusion and its relevance, its influence and inclusion-caused changes in science education, particularly in terms of science teaching. Every chapter in the book provides a concise and easy-to-read overview about the essential theoretical evidence from science education research as well as to provide the reader with operationalized guidance for the development...
of effective teaching practices. It is not meant to write a classic handbook for science education. The target audience is not only researchers, but future and practicing science teachers as well.

Secondary Education: Perspectives, Global Issues and Challenges
Edmund Harvey
In series: Education in a Competitive and Globalizing World
Hardcover: 978-1-63485-035-3, $190.00.
The secondary education system has proven to be a fundamental pillar to the education of people in majority of contemporary societies worldwide. Educated people are equally considered as qualified and cultured personalities, who foster the global economic growth, support the solidarity of their local communities, and strengthen the family relations among the family members. Nevertheless, the secondary education system encounters numerous, diversified, even competitive, roles that has to be reconciled with. This book reviews perspectives, global issues and challenges of a secondary education.

Student Learning: Assessment, Perceptions and Strategies
Dale Bowen
In series: Education in a Competitive and Globalizing World
2016. 142 pp.
Softcover: 978-1-63485-130-5, $95.00.
e-book: 978-1-63485-152-7, $95.00.
With the rapid expansion of new technologies over the past decades, teachers in Higher Education now face a challenge to adopt them into their courses in order to create an effective, flexible, motivating and interesting learning environment for their students. Experts in technology stress that teaching and learning should follow pedagogical and psychological aspects and use technology as a means towards this end. This book discusses the assessment, perceptions and strategies of student learning. The first chapter aims to demonstrate all the stages of designing and applying a Virtual Learning Environment (VLE) template for all the modules of a University School, following the analysis of teachers’ and students’ views about different e-learning tools and blended learning in a UK University. Chapter Two explains the conceptual development of the Authentic Assessment for Sustainable Learning (AASL) and Authentic Self & Peer Assessment for Learning (ASPAL) models and provides justification for their implementation. Chapter Three presents and elucidates current knowledge about assessment in group work. Chapter Four aims at integrating the direct assessment such as quiz or standardized tests and indirect assessment like student self-reported survey in order to measure learning outcomes on general education. Chapter Five evaluates the effect of Virtual Human Project videos on students’ knowledge retention in a team-based learning (TBL) session about leprosy, compared with a standard TBL session.

Teacher Education: Assessment, Impact and Social Perspectives
Isaac S. Gibbs
In series: Professions - Training, Education and Demographics
Hardcover: 978-1-63484-280-8, $110.00.
Teacher education has undergone numerous reviews in many countries in recent decades. These reviews have suggested changes to the structure, content and approaches in teacher education. However, little change seems to occur as a result of these reviews. Chapter one examines why it is that these reviews have not met with success, and, focusing in particular on the most recent teacher education review in Australia, investigates whether its call for change is feasible or whether it will suffer the same fate as earlier reviews. The following chapter draws on theoretical frameworks relating to the studies surrounding teaching knowledge, the importance of knowledge in curricula, and the use of recontextualisation processes to gain a better understanding of the uses of teaching knowledge in the training of teacher of occupational courses. Chapter three demonstrates how the notion of Technology Enabled Mathematics Pedagogy (TEMP) can be used as a sociocultural learning framework of modern day mathematics teacher education programs. Chapter four discusses facilitating students' understanding of science through teacher education. The last chapter provides a study of rural teachers in Northwestern China and examines different perspectives of online professional development.

Teaching and Learning: Principles, Approaches and Impact Assessment
Malcolm Vargas
In series: Education in a Competitive and Globalizing World
Hardcover: 978-1-63485-228-9, $160.00.
This book discusses principles, approaches and impact assessments of teaching and learning. Chapter One explores the importance of distance education, focusing on a number of contemporary issues that require continuing conceptualizations and research development. Chapter Two discusses the relational approach to teaching, which encourages educators to think of education in an innovative way. Chapter Three presents the results of some recent works where the affective dimension is involved in order to enhance the effectiveness of the teaching-learning process, particularly inside the specific area of science education. Chapter Four examines the heuristics and strategies of undergraduate student teachers in the roles of peer-assessor and peer-assees within a web-based peer-assessment context as part of a science course. Chapter Five specifically elucidates student algebraic errors and misconceptions in variables, expressions, equations, and word problems. It further illustrates through examples that diagnostic teaching, which greatly emphasizes students’ misconceptions and the role of cognitive conflict in the teaching and learning process, can be used as an effective teaching intervention to promote conceptual changes in learning algebra. Chapter Six establishes how different levels of Regulatory Teaching produce differences in test anxiety and the types of coping strategies used by university students. Chapter Seven analyzes inverse modeling first from a theoretical viewpoint followed by several detailed examples. Chapter Eight analyses the research on formative feedback in online or blended environments carried out between 2008 and 2012.

The Value of Child Participation in the Arts: Guidance and Research Review
Colleen Norton
In series: Education in a Competitive and Globalizing World
2016. 88 pp.
Softcover: 978-1-63485-493-1, $95.00.
e-book: 978-1-63485-494-8, $95.00.
Every child is born with creative potential. It is our job in early learning programs—and later school years—to nurture that creativity and support resourceful problem-solving, imaginative thinking, and transference of skills and knowledge to new experiences. This book adds to the growing evidence about how arts participation helps young children develop strong social and emotional skills. This book highlights that the arts are an important contribution to children’s social-emotional development.
**ETHICS**

**Corruption: Political, Economic and Social Issues**
*Brenda Davis*

In series: *Ethical Issues in the 21st Century*


Corruption, generally defined as the abuse of entrusted power for private gains, has been the growing center of attention of many social scientists since the end of the cold war. Corruption can be seen in different perspectives depending on cultural background and it is defined in many spectrums by different scholars. This book provides current research on the political, economic and social issues of corruption. The first chapter begins with a review of social and political issues of a globalized economy. Chapter two presents a review of the literature on the economics of corruption. Chapter three tackles corruption in politics and public service. Chapter four discusses the procurement market from the macro-perspective and analyzes the relationship between level of corruption and selected indicators of the public procurement market. Chapter five studies criminal culpability and economic crisis. Chapter six discusses gendered attitudes towards corruption and experiences with bribery. Chapter seven explores the relationship between corruption and gender inequality in Nicaragua. Chapter eight deals with the influence of multilateral anti-corruption agreements on the regulatory framework in developed countries. Chapter nine identifies the relationship between corruption and the processes of transition in West Balkan countries. Chapter ten explores corruption in the privatized public enterprises using selected privatized institutions. Chapter eleven discusses progress and constraints of civil society anti-corruption initiatives in Uganda. The final chapter analyzes three cases of alleged corruption related to genetically modified foods where corruption claims based on ethical-critical logics were confronted with objective-formal counter-arguments.

**Drone Warfare: Ethical Explorations**
*Michelle Holloway*

In series: *Ethical Issues in the 21st Century*

2016. 85 pp.

With the increased use of armed drones has come closer scrutiny of the legal and ethical dimensions. In the first chapter of this book, the author makes an assessment of the lethal use of drone technologies, measured in terms of their legality, morality, and overall effectiveness. Armed unmanned aerial vehicles—combat drones—have fundamentally altered the ways the United States conducts military operations aimed at countering insurgent and terrorist organizations. Drones may reduce risks to human soldiers but the question arises as to whether they permit the initiation or escalation of conflict by promoting civic disengagement. The authors of the second chapter offer an analysis of the dimensions surrounding this argument.

**Encyclopedia of Ethics (5 Volume Set)**
*Arlene Romero*

In series: *Ethical Issues in the 21st Century*

Hardcover: 978-1-63483-479-7. $750.00.
e-book: 978-1-63483-231-0. $750.00.

This encyclopedia presents important research on ethics. The five set volume includes discussions on religious, spiritual, economic, political, medical, environmental, and business ethics.

**Expanding Our Calling: Social Ethics in Medical Education**
*Wayne X. Shandera, M.D. (Baylor College of Medicine, Houston, TX, USA)*

In series: *Ethical Issues in the 21st Century*

Hardcover: 978-1-63484-219-8. $110.00.

Social Ethics in Medical Education is a compendium of essays that represent the thoughts and teachings of a group of philosophers, academicians, and community activists who teach at Baylor College of Medicine in Houston, Texas, USA. They present cutting-edge discussions on a variety of topical issues that are not always included in the medical school curriculum. These include the specifics for the care of the homeless, problems dealing with discrimination among HIV-infected individuals, the growing epidemic and need for containment of the global sex trade, the physician involvement in torture in recent conflicts, the physician’s involvement in the death penalty in some jurisdictions, the emerging issues of caring for large populations of migrants, the interface of new genetic techniques with ethical issues, and issues related to research activities in general. Most of these issues have surfaced in the Houston area, but all are a problem in many areas of the globe today where movement of peoples, conflicts with power, new diseases, and homelessness all create a fabric that medical students will have to contend with in their future activities as physicians. The solutions to these problems are not evident, but the authors provide a variety of prescriptions to help with the care of patients in the increasingly complex and multinational societies in which we live.

**Informed Consent: Procedures, Ethics and Best Practices**
*Winston Hammond*

In series: *Ethical Issues in the 21st Century*

Hardcover: 978-1-63484-195-5. $160.00.

Informed consent is in an unsettled state in both bioethics and the law. The central problem in both fields is the absence of a clear, general formulation that supports the kind of information a patient needs in order to make an informed decision. In this book, the absence of a clear, general formulation is the problem chapter one seeks to solve by presenting a theory of informed consent. The following chapter provides a history of translation and interpretation of informed consent in Japan. Chapter three examines a trend in high court decision making in the United States, Canada, Australia, and the United Kingdom away from a professional standard of disclosure in consent and informed consent to a standard based on what a reasonable person in the patient’s position would want in consent and informed consent. Chapter four focuses on the lack of data about safety and effectiveness, and the research, logistical and legal goals of obtaining consent often conflict with the public health goals of evidence-based shared decision-making. Chapter five examines informed consent issues in the context of a community collaborative model of service delivery that uses a public health approach. Chapter six provides insight into a novel way to overcome some of these risks when seeking and obtaining informed consent in clinical trials and research. The final chapter evaluates the effect of informed consent format on preoperative anxiety of patients.

**International Perspectives of Multiculturalism: The Ethical Challenges**
*Ornette D. Clemen (Manchester Metropolitan University, United Kingdom)*

In series: *Ethical Issues in the 21st Century*

compatible with a high number of theoretical perspectives and with minimal accounts of rights, and the idea that some rights are less specification of rights in the concrete conditions of individuals. It allows explaining also some possible misunderstandings, like the idea that some rights are compatible with hegemonic dominations and with war. They are criteria of legitimacy and justice, but they are not the solution for everything. The book is divided in four sections: Concept, Identity, Content, and Uses.

**EUROPE**

**Finland in Focus: Issues and Challenges of the 21st Century**

Vincent Bradley

In series: *European Political, Economic, and Security Issues*


This current book focuses on Finland. The first chapter studies the situation of the Finnish natural product branches. In more detail, the general development, the situation today and future basing on the literature review and interviews about the state of the natural product branches in Finland are the main elements of this chapter. Chapter Two discusses the organization of new wildlife sanctuaries at the Russian-Finnish borderline. Chapter Three focuses on smart specialisation — a concept which is tightly connected with the theme of competence and with the regional process of discovering opportunities for research and innovation.

**Greece: Economic Crises and Management**

Deborah Caldwell

In series: *European Political, Economic, and Security Issues*

2016. 142 pp.


Greece has been characterised as the weak link of the Eurozone, since it became the epicenter of the European debt crisis in 2009. That year, the country announced that it had been understating its earlier deficit statistics, thus raising concerns about the country’s financial state. The revised data increased both the budget deficit and the public debt. As a result, Greece was shut down, its theoretical and institutional origin, but also the specificity of the current phase of the protection of rights, and its uses in the domestic and international domain. It aims at showing the connection between the idea of law as a social practice and the practice of human rights, the former working as an explanatory framework, the latter characterized by specific features. The original point is the negative methodology of defining the subject: “negative” because the idea of human rights as a social practice is not compatible with a rigid classificatory semantic. From the theoretical perspective, human rights as implemented today are only partially in a continuum with the revolutionary proclamations (French and American). The Holocaust introduces a new approach: they are not vindications of “our” rights, but of the rights of others, those who are at risk or whose rights are being violated. This simple idea explains many aspects of the current human rights practice: the necessity of identifying the duty holders, the way of understanding the international community and the role of rights in it, the forms of protection and promotion, the dynamic against discriminations. And it allows explaining also some possible misunderstandings, like the idea that human rights are natural rights, or tricks for humanitarian intervention, or cultural biased. Human rights’ keynotes are normativity, universality and globality. The notion of dignity and the need of specification and rights in the concrete conditions of individuals exclude minimalistic accounts of rights, and the idea that some rights are less urgent or important than others. Human rights as a practice are compatible with a high number of theoretical perspectives and with different political doctrines, even though they have a cultural origin. They are not compatible with hegemonic dominations and with war. They are criteria of legitimacy and justice, but they are not the solution for everything. The book is divided in four sections: Concept, Identity, Content, and Uses.

**Italy: Social, Environmental and Agricultural Issues**

Gina Pittman

In series: *Countries and Cultures of the World*

Hardcover: 978-1-63484-408-6. $110.00.

Italy’s peculiar cultural variability is the result of population movements and invasions from the Mediterranean Sea, which took place in both historical and prehistoric times. Due to many interesting places such as the city of Rome, Central Italy was endured by migrants, who have contributed to Italy’s culture, linguistics and also genetics. Chapter One reconstructs human demiic movements in central Italy using both archeology and genetics. Chapter Two addresses issues in the conceptual context of land take, which is a change in agriculture, forestry, and other lands due to urbanization and artificial land development, in Sardinian urban areas of Italy. Moreover, global warming has had a negative impact on water balance, natural systems, and agriculture activities. Chapter Three provides a seasonal analysis of crop evapotranspiration based on the Penman-Monteith equation in the Po River Delta in Italy.

Slovenia: Social, Economic and Environmental Issues
Frané Adam (Institute for Developmental and Strategic Analyses, Ljubljana, Slovenia)
In series: European Political, Economic, and Security Issues
2016.

This book analyzes the characteristics and outcomes of the transition process in Slovenia, a relatively young and independent country, from different perspectives. It presents its main achievements as well as its current dilemmas and challenges, among them the causes for systemic dysfunctions, political instability and weak social integration. It is a collection of readings from various scientific disciplines and professions, as well as from different generations of researchers. The approach to the analysis is multidisciplinary and comparative. It combines the fields of sociology, history, geography, political science, law, economics, environmental studies as well as their subfields and intersections. It is an interdisciplinary work in the true sense of the word, based on previous studies and discussions of the status and trends of social development in Slovenia. It should be stressed that the Slovenian authors summarize and critically evaluate the findings, and interpretations of international authors (authors who observe Slovenian society from an external perspective) and who concentrated on a certain aspect of social dynamics follow. It presents the post-transitional challenges in the field of RD&I, rule of law, civil society, human capital and problems with the employment of graduates, the role of meritocratic principles in selection of candidates for leading positions, structural budget deficits and problems with indebtedness. Also, aspects of sustainable regional development, which are all aspects of the future society, are elaborated upon. The compendium is divided into four parts. First is the introductory part, which is followed by the legal-political aspect. The third section covers the socio-economic part, and finally the environmental aspect and sustainable development including organic farming and tourism is presented in the fourth section. The authors believe that this book will provoke interest both with social scientists who deal with Eastern European studies, as well as with those who are particularly interested in Slovenia, its history, and in particular, its political, economic, cultural and ecological developments since its independence. The volume will also be interesting for think-tanks who are seeking economic and political information about the current situation and trends in Slovenia, journalists and students of history, anthropology or sociology of Eastern Europe as well as experts of Slavic studies. Target Audience: - Social scientists and researchers from humanities specialized for Eastern European Studies -Journalists and think-tanks who are seeking economic and political information about the current situation and trends in Slovenia -Students studying history, anthropology or sociology of Eastern Europe -Expert for Slavic studies.

Spain: Conditions, Issues, and U.S. Relations
Virginia E. Adams
In series: European Political, Economic, and Security Issues
2016. 102 pp.
Sofcover: 978-1-63485-002-5. $62.00.

The United States and Spain have extensive cultural ties and a mutually beneficial economic relationship, and the two countries cooperate closely on numerous diplomatic and security issues. Spain has been a member of the North Atlantic Treaty Organization (NATO) since 1982 and a member of the European Union (EU) since 1986. Given its role as a close U.S. ally and partner, developments in Spain and its relations with the United States are of continuing interest to the U.S. Congress. This book provides an overview and assessment of some of the main dimensions of these topics. This book also discusses Spain’s 2014 Human Rights Report; International Religious Freedom Report; and its 2015 climate statement.

The Current Nordic Welfare State Model
Noralí Veggeland (Lillehammer University College, Norway)
In series: European Political, Economic, and Security Issues
Hardcover: 978-1-63485-124-4. $190.00.
e-book: 978-1-63485-143-5. $190.00.

The Nordic Social Welfare State Model has its intellectual roots in the depression of the 1930s, but was formed in the 1950s and got its name in the 1970s. Following the traditional model, it has recently become popular as a basic concept for shaping future approaches to European and US social politics. Challenging the Anglo-Saxon models, the Nordic model’s framework is regarded as a path that could be adjusted and followed. In the context of this model, this engaging and comprehensive book presents a comparative discussion of developments and innovations. The authors provide extensive examples of contemporary shifting pressure from external environments, showing how the model through the years is becoming modified without losing power due to its emphasis on social equality, solid pension arrangements, universal health care and active labor market policy.

The Dutch: Creativity in the Face of Nature
Yehuda Cohen (Independent Researcher, Formerly – A Postdoctoral Researcher at the Political Science Department of the Hebrew University in Jerusalem, Jerusalem, Israel)
In series: Post-Nationality in the European Union's East and North
Hardcover: 978-1-63485-037-7. $160.00.

This volume examines the evolution of the Dutch throughout its entire history, identifying the correlation between Dutch history and their unique motives. In this regard, it is unprecedented; thus, it retrieves the following new insights of Dutch nationality and its prospective future.

The European Union and the Global Financial Crisis: A View from 2016
Graeme Scott Baber (Researcher in Financial Law)
In series: European Political, Economic, and Security Issues
The European Union: Challenges and Prospects
Aubrey Bishop

In series: European Political, Economic, and Security Issues
Hardcover: 978-1-63485-159-6. $145.00.

The European Union (EU) is a unique partnership in which member states have pooled sovereignty in certain policy areas and harmonized laws on a wide range of economic, social, and political issues. The EU is the latest stage in a process of European integration begun after World War II, initially by six Western European countries, to promote peace, security, and economic development. Today, the EU is composed of 28 member states, including most of the formerly communist countries of Central and Eastern Europe. This book provides a brief history of the EU and the major challenges currently confronting the EU as an institution. It also discusses the potential implications both for the EU itself and for U.S.-EU relations; examines the evolution of U.S.-EU counterterrorism cooperation; provides a background on U.S. and EU data protection policies and the Safe Harbor Agreement; explores the implications for U.S. firms of Safe Harbor’s invalidation and the role of the proposed Judicial Redress Act in helping to ameliorate U.S.-EU tensions on data privacy and protection issues; and examines the Small Business Act for Europe’s various provisions and the major programs the European Commission has implemented to achieve the act’s objectives.

The Eurozone Enlargement: Prospect of New EU Member States for Euro Adoption
Yoji Koyama (Niigata University, Niigata, Japan)

In series: European Political, Economic, and Security Issues
2016. 223 pp.
Hardcover: 978-1-63484-363-8. $190.00.

In May 2004, eight countries of Central and Eastern Europe were admitted to the European Union (EU). In January 2007, Romania and Bulgaria, and in July 2013, Croatia were admitted to the EU. These new EU member states (NMS) are not given the right to opt out as the UK and Denmark have, and they are obligated to adopt the euro. Among eleven new member states, five countries adopted the euro: first Slovenia (2007), followed by Slovakia (2009), Estonia (2011), Latvia (2014) and Lithuania (2015). This book considers the problems of the Eurozone Enlargement by reviewing the experiences of NMS which have adopted the Euro and considering prospects of NMS which have not yet adopted the Euro. The book is divided into two parts, Part One mainly deals with NMS which have already adopted the Euro and takes a closer look at their experiences. Chapter One explains the evolution and the current situation of the EMU in order to get an overall picture of the Eurozone. Chapter Two discusses Slovenia’s experiences of the euro adoption and its lessons. Chapter Three discusses the experiences of Slovakia which adopted the euro in January 2009 exhibiting, in contrast to Slovenia, a favorable performance. Although having seriously suffered from the 2008 global financial crisis, the Baltic States have recovered quickly. Chapter Four discusses what kind of lessons could be drawn from the experiences of the Eurozone NMS, focusing on Latvia and Slovakia. Part Two deals with the NMS which have not adopted the Euro yet, but are expected to. Chapter Five not only discusses Poland’s prospects for Euro adoption but also serves as an introduction to Part Two as a whole. It deals with not only the criteria which should be met by prospective Eurozone member NMS (i.e. explicit Maastricht convergence criteria), but also the criteria of implicit and substantial convergence (i.e. The Czech Republic and Slovakia maintaining close economic relations in spite of their separation in 1993). Slovakia adopted the Euro in January 2009 while the Czech Republic has not yet adopted it. Chapter Six discusses the current situation and challenges of the Czech Republic in comparison with Slovakia. Chapter Seven analyzes the Hungarian situation both from a perspective of a comparison with other CEE countries, and from a historical perspective of its long-term transition process. Chapter Eight considers challenges facing Croatia, which has an industrial structure quite similar to Greece. Among prospective Eurozone member states, Romania is the only one country which has its target date for Euro-adoptions January 1, 2019. Chapter Nine considers Romania’s current situation and its challenges. Chapter Ten discusses challenges facing Bulgaria, which has maintained the currency board system. Although the Western Balkan countries are not discussed directly, this book has important implications for them. The authors of the book include five economists from Central Eastern Europe and three economists from Japan. This book is a product of international academic cooperation between Europe and Asia.

FINANCE

Marianne Ojo (North-West University, Potchefstroom, North West, South Africa)

In series: Business Issues, Competition and Entrepreneurship

As well as highlighting how corporations and enterprises — national or multinational — can be effectively engaged in entrepreneurship and innovation as a means of fulfilling corporate social responsibility goals and objectives, this book aims to propose means whereby auditors (and particularly, external auditors) could more effectively fulfill corporate governance roles through implementation of local, regional, national and internationally recognized codes, regulations, and standards. Whether it is advantageous to regulate both securities investments and consumer financial instruments through a single entity (as is accomplished by the Financial Conduct Authority in the United Kingdom), or through various specialized agencies (as is accomplished in the United States through the Securities and Exchange Commission and the Consumer Financial Protection Bureau) depends on the structure of the “single entity” and whether such an entity is still working as part of a larger entity whose effectiveness is primarily
Financial Crisis and Adventures of the Georgian Lari
Lamara Qoqiauri (Dr. of Economic Science, Prof. True Member of the Academy of Economic Sciences of Georgia and Scientific Academy of New York Founder; Director of the Nongovernmental Organization - FFIPS)

In series: Business Issues, Competition and Entrepreneurship
Softcover: 978-1-63484-783-4. $95.00.
e-book: 978-1-63484-796-4. $95.00.

Today, it is necessary to learn about current changes in the economy of certain countries such as the Republic of Georgia, the reasons concerning the sharp fall of the exchange rate of the Georgian lari, ways to prevent expected inflation, and finally, the Author examines ways to develop reliable facilities and sources for saving national currency. The purpose of this book is to develop recommendations for the root cause analysis; substantiate the inevitable devaluation of the Georgian lari; develop correct monetary and fiscal policies; regulate the exchange rate of the lari; provide recommendations on how to extend the economy of the country and increase foreign investments; create an attractive investment climate and activate large investment projects; and raise the potential of export and improve incentives. Due to the fact that this monograph is written in English and that it will introduce a wide range of societies within the world, the author considers it necessary to attach a brief set of chronicles and illustrations of the national currency of Georgia. Results of the study within the monograph are represented in the form of ten economical axioms of solving problems. Their implementation will support general sustainability of the economy, implement correct management of monetary and fiscal policies of the country, and improve the attractiveness of the investment climate among other projects as well.

For visual aid, this book includes charts, tables, and samples of ancient Georgian money.

Financial Regulations: Select Analyses and Possible Impacts Based on Dodd-Frank Act Provisions
Kenneth Harrison

In series: Financial Institutions and Services
Hardcover: 978-1-63485-630-0. $150.00.
The 2010 Dodd-Frank Act requires or authorizes various federal agencies to issue rules to implement reforms intended to strengthen the financial services industry. The act, as amended, includes a provision for the United States Government Accountability Office (GAO) to annually study these regulations. This book examines the regulatory analyses federal agencies conducted in Dodd-Frank Act rulemakings and interagency coordination in the rulemaking process; the possible impact of selected Dodd-Frank Act provisions and related rules on community banks and credit unions; and the possible impact of selected Dodd-Frank Act provisions and their implementing rules on financial market stability.

Firm Bankruptcy and Retiree Benefits: Effects and Protections, In Brief
Joshua H. Saunders

In series: Retirement Issues, Plans and Lifestyles
Softcover: 978-1-63485-859-1. $62.00.
Benefits for retired employees are of particular interest to policymakers, who often are concerned with the income security of retirees, a large and fast-growing population. One aspect of this congressional concern is what happens when bankrupt employers are unable to provide promised pension and health benefits to their retired employees. This book explores the protections of benefits awarded retirees and future retirees of bankrupt private-sector employers under current law. Although there are many types of employee benefits, active employees, retirees, and the employers themselves are often especially concerned with postretirement pensions and health insurance benefits, usually the two largest components of these so-called legacy costs. This book also provides an overview of the status of employee wages and benefits, including retiree benefits, when an employer files in bankruptcy, and the amendments made to the U.S. Bankruptcy Code by the Bankruptcy Abuse Prevention and Consumer Protection Act; provides background on Delphi Corporation, relevant pension law, the role of the Pension Benefit Guaranty Corporation (PBGC), a description of major events at Delphi since 1999, and a listing of congressional hearings and legislation introduced related to the Delphi Corporation since the 111th Congress.

Mobile Financial Services For Economically Vulnerable and Underserved Consumers: An Examination
Oscar Cortez

In series: Financial Institutions and Services
The consumer financial services market has seen the increasing use and proliferation of mobile technology to access financial services and manage personal finances. The Consumer Financial Protection Bureau’s Office of Financial Empowerment issued a Request for Information (RFI) to find out more about mobile financial services and how low-income and economically vulnerable consumers are using them. This book provides a description of mobile financial services, a discussion of the opportunities and risks, and key takeaways from the
comments. Furthermore, this book considers the ability of mobile financial services to increase financial inclusion among the underserved by providing them access to the banking system, retaining them in safe and sustainable account relationships, and fostering financial empowerment to improve financial stability and fulfill financial goals.

**Repayment of Student Loans: Federal Plans and Forgiveness Options and Issues for Older Americans**

**George L. Payne**

In series: *Financial Institutions and Services*

2016. 84 pp.


Many eligible borrowers do not participate in the Department of Education’s (Education) Income-Based Repayment and Pay As You Earn repayment plans for Direct Loans, and Education has not provided information about the plans to all borrowers in repayment. These plans provide eligible borrowers with lower payments based on income and set timelines for forgiveness of any remaining loan balances. As of September 2014, outstanding federal student loan debt exceeded $1 trillion, and about 14 percent of borrowers had defaulted on their loans within 3 years of entering repayment, according to Education data. This book discusses how participation in Income-Based Repayment and Pay As You Earn compares to eligibility, and to what extent Education has taken steps to increase awareness of these plans; and what is known about Public Service Loan Forgiveness certification and eligibility, and to what extent Education has taken steps to increase awareness of this program.

**Student Loan Servicing: Analyses of Practices and Reform Recommendations**

**Carly Adkins**

In series: *Financial Institutions and Services*


Hardcover: 978-1-63484-567-0. $120.00.
e-book: 978-1-63484-568-7. $120.00.

Student loans make up the nation’s second largest consumer debt market, surpassing all other categories of consumer debt aside from mortgages. Servicers are a critical link between borrowers and lenders. They manage borrowers’ accounts, process monthly payments, and communicate directly with borrowers. The servicer is often different than the lender, and a borrower typically has no control over which company services a loan. Regrettably, widespread servicing failures are being reported by both federal and private student loan borrowers. This book reviews and discusses public comments submitted in response to a request for information regarding student loan servicing by the Consumer Financial Protection Bureau. It includes recommendations for policymakers and market participants to improve borrower outcomes and reduce defaults, offering a roadmap for student loan servicing reform. This book also identifies a range of challenging issues for servicers membership with student loans.

**The Overseas Private Investment Corporation: Development Assistance Overview, Project Selection and Monitoring Practices**

**Molly H. Walsh**

In series: *Financial Institutions and Services*


Softcover: 978-1-63485-728-4. $95.00.
e-book: 978-1-63485-729-1. $95.00.

The Overseas Private Investment Corporation (OPIC), a wholly-owned U.S. government corporation, is referred to as the U.S. development finance institution (DFI). It provides political risk insurance, project and investment funds financing, and other services to promote U.S. direct investment in developing countries and emerging economies that will have a development impact. It operates under the foreign policy guidance of the Secretary of State. OPIC’s governing legislation is the Foreign Assistance Act of 1961, as amended. This book discusses OPIC background; international context for development finance; and key issues for Congress related to OPIC. Furthermore, the book assesses OPIC’s monitoring processes to ensure risks associated with current practices are acceptable for meeting OPIC’s program goals.

**U.S. Financial Regulatory Structure: Overview, Complexities, and the Effects of Fragmentation and Overlap**

**Laurence Watson**

In series: *Banks and Banking Developments*


Hardcover: 978-1-63485-636-2. $150.00.

Financial regulatory policies are of interest to Congress because firms, consumers, and governments fund many of their activities through banks and securities markets. Furthermore, financial instability can damage the broader economy. Financial regulation is intended to protect borrowers and investors that participate in financial markets and mitigate financial instability. This book provides an overview of the regulatory policies of the agencies that oversee banking and securities markets and explains which agencies are responsible for which institutions, activities, and markets. Some agencies regulate particular types of institutions for risky behavior or conflicts of interest, some agencies promulgate rules for certain financial transactions no matter what kind of institution engages in them, and other agencies enforce existing rules for some institutions, but not for others. These regulatory activities are not necessarily mutually exclusive.

**FINE ARTS**

**The Silver Conclave: Heroes, Heroines and Villains of English Literature**

**Luke Strongman (Senior Lecturer, Communication, Open Polytechnic, Lower Hutt, New Zealand)**

In series: *Fine Arts, Music and Literature*

2016. 280 pp.

Hardcover: 978-1-63485-125-1. $190.00.

The Silver Conclave presents a critical analysis and reflection on fifty heroes, heroines and villains of English and American literature, folklore, history, film and graphic art. The characters are discussed as individual figures critiqued from the novels and narratives of their authors’ invention. The chronology of characters spans from the eleventh century and the English legend of the robber-prince ‘Robin of Sherwood,’ to Ian Fleming’s suave double-agent James Bond, who has battled forces of corruption for MHz in fiction and in film since the mid-twentieth century, to J. K. Rowling’s intelligent modern witch, Hermione Granger, from the ever-popular ‘Potterverse’ in the early twenty-first century. Individually, or as a collection of character and plot summaries or vignettes, a range of characters are presented who have enlightened (or darkened) the popular imagination in novels, television and film. The narrative of The Silver Conclave is chronological, providing discussion about heroic and villainous figures primarily from English and American literary sources, arranged according to the year of publication.
FITNESS

Physical Activity Effects on the Anthropological Status of Children, Youth and Adults
Fadilj Eminović and Milić Dopsaj (Faculty for Special Education and Rehabilitation, University of Belgrade, Serbia)

In series: Physical Fitness, Diet and Exercise

In the last decade, a dramatic increase in overweight individuals and obesity has been reported in both developed and underdeveloped countries. Noncommunicable diseases, as well as type 2 diabetes and obesity are one of the most common causes of long-term disability, especially cardiovascular disease (CVD), which is still the leading cause of death in the industrialized world. Accumulating evidence over the last 50 years indicates that exercise may postpone or counteract, at least partially, the deleterious consequences of CVD and prevent complications provoked by the inactive state. Today, we can conclude that lack of physical activity or lack of a physically active lifestyle is clearly an overall high health risk. Societal indicators of reductions in human energy expenditure and increases in sedentary behavior during the past several decades are particularly striking. By the year 2000, the human race reached a sort of historical landmark; for the first time in human evolution, the number of adults with excess weight surpassed the number of those who were underweight. Excess adiposity/body weight is now widely recognized as one of today’s leading health threats. Obesity during childhood is indicated as a complex disorder, the prevalence of overweight and obese children is continually growing globally. This has become a concern to public health, as overweight and obesity during childhood tracks into adulthood and is associated with short- and long-term adverse health outcomes. A number of research articles in this monograph provide interesting and innovative practical suggestions, applications, and directions for some future research. The researched phenomena include: the first physical movements of life recognized as fetal movements and a mother’s physiological states; potential differences in cardiovascular fitness between schoolchildren from urban and rural areas, with respect to their age and gender; evidence for the 5-year regular sport exercise effect on muscle contractile properties in children; trend changes of physical abilities of school children; the effects of linear and change-of-direction speed training methods on the sprint performance of young adults; the relationship between sports experience and performance scores on a health-related physical fitness test among female university freshmen; the application of sports activities that improve the level of upper extremity motor abilities in people with spinal cord injuries; theoretical frameworks supporting learning-inclusive environment details; basic approaches for the inclusion of people with disabilities in community recreation programs; the relation between health and fitness characteristics by Special Olympic athletes competing as cross-country skiers; the relations between physical activity and/or physical exercise and body composition characteristics in the working-age population of both genders; evidence-based information about the effects of sedentary behavior on physiological function in humans; new facts resulting from numerous clinical and epidemiological studies about the effects of physical activity, and reducing the risk of breast and prostate cancer; and information about the connection between physical activity and cognition across the human life span. Finally, the last chapter examines the opinion of the elderly about the impact of physical activity in some segments concerning the quality of life of people living in the Third Age.

Sedentary Lifestyle: Predictive Factors, Health Risks and Physiological Implications
Ahmad Alkhatib (Head of Division for Sport and Exercise Science, University of Abertay, Dundee, Scotland, UK)

In series: Physical Fitness, Diet and Exercise
Hardcover: 978-1-63484-673-8. $190.00.
The health risks associated with a sedentary lifestyle and lack of physical activity have become the main concern for health professionals, clinicians and scientists in the 21st century. This book presents readers with a comprehensive examination of the most recent scientific evidence explaining the deteriorating health consequences of sedentary behaviour and physical inactivity across the human lifespan. It also provides novel and effective intervention strategies, primarily those based on physical activity in order to reverse and reduce these health risks, particularly risks related to the metabolism and cardiovascular disease. Empirical research findings and innovative scientific models for physical activity and exercise interventions are presented throughout the book based on well-designed research studies by leading authors and practitioners. Readers can also benefit from both scientific and practical recommendations for prescribing physical activity and exercise to address the health risks associated with: sedentary lifestyle and potential benefits for diabetes, epidural adipose tissues, muscle and joint function mechanics, metabolic and cardiovascular risk prevention. The book also highlights the latest age- and population-specific recommendations for screening and planning effective physical activity, as well as exercise interventions for children, adolescents, older adults and other sedentary individual groups such as sedentary workplace employees and individuals with diabetes. Health benefits are discussed at different complexities of the human body. Nine chapters within this book cover the health risks and adaptive responses to physical activity and exercise at the molecular, cellular, muscular, adipose tissue, metabolic, cardiovascular, and multi-compartment levels of the human body. The book offers excellent scientific insight and practical recommendations for readers across the globe.

FOREIGN POLICY

Foreign Policy of the United States. Volume 9
Ernest Simone

In series: Foreign Policy of the United States
2016.
Hardcover: 978-1-63485-935-6. $150.00.
In this book, the first chapter provides background on the Islamic State organization, discussing its goals, operations, and affiliates, as well as analyzing related U.S. legislative and policy debates. The following chapters focus on Israel's background and U.S. relations; Kuwait's governance, security, and U.S. Policy; U.S. foreign assistance to the Middle East and North Africa; U.S. foreign assistance to Egypt; Australia's background and relations with the U.S.; and the Logan Act.

GOVERNMENT

Appointment Process for U.S. Circuit and District Court Nominations: Overview and Activity During Obama's Administration
Caleb Bowman
In series: Congressional Policies, Practices and Procedures
Softcover: 978-1-63484-587-7. $95.00.
e-book: 978-1-63485-588-4. $95.00.
The selection and confirmation process for U.S. circuit and district court judges is of continuing interest to Congress. Recent Senate debates over judicial nominations have focused on issues such as the relative degree of success of President Barack Obama’s nominees in gaining Senate confirmation compared with other recent Presidents, as well as the time from nomination to confirmation for nominees, and the relative prevalence of vacant judgeships compared to years past. This book addresses these issues, and others, by providing a statistical analysis of nominations to U.S. circuit and district court judgeships during the first six years of President Obama’s time in office and that of his three most recent two-term predecessors, Presidents Reagan, Clinton and G.W. Bush.

Appointment Process of Supreme Court Nominees: Elements and Considerations
Rosa S. Gonzales
In series: Government Procedures and Operations
Hardcover: 978-1-63485-345-3. $120.00.
e-book: 978-1-63485-346-0. $120.00.
The appointment of a Supreme Court Justice is an event of major significance in American politics. Each appointment is of consequence because of the enormous judicial power the Supreme Court exercises as the highest appellate court in the federal judiciary. Appointments are usually infrequent, as a vacancy on the nine-member Court may occur only once or twice, or never at all, during a particular President’s years in office. Under the Constitution, Justices on the Supreme Court receive what can amount to lifetime appointments which, by constitutional design, helps ensure the Court’s independence from the President and Congress. This book reviews the appointment process of Supreme Court nominees.

Data Collection: Methods, Ethical Issues and Future Directions
Susan Elswick (Assistant Professor/ BA Program Coordinator, University of Memphis, Department of Social Work, Memphis, TN, USA)
In series: Government Procedures and Operations
Hardcover: 978-1-63485-089-1. $160.00.
Data Collection: Methods, Ethical Issues and Future Directions, edited by Dr. Susan E. Elswick, presents a broad and dynamic perspective on data collection practices across multiple disciplines. The contributors identify potential ethical concerns, and describe future directions for addressing these issues. Furthermore, this book provides the reader with details about recent and possible future advances in the use of data collection practices within the fields of healthcare, social and behavioral sciences, digital survivor work, crisis work, computer technology/needs assessment development, and the field of hospitality management. Each chapter provides the reader with direct insight into these multiple fields of practice. The contributing authors are experts in their disciplines, and provide rich perspectives to the audience. Chapters provide descriptions regarding the data collection methods utilized in each field, and the best implications for data practices and future work within these fields.

Drones in the U.S.: Privacy Issues and Regulatory Considerations
Sophia Barrett

In series: Privacy and Identity Protection
Softcover: 978-1-63484-918-0. $120.00.
e-book: 978-1-63484-919-7. $120.00.
It has been three years since Congress enacted the FAA Modernization and Reform Act of 2012 (FMRA), calling for the integration of unmanned aircraft systems (UAS), or “drones,” into the national airspace by September 2015. During that time, the substantive legal privacy framework relating to UAS on the federal level has remained relatively static. Congress has enacted no law explicitly regulating the potential privacy impacts of drone flights, the courts have had no occasion to rule on the constitutionality of drone surveillance, and the Federal Aviation Administration (FAA) did not include privacy provisions in its proposed rule on small UAS. This issue, however, has not left the national radar. Congress has held hearings and introduced legislation concerning the potential privacy implications of domestic drone use; President Obama recently issued a directive to all federal agencies to assess the privacy impact of their drone operations; and almost half the states have enacted some form of drone legislation. This book provides a primer on privacy issues related to various UAS operations, both public and private, including an overview of current UAS uses, the privacy interests implicated by these operations, and various potential approaches to UAS privacy regulation.

E-Governance in India: Problems, Prototypes and Prospects
Puneet Kumar, Rajesh Sharma, and Urmani Kaushal
(Department of Computer Application, College of Engineering and Technology, Mody University of Science and Technology, Laxmangarh, Sikar, Rajasthan, India)
In series: Government Procedures and Operations
2016. 211 pp.
Hardcover: 978-1-63484-830-5. $190.00.
In the current era, e-Governance has emerged as a most prominent tool for strengthening democracy. Therefore, in the year 2006, the Government of India launched National e-Governance Plan (NeGP) which encompasses thirty-one Mission Mode Projects to automate high priority tasks associated with rural and urban areas of the country. However, the government is spending an enormous amount of funds in deployment of e-Governance; still, the success ratio of e-Governance projects in India is not overwhelming. The fourteen chapters within this fascinating compendium act as precious gems, reflecting light on diversified aspects of the intents converged towards e-Governance in India via evolution, implementation challenges, impact on societal issues, development of novel frameworks, involved legal issues and prospects. This book is an attempt to investigate the dominating aspects of conquering the objectives of e-Governance. Moreover, it will also encompass plausible, reengineered, conceptual frameworks which have not been discovered heretofore in order to combat with dominating obstacles. Additionally, it will contain a compendium of knowledge about the future of e-Governance in the Indian context. The major highlights of this book are given as followed: 1. Depiction of the current scenario of e-Governance in India from an international perspective. 2. Identification of aspects of the successful implementation of e-Governance. 3. Reengineering of existing methodologies in order to rejuvenate the existing scenario. 4. Major prospects of e-Governance in India. 5. Legal issues involved in e-Governance. 6. Exemplary case studies about successful e-Governance deployment from pioneering countries of the domain.

Emergency Lending by the Federal Reserve: Background and Policy Issues
Felicia Estrada
In series: Government Procedures and Operations
Hardcover: 978-1-63485-393-4. $150.00.
The deepening of the financial crisis in 2008 led the Federal Reserve (Fed) to revive an obscure provision found in Section 13(3) of the Federal Reserve Act (12 U.S.C. 344) to extend credit to nonbank financial firms for the first time since the 1930s. Section 13(3) provides the Fed with greater flexibility than its normal lending authority. Using this authority, the Fed created six broadly based facilities (of which only five were used) to provide liquidity to “primary dealers” (certain large investment firms) and to revive demand for commercial paper and asset-backed securities. More controversially, the Fed provided special, tailored assistance exclusively to four firms that the Fed considered “too big to fail”—AIG, Bear Stearns, Citigroup, and Bank of America. This book provides a review of the history of Section 13(3), including its use in 2008. It discusses the Fed’s authority under Section 13(3) before and after the Dodd-Frank Act. It then discusses policy issues and legislation to amend Section 13(3), including H.R. 3189, which passed the House on November 19, 2015.

Federal Advisory Committees: Overview and Operations
Estelle Greer
In series: Government Procedures and Operations
Softcover: 978-1-63485-677-5. $95.00.
e-book: 978-1-63485-678-2. $95.00.
Federal advisory committees—which may also be labeled as commissions, councils, or task forces—are established to assist the executive branch in deliberating and, in some cases, helping to solve complex or divisive issues. Congress, the President, or an agency head may establish a federal advisory committee to render independent advice or provide policy recommendations. In 1972, Congress enacted the Federal Advisory Committee Act (FACA; 5 U.S.C. Appendix—Federal Advisory Committee Act; 86 Stat. 770, as amended), prompted by the perception that some advisory committees were duplicative, inefficient, and lacked adequate oversight. FACA mandates certain structural and operational requirements, including formal reporting and oversight procedures. Additionally, FACA requires committee meetings be open to the public, unless they meet certain requirements. Also, FACA committee records are to be accessible to the public. Pursuant to statute, the General Services Administration (GSA) maintains and administers management guidelines for federal advisory committees. This book offers a history of FACA, examines its current requirements, and provides data on federal advisory committees operations and costs.

Federal Cybersecurity: Identification and Mitigation Efforts of Sector-Specific Agencies
Jeffery H. Matthews
In series: Privacy and Identity Protection
Softcover: 978-1-63485-310-1. $62.00.
U.S. critical infrastructures, such as financial institutions, commercial buildings, and energy production and transmission facilities, are systems and assets, whether physical or virtual, vital to the nation’s security, economy, and public health and safety. To secure these systems and assets, federal policy and the National Infrastructure Protection Plan (NIPP) establish responsibilities for federal agencies designated as Sector-specific agencies (SSAs), including leading, facilitating, or supporting the security and resilience programs and associated activities of their designated critical infrastructure sectors. The objectives of this book are to determine the extent to which SSAs have identified the significance of cyber risks to their respective sectors’ networks and industrial control systems; taken actions to mitigate cyber risks within their respective sectors; collaborated across sectors to improve cybersecurity; and established performance metrics to monitor improvements in their respective sectors.

Federal Inspectors General: Overview, Authorities, and Oversight Issues
Emmett Cruz
In series: Government Procedures and Operations
Softcover: 978-1-63485-524-2. $95.00.
Federal inspectors general (IGs) are authorized to combat waste, fraud, and abuse within their affiliated federal entities. To execute their missions, offices of inspector general (OIGs) conduct and publish audits and investigations—among other duties. Two major enactments—the Inspector General Act of 1978 and its amendments of 1988—established federal IGs as permanent, nonpartisan, and independent offices in more than 70 federal agencies. OIGs serve to assist Congress in overseeing executive branch—and a few legislative branch—agencies. They provide recommendations and findings to their affiliated agency head and to Congress that may save the government millions of dollars per year. As a result, Congress may have an interest in ensuring that federal OIGs have the appropriate authorities and access to information they need to perform their investigations, audits, and evaluations. Concurrently, Congress has a responsibility to protect some records and information, such as national security information or information about an ongoing criminal investigation, from improper release. This book provides background on the statutory creation of federal OIGs and provides historical context for contemporary debates about the strengths and limitations of the offices. Furthermore, this book provides context on the role of the Integrity Committee (IC) in investigating allegations of wrongdoing made against employees of the IG community. The book provides analysis of congressional proposals seeking to amend and improve the IC’s operations, and includes additional potential policy options for improvement of oversight of the IG community.

Federal Regulations: Cost Estimation, Rulemaking Activity, and Cost-Benefit Issues
Jamie P. Davidson
In series: Government Procedures and Operations
Softcover: 978-1-63485-312-5. $62.00.
Federal agencies issue thousands of regulations each year under delegated authority from Congress. Over the past 70 years, Congress and various Presidents have created a set of procedures agencies must follow to issue these regulations, some of which contain requirements for the calculation and consideration of costs, benefits, and other economic effects of regulations. In recent years, many Members of Congress have expressed an interest in various regulatory reform efforts that would change the current set of rulemaking requirements, including requirements to estimate costs and benefits of regulations. As part of this debate, it has become common for supporters of regulatory reform to comment on the total cost of federal regulation. This book discusses methods of estimating the total cost of federal regulations. Furthermore, the book serves to inform the congressional debate over rulemaking by analyzing different ways to measure federal rulemaking activity; describes the existing requirements for cost-benefit and other types of analysis in the federal rulemaking process; and discusses options for changing the current set of analytical requirements.

Federal Use of Confidential Informants: Analysis and Guidelines
Annie Morrison
In series: Government Procedures and Operations
Federal law enforcement components used more than 16,000 confidential informants in fiscal year 2013 as part of criminal investigations. Informants can be critical to an investigation, but without appropriate oversight, problems can occur that undermine the credibility of the informant’s role in an investigation. The Attorney General’s Guidelines set forth procedures on the management of informants, including vetting potential informants and overseeing informants’ illegal activities that components authorize to support an investigation. This book reviews the extent to which the Department of Justice (DOJ) and the Department of Homeland Security (DHS) components’ policies address the Guidelines for vetting informants and overseeing their illegal activities; and selected components have monitoring processes to ensure compliance with the Guidelines.

Federal User Fees: Design, Collection, Use and Evaluation Considerations
Noah R. Myers
In series: Government Procedures and Operations
Hardcover: 978-1-63484-868-8. $120.00.
e-book: 978-1-63484-869-5. $120.00.

The federal government will need to make the most of its resources to meet the emerging challenges of the 21st century. As new priorities emerge, policymakers have demonstrated interest in user fees as a means of financing new and existing services. User fees can be designed to reduce the burden on taxpayers to finance the portions of activities that provide benefits to identifiable users above and beyond what is normally provided to the public. By charging the costs of those programs or activities to beneficiaries, user fees can also promote economic efficiency and equity. However, to achieve these goals, user fees must be well designed. This book examines how the four key design and implementation characteristics of user fees—how fees are set, collected, used, and reviewed—may affect the economic efficiency, equity, revenue adequacy, and administrative burden of cost-based fees.

IRS Audits: Selection Process and Controls for Individuals, Small Business and the Self-Employed
Kara Bradley
In series: Government Procedures and Operations
Softcover: 978-1-63485-724-6. $95.00.

Audit activities help ensure taxpayers pay the right amount of tax and help address the net $385 billion tax gap—the difference between the amount of taxes paid voluntarily and on time, and the amount owed. Audit programs in Internal Revenue Service’s (IRS) Wage and Investment division (W&I) mainly cover refundable credits reported on the Form 1040, Individual Income Tax Return. The hundreds of thousands of taxpayers whom W&I interacts with annually during audits make it critical to apply the tax law fairly. Unfair selection would increase burden on taxpayers and reduce public confidence in IRS. This book reviews and describes the W&I process for selecting tax returns for audit, and determines how well W&I’s audit selection procedures support its mission and goal to apply the tax law with integrity and fairness to all. This book also describes IRS’s processes and controls for selecting Small Business/Self-Employed (SB/SE) taxpayers for audit; and determines how well SB/SE’s selection processes and controls support its mission to apply the tax law with integrity and fairness to all.

IRS Budgets: Effects and Response to Constraints and Uncertainty
Nicolas B. Cunningham
In series: Government Procedures and Operations
Hardcover: 978-1-63484-469-7. $120.00.
e-book: 978-1-63484-470-3. $120.00.

The financing of the federal government depends largely upon Internal Revenue Service's (IRS) ability to collect taxes, including providing taxpayer services that make voluntary compliance easier and enforcing tax laws to ensure compliance with tax responsibilities. This book analyzes select IRS business units’ budget and staffing; describes how IRS is managing in a constrained budget environment; assesses key data for information technology (IT) investments; and describes IRS progress in implementing selected United States Government Accountability Office (GAO) open recommendations. Furthermore, the book assesses IRS’s strategy to address budget cuts and use of return on investment (ROI) analysis.

IRS Collection Cases: Selection Process and Automation Issues
Roberta Carter
In series: Government Procedures and Operations
Hardcover: 978-1-63484-467-0. $120.00.
e-book: 978-1-63484-468-7. $120.00.

The Internal Revenue Service’s (IRS) collection program largely uses automated processes to categorize and route unpaid tax or unfiled tax return cases for potential selection. The automated Inventory Delivery System (IDS) categorizes and routes cases based on many factors, such as type of tax and amount owed. Outside of IDS, collection managers set goals for closing cases in priority areas, such as delinquent employer payroll taxes and cases involving certain high-wealth taxpayers. IRS’s collection program pursues individuals and businesses that failed to fully pay their taxes or file returns. This book describes collection processes and trends in priority areas; and assesses how well controls support the mission, including applying tax laws with integrity and fairness to all. Furthermore, this book describes the ACS process to prioritize and select collection cases and the results of that process for fiscal year 2014; and determines how well the ACS case prioritization and selection process supports the collection program mission and objectives.

IRS Examination of Tax-Exempt Organizations: Analysis and Perspective
Austin H. White
In series: Government Procedures and Operations
Hardcover: 978-1-63484-471-0. $120.00.
e-book: 978-1-63484-472-7. $120.00.

The Exempt Organizations (EO) unit within the Tax Exempt and Government Entities (TE/GE) division at the Internal Revenue Service (IRS) reviews organizations’ applications for tax-exempt status to determine whether to grant status and oversees existing exempt organizations’ compliance with the tax code. To identify exempt organizations for possible examination, EO uses a variety of information sources: for example, EO receives referrals of exempt organization noncompliance from third parties, such as the public, and other parts of IRS. This book describes these processes and assesses the adequacy of examination selection controls.

Judge Merrick Garland: Judicial Opinions and Potential Implications for the Supreme Court
Collin Weber
Justice Antonin Scalia: Jurisprudence, Impact, and Supreme Court Vacancy

Vanessa Shaw

Sofcover: 978-1-53610-083-9. $95.00.
e-book: 978-1-53610-084-6. $95.00.

On February 13, 2016, Justice Antonin Scalia passed away unexpectedly at the age of 79, vacating a seat on the Supreme Court which he had held for nearly 30 years. Justice Scalia’s lengthy tenure on the Court, coupled with his strongly held views on how constitutional and statutory texts are to be interpreted, led him to have significant influence on the development of the jurisprudence of various areas of law. This book discusses Justice Scalia’s jurisprudence on key areas of law, as well as how that jurisprudence could be seen to have influenced the Court’s approach to these subject matters. This book also provides an overview of the Supreme Court’s procedural rules and requirements when the Court is staffed with less than nine members; and answers to frequently asked legal questions about filling Supreme Court vacancies.

Lobbying Regulation: History, Laws, Reform Options, and Compliance

Willard N. Simmons

Sofcover: 978-1-63484-998-2. $95.00.

This book provides a retrospective and prospective analysis of the Lobbying Disclosure Act (LDA) on its 20th anniversary. It begins with a historical summary of citizens’ right to petition, the connection between the right to petition and lobbying, and the regulation of contact between citizens and government in the United States. The book then examines contemporary issues that might affect lobbying and citizens’ right to petition government; and provides analysis of potential options for congressional action should Congress consider amending provisions of the LDA. Moreover, the book provides a brief history and description of the provisions of federal law restricting employment opportunities and activities of federal employees after they leave the service of the executive or legislative branches of the federal government.

Memorials and Monuments in the Nation’s Capital: Background, Establishment and Related Issues

Julius Hines

Sofcover: 978-1-63485-993-6. $95.00.

In 1986, in an effort to create a statutory process for the creation, design, and construction of commemorative works in the District of Columbia, Congress debated and passed the Commemorative Works Act (CWA). This book examines the evolving process by which memorials have been proposed, approved, and constructed in the District of Columbia. Since the enactment of the CWA, Congress has authorized 31 commemorative works to be placed in the District of Columbia or its environs. This book contains a catalog of 18 authorized works that have been completed and dedicated since 1986. For each memorial, the book provides a rationale for each authorized work, as expressed by a Member of Congress, as well as the statutory authority for its creation; and identifies the group or groups which sponsored the commemoration, the memorial’s location, and the dedication date. Furthermore, this book provides a status update on eight in-progress memorials and five memorials with lapsed authorizations. The final section of this book focuses on options for Congress for four types of exemptions to the CWA: siting works, use of specific materials, memorial completion deadlines, and the placement and status of museums.

National Mediation Board: Assessment, Strategic Plan, and FAQs

Tina Jimenez

Sofcover: 978-1-63485-819-9. $95.00.
e-book: 978-1-63485-820-5. $95.00.

The National Mediation Board (NMB) was established under the Railway Labor Act to facilitate labor relations for railroads and airlines by mediating and arbitrating labor disputes and overseeing union elections. The FAA Modernization and Reform Act of 2012 included a provision for United States Government Accountability Office (GAO) to evaluate NMB programs and activities every 2 years. GAO’s first report under this provision, issued in December 2013, included seven recommendations for NMB based on assessments of policies and processes in several management and program areas. This book examines the extent to which NMB has implemented recommendations made by GAO in December 2013, and incorporated key procurement practices.

National Park Service: Analyses and Trends of Appropriations, Fees and Donations

Claire Cohen

Sofcover: 978-1-63485-819-9. $95.00.
e-book: 978-1-63485-820-5. $95.00.

The National Park Service (NPS) administers the National Park System, which covers 84.6 million acres of land and consists of 410 diverse units valued for their natural, cultural, and recreational importance. NPS receives appropriations in the annual Interior, Environment, and Related Agencies appropriations bill. This book discusses NPS appropriations for FY2016 and examines trends in the agency’s discretionary appropriations over the past decade (FY2007-FY2016); changes in the size of the National Park System, numbers of recreation visits to the parks, and NPS staffing levels during that period; and budget data for fiscal years 2005 through 2014 on the Park Service’s overall funding and fee revenue and donations.
Noncompetitive Federal Contracting: Analyses of "Bridge" Situations and Urgent Needs
Janet Weaver
In series: Government Procedures and Operations
2016. 96 pp.
Softcover: 978-1-63485-153-4. $62.00.
When an existing contract is set to expire but the follow-on contract is not ready to be awarded, the government can extend the existing contract or award a short-term sole-source contract to avoid a gap in service. These have been referred to as “bridge contracts.” While bridge contracts can be necessary tools, they are awarded without competition, which puts the government at risk of paying too much. This book examines insights selected agencies have into their use of bridge contracts; key characteristics of bridge contracts; and the reasons bridge contracts are used.

Pay For Success Projects: Benefits and Role of Social Impact Bonds
Monica Holt
In series: Government Procedures and Operations
Hardcover: 978-1-63484-758-2. $145.00.
Pay for Success (PFS), also known as Social Impact Bonds, is a new contracting mechanism to fund prevention programs, where investors provide capital to implement a social service—for example, to reduce recidivism by former prisoners. If the service provider achieves agreed upon outcomes, the government pays the investor, usually with a rate of return, based on savings from decreased use of more costly remedial services, such as incarceration. Federal, state, and local agencies play an important role in improving social outcomes for society’s most vulnerable populations. A small number of state, local, and foreign governments are employing PFS to fund efforts designed to better serve these vulnerable populations. This book examines how selected PFS projects have been structured and what potential benefits these projects can provide; how selected PFS contracts have been structured to address potential project risks; and the potential roles for the federal government’s involvement in PFS projects. This book also provides an overview of the first State-led Pay for Success and Social Impact “Bond” (SIB) project in the nation; examines some of the arguments for and against The Payment by Results (PbR) approach to delivery of public services; and looks at current and planned projects in rehabilitation, welfare to work, the NHS, children’s social services and with rough sleepers and with vulnerable young people.

Separation of Powers in the Federal Government: Overview and Perspectives
Josephine Spencer
In series: Congressional Policies, Practices and Procedures
2016. 103 pp.
Softcover: 978-1-63485-189-3. $62.00.
Congress’s role and operation in national politics is fundamentally shaped by the design and structure of the governing institution in the Constitution. One of the key principles of the Constitution is separation of powers. The doctrine is rooted in a political philosophy that aims to keep power from consolidating in any single person or entity, and a key goal of the framers of the Constitution was to establish a governing system that diffused and divided power. These objectives were achieved institutionally through the design of the Constitution. The legislative, executive, and judicial branches of the government were assigned distinct and limited roles under the Constitution, and required to be comprised of different political actors. The constitutional structure does not, however, insulate the branches from each other.

While the design of the Constitution aims, through separation, to prevent the centralization of power, it also seeks the same objective through diffusion. Thus, most powers granted under the Constitution are not unilateral for any one branch; instead they overlap. This book provides an overview of separation of powers. It reviews the philosophical and political origins of the doctrine; surveys the structure of separation of power in the Constitution; discusses the consequences of the system, for both the institutions and for individual political actors; and provides a discussion of separation of powers in the context of contemporary politics.

Tax Whistleblowers: Assessments of the IRS Program
Sophie G. Shelton
In series: Government Procedures and Operations
2016. 90 pp.
Softcover: 978-1-63485-401-6. $95.00.
The Internal Revenue Service (IRS) Whistleblower Program, which was revised and expanded by Congress in 2006, is an important tax administration tool. Information received from tax whistleblowers—individuals who report to the IRS on violations of tax laws by others—has assisted the IRS in detecting tax compliance issues and in collecting additional tax revenue. Tax whistleblowers who report on the underpayment of taxes by others have helped IRS collect almost $2 billion in additional revenue since 2011, when the first high-dollar claim was paid under the expanded program that pays qualifying whistleblowers a minimum of 15 percent of the collected proceeds. These revenues help reduce the estimated $450 billion tax gap—the difference between taxes owed and those paid on time. This book assesses the Whistleblower Office (WO) claim review process; assesses how the WO determines awards; evaluates how the WO communicates with external stakeholders; and evaluates IRS’s policies and procedures for protecting whistleblowers.

Taxes in the United States: Developments, Analysis, and Research. Volume 5
Sarah Brackman
In series: Taxes in the United States: Developments, Analysis, and Research
2016. 231 pp.
Hardcover: 978-1-63484-473-4. $145.00.
This book examines the most recent developments, analysis and research concerning taxation in the United States. Topics discussed in this compilation include a review of Constitutional authorities under which Congress regulates state taxation; a brief overview of the Internet Tax Freedom Act; legal issues of taxation of internet sales and access; current laws related to the repatriation of foreign earnings; energy tax initiatives; energy tax policies; and differences in definitions and rules in the tax code.

The Congressional Oversight Manual and The Congressional Review Act
Jason M. Harper
In series: Congressional Policies, Practices and Procedures
2016. 190 pp.
Hardcover: 978-1-63485-157-2. $185.00.
The Congressional Research Service (CRS) developed the Congressional Oversight Manual over 30 years ago, following a three-day December 1978 Workshop on Congressional Oversight and Investigations. The workshop was organized by a group of House and Senate committee aides from both parties and CRS at the request of the
bipartisan House leadership. The Manual was produced by CRS with the assistance of a number of House committee staffers. In subsequent years, CRS has sponsored and conducted various oversight seminars for House and Senate staff and updated the Manual as circumstances warranted. The Congressional Review Act (CRA) is an oversight tool that Congress may use to overturn a rule issued by a federal agency. The CRA was included as part of the Small Business Regulatory Enforcement Fairness Act (SBREFA), which was signed into law on March 29, 1996. The CRA requires agencies to report on their rulemaking activities to Congress and provides Congress with a special set of procedures under which to consider legislation to overturn those rules. This book discusses both the Congressional Oversight Manual and the Congressional Review Act in detail.

**The Earned Income Tax Credit: Overview, Economic Analysis, and Compliance Challenges**
*Judith L. Collins*

In series: *Government Procedures and Operations*

Softcover: 978-1-63485-632-4. $95.00.
e-book: 978-1-63485-633-1. $95.00.

The Earned Income Tax Credit (EITC) is a refundable tax credit available to eligible workers with relatively low earnings. Because the credit is refundable, an EITC recipient need not owe taxes to receive the benefit. The credit is authorized by Section 32 of the Internal Revenue Code (IRC) and administered as part of the federal income tax system. In 2013, a total of $68.1 billion was claimed by 28.8 million tax filers, making the EITC the largest need-tested anti-poverty cash assistance program. This book provides an overview of the EITC, first discussing eligibility requirements for the credit, followed by how the credit is computed and paid; provides data on the growth of the EITC since it was first enacted in 1975; and includes data on the EITC claimed on 2013 tax returns, examining EITC claims by number of qualifying children, income level, tax filing status, and location of residence. Moreover, this book summarizes findings from the 2014 IRS study detailing the factors that can lead to erroneous claims of the credit, and describes the challenges the IRS may face in their efforts to reduce each type of error. It also examines the role of paid tax preparers on EITC error.

**The U.S. Defense Budget and Overseas Contingency Operations Funding: Overviews and Analyses**
*Jeanne Poole*

In series: *Government Procedures and Operations*

e-book: 978-1-53610-086-0. $95.00.

The Administration requested $523.9 billion to cover the FY2017 discretionary “base budget” of the Department of Defense (DOD). This request is $2.2 billion, or approximately 1%, higher than the corresponding appropriation for FY2016. In addition to the base budget request, the Administration requested $53.8 billion—including $3.4 billion for the European Reassurance Initiative—in discretionary funding for Overseas Contingency Operations (OCO). The total discretionary funding request of $609.9 billion, combined with $96 billion in mandatory spending, brought the Administration’s total FY2017 National Defense budget request to $619.5 billion. In shaping the FY2017 budget, DOD officials stated that they emphasized innovation and other ways to increase the combat effectiveness of U.S. forces while complying with the budget caps. The request aims to field a force that can deter the most technologically advanced potential adversaries using conventional weapons, without assuming that U.S. forces would match the size of enemy forces, by modernizing its equipment and changing its organization rather than by enlarging their numbers. This book provides an overview and analyses of the U.S. defense budget and OCO funding.

**The United States Secret Service: Security Failures and Concerns During Obama’s Presidency (with accompanying CD-ROM)**
*Melanie Fields*

In series: *Government Procedures and Operations*

2016. 221 pp.
Hardcover: 978-1-63485-777-2. $150.00.

The United States Secret Service (USSS) is tasked with a zero-failure mission: to protect the President and other protectees at all costs. For most of its existence, USSS has strived to complete that mission while simultaneously garnering the respect and admiration of the American people. Secret Service agents and officers earned a reputation as stoic and impervious guardians of our government’s most important leaders. The American public’s respect for the agency diminished following the April 2012 prostitution scandal in Cartagena, Colombia, which attracted significant media attention and exposed systemic problems within the agency. Since then, several incidents have made it abundantly clear that USSS is in crisis. The agency’s weaknesses have been exposed by a series of security failures at the White House, during presidential visits, and at the residences of other officials, including Vice President Biden and former presidents of the United States. The Committee’s investigation found that problems that undermine USSS’s protective mission predate and postdate the misconduct in Cartagena. The Committee also found that at times agency leaders have provided incomplete and inaccurate information to Congress. This book examines four incidents in detail: a November 11, 2011, incident where an individual fired several shots at the White House from a semiautomatic rifle; the April 2012 misconduct in Cartagena, Colombia; a September 16, 2014, incident at the Centers for Disease Control and Prevention in Atlanta, Georgia, where an armed contract security guard with a violent arrest history rode in an elevator with President Obama and later breached the President’s security formation; and a March 4, 2015, incident where two intoxicated senior USSS officials—including a top official on the President’s protective detail—interfered with a crime scene involving a bomb threat just outside the White House grounds. Furthermore, the book provides information on USSS funding and staffing because congressional attention has turned to the USSS and its operations due to several recent incidents.

**Treasury Market Volatility: The Unusual Price Swings of October 15, 2014**
*Lewis Collins*

In series: *Government Procedures and Operations*

Hardcover: 978-1-63484-297-6. $120.00.
e-book: 978-1-63484-298-3. $120.00.

The U.S. Treasury market is the deepest and most liquid government securities market in the world. It plays a critical and unique role in the global economy, serving as the primary means of financing the U.S. federal government and acting as a significant investment instrument and hedging vehicle for global investors, among other uses. On October 15, 2014, the market for U.S. Treasury securities, futures, and other closely related financial instruments experienced unusually large price swings, including a very rapid roundtrip during a 12-minute interval. This volatility occurred despite the absence of any particular financial or economic developments that might explain such large moves. Such significant and unexplained volatility in the important U.S. Treasury market called for more substantive analysis. The staff of the Treasury Department, the Board of Governors of the Federal Reserve System, the Federal Reserve Bank of New York, the U.S. Securities and Exchange Commission, and the U.S. Commodity Futures Trading Commission worked together to analyze data from the three main trading venues for the Treasury market in the creation of this report. This book provides an overview of the U.S. Treasury market, liquidity, and applicable regulations. It explores the events of...
October 15, including the two defining traits of the day—the unusually high volatility and round-trip in prices despite the lack of an obvious driver, and the strains in liquidity conditions especially during the event window; discusses the key findings from the analysis of participant-level transaction data, with a particular focus on the period leading up to and including the most volatile period of the day, the 9:33 to 9:45 a.m. ET event window; reviews broad changes to the structure of the Treasury market over the past two decades; and explains the events of October 15 underscore the importance of efforts by the official and private sectors to understand more fully the implications of the 6 evolving Treasury market structure for liquidity, trading and risk management practices, data access, and monitoring and surveillance.

HOUSING

Ending Chronic Homelessness: Federal Strategy and the Role of Permanent Supportive Housing
Mya C. Perkins
In series: Housing Issues, Laws and Programs
2016. 192 pp.
Hardcover: 978-1-63485-062-9, $145.00.
Chronically homeless individuals are those who spend long periods of time living on the street or other places not meant for human habitation, and who have one or more disabilities, frequently including mental illnesses and substance use disorders. In the 2014 Department of Housing and Urban Development (HUD) point-in-time count of people experiencing homelessness, more than 84,000 individuals met the definition of chronically homeless, down from more than 120,000 in 2008. In part the decline is due to the federal government’s plan, announced in 2002, to end chronic homelessness within 10 years. The target date has since been extended to 2017. Among the federal programs focused on ending chronic homelessness are the HUD Homelessness Assistance Grants, the HUD and Veterans Affairs Supported Housing Program (HUD-VASH), and several HUD demonstration programs. One of the reasons that federal programs have devoted resources to ending chronic homelessness is studies finding that individuals who experience it, particularly those with serious mental illness, use many expensive services often paid through public sources, including emergency room visits, inpatient hospitalizations, and law enforcement and jail time. Even emergency shelter resources can be costly. In addition to potential ethical reasons for ending chronic homelessness, doing so could reduce costs in providing assistance to this population. This book summarizes the research surrounding permanently supportive housing (PSH) for chronically homeless individuals. In doing so, it attempts to examine the nuance in the research to determine where PSH could be considered successful and where gaps may remain. The book discusses what it means to be chronically homeless, the way in which assistance for chronically homeless individuals has evolved, and how federal programs target assistance to individuals experiencing chronic homelessness. In addition, it summarizes the research regarding chronically homeless individuals who move into PSH.

Qualified Mortgages: Elements and Potential Effects
Brenda Mills
In series: Housing Issues, Laws and Programs
Hardcover: 978-1-63484-559-5, $120.00.
e-book: 978-1-63484-560-1, $120.00.
During the years preceding the mortgage crisis, too many mortgages were made to consumers without regard to the consumers’ ability to repay the loans. Loose underwriting practices by some creditors—including failure to verify consumers’ income or debts and qualifying consumers for mortgages based on “teaser” interest rates after which monthly payments would jump to unaffordable levels—contributed to a mortgage crisis that led to the nation’s most serious recession since the Great Depression. Amid concerns that risky mortgage products and poor underwriting standards contributed to the recent housing crisis, Congress included mortgage reform provisions (qualified mortgage (QM) and qualified residential mortgage (QRM)) in the Dodd-Frank Wall Street Reform and Consumer Protection Act. The Consumer Financial Protection Bureau’s (CFPB) regulations establishing standards for QM loans became effective in January 2014. More recently, six agencies jointly issued the final QRM rule that will become effective in December 2015. This book discusses views on the expected effects of the QM and QRM regulations, and examines the extent of agency planning for reviewing the regulations’ effects, among its objectives.

The Low-Income Housing Tax Credit: Elements and Oversight Issues
Yvette Daniels
In series: Housing Issues, Laws and Programs
2016. 83 pp.
Softcover: 978-1-63484-569-4, $62.00.
e-book: 978-1-63484-570-0, $62.00.
The low-income housing tax credit (LIHTC) program is one of the federal government’s primary policy tools for encouraging the development and rehabilitation of affordable rental housing. These non-refundable federal housing tax credits are awarded to developers of qualified rental projects via a competitive application process administered by state housing finance authorities. Developers typically sell their tax credits to outside investors in exchange for equity. Selling the tax credits reduces the debt developers would otherwise have to incur and the equity they would otherwise have to contribute. With lower financing costs, tax credit properties can potentially offer lower, more affordable rents. The LIHTC is estimated to cost the government an average of approximately $7 billion annually. This book discusses LIHTC’s fixed subsidy and variable rates; addresses the Internal Revenue Service’s oversight of LIHTC; and how LIHTC administration and oversight compare with that of other tax credit programs.

HUMAN RIGHTS

Accessing Justice through Mental Health Law Reform in the Pacific
Helen J. Ménard (Legal Consultant, Picnic Bay, Queensland, Australia)
In series: Human Rights: Background and Issues
Much of the mental health legislation in the Pacific region is archaic, pays no attention to the rights of mental health consumers and is long overdue for reform. A small number of countries in the Pacific has recently undertaken such reform. This work analyses the provisions of past and present mental health statutes in selected Pacific countries to establish, firstly, whether the new legislation has prima facie created or improved pathways for access to justice for mental health consumers and, secondly, whether these pathways offer any practical benefit for those subject to involuntary detention. The research is based on field work involving interviews and correspondences with mental health professionals, court officials, law reformers, lawyers and other professionals in the Pacific region.
Birthright Citizenship in the United States: Analyses and Perspectives
Garrett Manning
In series: Human Rights: Background and Issues
Softcover: 978-1-63485-258-6. $62.00.
The first clause of the Fourteenth Amendment to the U.S. Constitution, known as the Citizenship Clause, provides that “[a]ll persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside.” This generally has been taken to mean that any person born in the United States automatically gains U.S. citizenship, regardless of the citizenship or immigration status of the person’s parents, with limited exceptions such as children born to recognized foreign diplomats. The current rule is often called “birthright citizenship.” However, driven in part by concerns about unauthorized immigration, some have questioned this understanding of the Citizenship Clause, and in particular the meaning of “subject to the jurisdiction [of the United States].” This book traces the history of birthright citizenship under U.S. law and discusses some of the legislation in recent Congresses intended to alter it.

Is the Freedom of Information Act Broken?
Background, Perspectives and Recommendations
Sheila Reed
In series: Human Rights: Background and Issues
Hardcover: 978-1-63484-949-4. $120.00.
e-book: 978-1-63484-954-8. $120.00.
The Freedom of Information Act allows any person—individual or corporate, citizen or not—to request and obtain existing, identifiable, and unpublished agency records on any topic. Pursuant to FOIA, the public has presumptive access to agency records unless the material falls within any of FOIA’s nine categories of exception. Disputes over the release of records requested pursuant to FOIA can be appealed administratively, resolved through mediation, or heard in court. FOIA is a tool of inquiry and information gathering for various sectors—including the media, businesses, scholars, attorneys, consumers, and activists. Agency responses to FOIA requests may involve a few sheets of paper, several stacks of records, or information in an electronic format. Assembling responses requires staff time to search for records and make duplicates, among other resource commitments. Agency information management professionals are responsible for efficiently and economically responding to, or denying, FOIA requests. This book examines and analyzes agency administration of FOIA. It also draws on the testimony and comments received by the Committee to illustrate the barriers to access that citizens face with respect to FOIA.

IMMIGRATION

Developing a Biometric Exit System to Address Visitor Overstays: Progress and Issues
Marie Sherman
In series: Immigration in the 21st Century: Political, Social and Economic Issues
2016. 91 pp.
e-book: 978-1-63485-812-0. $62.00.
Each year, millions of visitors come to the United States legally on a temporary basis. Overstays are individuals who were admitted legally on a temporary basis but then overstayed their authorized periods of admission. The Intelligence Reform and Terrorism Prevention Act of 2004 required the Secretary of Homeland Security to develop a plan to accelerate implementation of a biometric entry and exit data system that matches information provided by foreign nationals upon their arrival and departure. Since 2004, the Department of Homeland Security (DHS) has tracked foreign nationals’ entries into the United States, and since December 2006, a biometric entry capability has been fully operational at all ports of entry. However, the United States Government Accountability Office (GAO) has identified a range of challenges that DHS has faced in its efforts to deploy a corresponding biometric exit capability. DHS’s U.S. Customs and Border Protection (CBP) is primarily responsible for implementing a biometric exit program. This book addresses DHS’s efforts to review its records to identify potential overstays; the extent to which DHS’s changes in its systems or processes have improved data on potential overstays and DHS’s ability to report overstays; and the extent to which DHS has made progress toward establishing a biometric exit system.

Employment-Based Immigration: Background and Risks of the Immigrant Investor (EB-5) Program
Roy McGuire
In series: Immigration in the 21st Century: Political, Social and Economic Issues
Hardcover: 978-1-63484-646-2. $120.00.
e-book: 978-1-63484-654-7. $120.00.
Congress created the Employment-Based Fifth Preference Immigrant Investor Program (EB-5 Program) visa category to promote job creation by immigrant investors in exchange for visas providing lawful permanent residency. Participants are required to invest $1 million in a business that is to create at least 10 jobs—or $500,000 for businesses located in an area that is rural or has experienced unemployment of at least 150 percent of the national average rate. Upon meeting program requirements, immigrant investors are eligible for conditional status to live and work in the United States and can apply to remove the conditions for lawful permanent residency after 2 years. This book examines U.S. Citizenship and Immigration Services (USCIS) efforts under the EB-5 Program to work with interagency partners to assess fraud and other related risks; address any identified fraud risks; and increase its capacity to verify job creation and use a valid and reliable methodology to report economic benefits. This book also reviews the EB-5 Adjudications Policy Memorandum, which is the guiding document for USCIS administration of the EB-5 program.

Federal Care of Apprehended Unaccompanied Alien Children: Analyses, Issues and Trends
Martha E. Walker
In series: Immigration in the 21st Century: Political, Social and Economic Issues
Hardcover: 978-1-63484-374-4. $145.00.
In FY2014, the number of unaccompanied alien children (UAC) that were apprehended at the Southwest border while attempting to enter the United States without authorization increased sharply, straining the system in place over the past decade to handle such cases. UAC are defined in statute as children who lack lawful immigration status in the United States, who are under the age of 18, and who either are without a parent or legal guardian in the United States or without a parent or legal guardian in the United States who is available to provide care and physical custody. To address the crisis, the Administration developed a working group to coordinate the efforts of federal agencies involved. It also opened additional shelters and holding facilities to accommodate the large number of UAC apprehended at the border. This book opens with an analysis of recent UAC apprehension data. It then discusses current policy on the treatment, care, and custody of the population, with a description of the responsibilities of each federal agency involved with the population. The book then discusses both administrative and congressional actions to deal with the UAC surge in
FY2014 and ongoing action to address possible future surges. Furthermore, the book examines, among other things, the extent to which DHS has developed policies and procedures to screen all UAC as required and care for all UAC as required.

**Food Insecurity Among Hispanics and Immigrants in the U.S.: Selected Analyses**

**Devon Powers**

In series: *Hunger and Poverty: Causes, Impacts and Eradication*  
Softcover: 978-1-63485-813-7. $95.00.  

Food-insecure households have difficulty at some time during the year in providing enough food for all their members due to a lack of resources. In 2014, 14.0 percent of all U.S. households were food insecure, versus 22.4 percent of Hispanic households. This book estimates the extent and severity of food insecurity across diverse groups of Hispanic households using 2011-2014 data from the Current Population Survey’s Food Security Supplement. Furthermore, this book analyzes immigrant families’ Supplemental Nutrition Assistance Program (SNAP) participation and food insecurity, using the Food Security Supplement of the Current Population Survey, 2003-10.

**International Migration: Politics, Policies and Practices**

**Elizabeth J. Stephens**

In series: *Immigration in the 21st Century: Political, Social and Economic Issues*  
Hardcover: 978-1-63485-029-2. $190.00.  

One of the key questions on international migration concerns its benefits and costs for the receiving economies. Assessing the overall net gain or loss to the economy from migration is a challenging task both from a theoretical and an empirical point of view. Immigration can affect the receiving economy through several channels: wages or employment effects on native workers, changes in output structure, fiscal effects, effects on house prices, and so on. This book discusses the politics of international migration, as well as the policies and practices throughout the world.

**Strengthening Communities by Integrating Immigrants and Refugees: Federal Action Plan and Progress Report**

**Krista Daniels**

In series: *Immigration in the 21st Century: Political, Social and Economic Issues*  
Hardcover: 978-1-63484-823-7. $120.00.  
e-book: 978-1-63484-824-4. $120.00.

Our country has long been a beacon of hope and opportunity for people from around the world. Today, 41.3 million foreign-born residents live in the United States and are contributing to the vitality of our country and their communities. This includes the over 3 million refugees who have resettled here since 1975 from countries that span the globe. These immigrants and refugees are adding much to our country’s social and cultural fabric, and are also critical to our country’s continued economic prosperity. This book provides a review of the Federal Strategic Action Plan on Immigrant and Refugee Integration, which outlines core goals and recommendations to enhance civic, economic, and linguistic integration of new Americans.

**The U.S. Asylum System: Trends in Claims, Fraud Risks and Prevention Controls**

**Eugene James Martin**

In series: *Immigration in the 21st Century: Political, Social and Economic Issues*  
Softcover: 978-1-63485-491-7. $95.00.  
e-book: 978-1-63485-492-4. $95.00.

Each year, tens of thousands of aliens in the United States apply for asylum, which provides refuge to those who have been persecuted or fear persecution on protected grounds. Asylum officers in the Department of Homeland Security’s (DHS) U.S. Citizenship and Immigration Services (USCIS) and immigration judges in the Department of Justice’s (DOJ) Executive Office for Immigration Review (EOIR) adjudicate asylum applications. This book addresses what DHS and DOJ data indicate about trends in asylum claims; the extent to which DHS and DOJ have designed mechanisms to prevent and detect asylum fraud; and the extent to which DHS and DOJ designed and implemented processes to address any asylum fraud that has been identified.

**INTERNATIONAL TRADE**

**Trade with sub-Saharan Africa: African Growth and Opportunity Act Compared to Other Countries’ Trade Preference Programs**

**Lynda Montgomery**

In series: *African Political, Economic, and Security Issues*  
Softcover: 978-1-63484-608-0. $62.00.  

The African Growth and Opportunity Act (AGOA) is a nonreciprocal trade preference program that provides duty-free treatment to U.S. imports of certain products from eligible sub-Saharan African (SSA) countries. There are 49 candidate SSA countries with 39 currently eligible for the preference benefits. Congress first authorized AGOA in 2000 to encourage export-led growth and economic development in SSA and improve U.S. economic relations with the region. Its current authorization expired on September 30, 2015. Bills to renew the preference program were introduced in the House and Senate on April 17 and April 20. This book seeks to inform the discussion on the potential reauthorization of AGOA through analysis of the components of the AGOA legislation; U.S. import trends associated with AGOA; the impact of AGOA on African economies and U.S.-Africa trade; and the issues surrounding the reauthorization process. The book also compares AGOA with selected countries’ trade preference programs in terms of key characteristics and performance, and examines AGOA countries’ participation in trade negotiations.

**Transatlantic and Trans-Pacific Free Trade Agreements: Negotiation Issues and Congressional Considerations**

**Julian Webb**

In series: *Trade Issues, Policies and Laws*  
2016.  
Hardcover: 978-1-63485-916-5. $150.00.  

The U.S.-EU trade and investment relationship, what many call the “transatlantic economy,” is a mutually beneficial and globally significant relationship. The Transatlantic Trade and Investment Partnership (T-TIP) is a potential reciprocal free trade agreement (FTA) that the United States and the European Union (EU) are
negotiating with each other. The United States and EU seek to enhance market access and trade disciplines by addressing remaining transatlantic barriers to trade and investment in goods, services, and agriculture by negotiating a “comprehensive and high-standard” T-TIP through reducing and eliminating tariffs between the United States and EU; further opening services and government procurement markets; enhancing cooperation, convergence, and transparency in regulations and standards-setting processes; and strengthening and developing new rules in areas such as intellectual property rights (IPR), investment, digital trade, trade facilitation, labor and the environment, localization barriers, and state-owned enterprises (SOEs). This book provides context for the T-TIP negotiations; analysis of possible trade and investment issues in the negotiations; and discussion of issues for Congress. The U.S.-EU negotiations on T-TIP are not public. The information and analysis in this report on issues in the negotiations are based on publicly available information.

JOB TRAINING

The Post-9/11 GI Bill and Use of On-The-Job Training and Apprenticeship Programs

Hector Ortiz

In series: Military and Veteran Issues


Softcover: 978-1-63485-353-8. $62.00.


As the military draws down its forces, many veterans will enter the civilian workforce and may seek educational and training opportunities to further their transition into civilian jobs. Because pursuing a higher education degree may not be the best path for some veterans, the Post-9/11 GI Bill on-the-job training (OJT) and apprenticeship programs provide alternative opportunities. This book examines how selected veterans and employers used the programs and how widely they have been used; to what extent the Department of Veterans Affairs (VA) and states have taken steps to inform veterans and employers about these programs; what challenges, if any, veterans and employers have faced in using them; and to what extent VA has assessed the performance of its programs.

LANGUAGE AND LINGUISTICS

A New Approach to Stuttering: Diagnosis and Therapy

Zbigniew Tarkowski (Head of Department of Pathology and Rehabilitation of Speech, Medical University of Lublin, Poland)

In series: Speech and Language Disorders

2016.


e-book: 978-1-53610-014-3. $190.00.

The author presents a new approach to the therapy of stuttering. Instead of accepting stuttering and trying to make it more fluent, he prefers to motivate a patient to effectively battle the condition. This book presents a theoretical basis for such an approach and offers diagnostic tools, including normalized and standardized scales as well as questionnaires for examining patients with stuttering in different age groups. While guest authors review research on the effects of pharmacotherapy, which is regarded as controversial by many, the author focuses on discussing the approach and achievements of Central and Eastern European therapists which have not been heard of in the USA and Western European countries. He supports systemic therapy which affects all the basic stuttering factors, i.e. speech disfluency, logophobia, muscle tension and interpersonal communication in a comprehensive way. Speech disfluency is not regarded as a problem, but merely as an obstacle on the way to accomplish a patient’s personal goals. The author presents particular methods for solving the problems of patients with stuttering and considers motivation to therapy important, though it is reduced due to the acceptance of the disorder. Although he supports using natural speech in the course of therapy, he does not reject other techniques. On the contrary, the author believes that therapeutic methods should be adjusted to the needs and abilities of a patient instead of forcing said patient to use a method simply because it is universal. The author believes therapies are subjective to the patient in question. Additionally, the author is optimistic and encourages both therapists and patients to share his optimism as well.

Target Audience: The monograph’s target audience includes speech pathologists, psychologists, doctors and people interested in the topic i.e. teachers, parents and people who stutter.

Bilingualism: Cultural Influences, Global Perspectives and Advantages/Disadvantages

Carroll E. Wilson

In series: Languages and Linguistics

2016. 223 pp.

Hardcover: 978-1-63485-227-2. $160.00.


This book focuses on the cultural influences of bilingualism, as well as global perspectives, and the advantages and disadvantages of being bilingual. Chapter One discusses the Letter of Aristaeus. Chapter Two discusses various aspects bridging the issues of culture implementation during a planned school course of English as a global language (EGL). Chapter Three discusses the future direction of studies related to the application of the testing effect and retrieval practice in foreign language learning. Chapter Four reports findings from a study that examined whether there would be significant differences on oral narrative retelling among kindergarten, first, and second grade Spanish-English bilingual children in U.S. schools. Chapter Five highlights some of the issues related to the concept and practice of ‘translanguaging’ as proposed by Baker (2011) and García (2012) within the broader context of language contact. Chapter Six records the bilingual immigrant students’ views on their L1 development and use and their attitudes towards home language and culture; and the majority students’ views on the linguistic and cultural identities of their immigrant classmates. Chapter Seven investigates the association between levels of language proficiency and levels of bilingualism and performance on verbal and visual-spacial working memory tasks in young monolinguals and bilinguals 9-year old children in South Africa. Chapter Eight analyzes the grammar knowledge and use of second-generation Spanish/English bilinguals in South Florida. The final chapter reviews recent studies on extensive reading focusing on EFL settings such as Japan and China.

Communication Skills: Challenges, Importance for Health Care Professionals and Strategies for Improvement

Bridget L. Wright

In series: Speech and Language Disorders


Softcover: 978-1-63485-565-5. $82.00.

e-book: 978-1-63485-579-2. $82.00.

The authors of this book provide current research on the challenges of communication skills, its importance for health care professionals and strategies for improvement. Chapter One explores the literature that studies the impact of electronic medical record use on communication between physicians and patients. Chapter Two reviews communicating with the psychologically distressed patient. Chapter Three reviews major theories of neurocommunication intended as the application of the findings of neurosciences for the study of interprofessional
communication and behavior in healthcare. Chapter Four studies decision-making models in patients with depression.

New Developments in Foreign Language Learning

Adrienne Murphy

In series: Languages and Linguistics

Hardcover: 978-1-63484-276-1, $190.00.
e-book: 978-1-63484-277-8, $190.00.

It has been estimated that some 60% of today’s world population is multilingual. Living in a multilingual world makes language learning essential and the foreign language teaching profession even more valuable to guarantee communication in a wide spectrum of languages, thus promoting mobility around the world and ensuring the continuity of the translation industry. This book provides current research and examines new developments in foreign language learning. The first chapter presents illustrations of the latest trends and practices in language learning, demonstrating that technology-enhanced language learning enables innovative foreign language delivery and empowers learners to acquire the chosen language in a more independent yet effective way. Chapter Two describes the results of an experiment in building an online platform for learning foreign languages that allows people to teach their native language without being professional instructors. Chapter three studies secondary EFL learners’ extracurricular L2 contact and their self-beliefs concerning oral narrative competencies. Chapter four examines how a learner who learns Japanese as a foreign language (FL) at an Australian university develops a positive FL self-concept to overcome her anxiety about speaking the FL during the transition period from secondary school to university and then to a Japanese study abroad. Chapter five argues that the ‘under-resourcefulness’ of an ELT context is misguided, as it is derived from the conception of what is believed to be ‘standard’ and not on the concept of adequacy and sufficiency; and hopes to demonstrate that the ‘under-resourced’ conception of contexts is the result of the inapplicability of Centre-driven methodologies in contexts that are only different and not actually under-resourced per se. Chapter six studies the implementation of the CLLL approach in a foreign language project. The final chapter systematically and critically reviews a variety of factors which influence lexical inferencing strategy use and incidental vocabulary acquisition among foreign language (FL) learners. It concludes with some directions for researchers to consider in the future research.

Studies in Contrastive Linguistics and Stylistics

Amr M. El-Zawawy (Doctor of Linguistics and Translation, Faculty of Education, Alexandria University, Alexandria, Egypt)

In series: Languages and Linguistics

Softcover: 978-1-63485-645-4, $95.00.

The present book is an attempt at providing a number of seminal studies on contrastive linguistics and stylistics. This manuscript can not only be used to fill a gap that may exist between the two disciplines, but also as a manual for teaching both disciplines from the author’s point of view. The studies range from phonology, morphology, and syntax to poetic stylistics in a comparative tone. The readers are presented with a stimulating corner of vantage that combines both contrastive linguistics and stylistics. The book is suitable for both academics and students of linguistics alike.

LATIN AMERICA

Bolivia: Social, Environmental and Economic Issues

Glen Mendoza

In series: Latin American Political, Economic, and Security Issues

Hardcover: 978-1-63484-886-2, $82.00.

Bolivia is known worldwide for the mineral wealth it produces. It is also renowned for being historically a complex multicultural and multiethnic society. This book studies the social, environmental and economic issues of Bolivia. Chapter One focuses on the indigenous presence in Chiquitania. Chapter Two discusses the eastern borders of Bolivia in the early decades of the 19th century. Chapter Three presents the dynamic creation of the Plurinational State of Bolivia; and describes an environmental perspective which shows a contrast between capitalist production and the Buen vivir (well-being) models developed by the local Bolivian community, a fundamental contrast to understand the future of the Latin-American region. Chapter Four discusses the camelid populations and soil classification and fertility in Bolivia. Chapter Five examines the effect of artisanal gold mine activities on metals and metalloids contents in soils and sediments from Apolobamba, Bolivia.

Latin America: Economic, Social and Political Issues of the 21st Century

Cory Peterson

In series: Latin American Political, Economic, and Security Issues

2016. 177 pp.
Hardcover: 978-1-63484-620-2, $190.00.

This book reviews economic, social and political issues of Latin America in the 21st century. Chapter One begins with a discussion of the latest breakthroughs in the literature on institutionalization and consolidation of the party system in countries of this region. Chapter Two proposes an index intended to measure the formal political strength of South American parliaments. Chapter Three explores the path sovereign debt resolutions have recently taken in developing countries. Chapter Four discusses regional migration in Latin America, focusing on the social and cultural aspects of a series of topics related to intraregional migration. Chapter Five summarizes the results from two recent studies which empirically investigate how Cuban citizens represent the concept of happiness and its semantic space. Chapter Six reviews the literature which describes the two most recent cholera epidemics in the western hemisphere. Chapter Seven uses findings from a survey of attitudes and beliefs of nurses practicing in the Mexican state of Tamaulipas, recent scholarly publications, and public health data, to provide a description and an analysis of the factors that are known to influence HIV care and prevention in Mexico.

Latin America: Issues and Considerations for the United States

Melody Gutierrez

In series: Latin American Political, Economic, and Security Issues

Hardcover: 978-1-63485-815-1, $150.00.
e-book: 978-1-63485-816-8, $150.00.

Geographic proximity has ensured strong linkages between the United States and the Latin American and Caribbean region, with diverse U.S. interests, including economic, political, and security concerns. U.S. policy toward the region under the Obama Administration has focused on four priorities: promoting economic and social opportunity;
ensuring citizen security; strengthening effective democratic institutions; and securing a clean energy future. There was substantial continuity in U.S. policy toward the region during the first six years of the Obama Administration, which pursued some of the same basic policy approaches as the Bush Administration. Nevertheless, the Obama Administration made several significant policy changes, including an overall emphasis on partnership and shared responsibility. Moreover, in December 2014, President Obama unveiled a new policy approach toward Cuba that broke with the long-standing U.S. sanctions-based policy and moved toward a policy of engagement. This book provides an overview of U.S. policy toward Latin America and the Caribbean.

**Mexico in Focus: Political, Environmental and Social Issues**

*José Galindo (University of California, Berkeley/Universidad Veracruzana)*

Hardcover: 978-1-63321-885-7. $295.00.
Softcover: 978-1-63485-115-2. $89.00.
e-book: 978-1-63463-197-6. $89.00.

This book compiles the works of many authors from some of the best academic institutions in the world, all related to Mexico’s contemporary general conditions. The main objective of this compilation is to examine Mexico as a whole, giving the reader an insight on its social, economic, political and environmental problems. For this purpose, the texts have been chosen in a way that after analyzing a few of them, one will find them all correlated. The problems analyzed in this book range from very recent (some of them occurring this past year) to others that go back decades or even centuries. In this sense, this contribution gives readers a historical perception of the problems captured. Some chapters develop scientific conclusions based on strict scientific research; however, the reader will find that the language is not overwhelming and the chapters can be thoroughly and easily read. Overall, it is a wonderful compilation made possible by all contributing authors and their interest to publish their most recent research on it. We hope that readers enjoy going through the pages of these chapters as they venture through contemporary Mexico, analyzing topics from the environmental difficulties of Coahuila’s sand dunes to social changes in the Meseta Purépecha, passing through other topics, such as, the conditions of human rights protection in Mexico or the return of the PRI regime, among other great discussions. The authors’ interests are as different as their disciplines, but, in this case, diversity is important for maintaining multidisciplinary interpretations on the current needs of the Mexican society.

**Venezuela: Social, Economic and Environmental Issues**

*Gregory L. Knight*

Hardcover: 978-1-63485-923-3. $160.00.

This book provides current research on the social, economic and environmental issues in Venezuela. Chapter One reviews the patrimonial state under Venezuela’s twenty-first century socialism. Chapter Two examines the use and potential of plant species biodiversity in Venezuela agroforestry systems. Chapter Three discusses legal and social concerns for the conservation of ecosystems in Venezuela.

**Creative Works and the Right of Making Them Available: In Depth Analyses**

*Brandon S. Casey*

Hardcover: 978-1-63485-522-8. $150.00.

The growth of new technologies in the digital age has rapidly expanded the availability of copyrighted works. Along with this expansion have come questions central to copyright jurisprudence as whether and how the creative works of authors may be accessed and disseminated. Two international treaties to which the United States is a party—the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty (collectively, the “WIPO Internet Treaties”)—require member states to recognize the right of “making available,” which gives authors, producers, and performers the exclusive right to authorize the transmission of their works and sound recordings to the public through interactive platforms that enable members of the public to choose where and when to access them. This book provides a thorough assessment of the state of U.S. law recognizing and protecting copyright holders’ exclusive right of “making available” and how both U.S. and foreign laws have interpreted and implemented the relevant provisions of the WIPO Internet Treaties.

**International Human Rights and Justice**

*Doug Hodgson (Professor, Dean, School of Law, Fremantle Western Australia, The University of Notre Dame Australia, Fremantle Western Australia)*

Hardcover: 978-1-63484-709-4. $190.00.

From their classical origins in the natural law theory of Greek and Roman philosophers and jurisprudential human rights in the American and French revolutions of the late 18th century, contemporary human rights have been universally recognized by the United Nations in the International Bill of Human Rights (in the Universal Declaration of Human Rights of 1948 and the Twin Covenants of 1966). A wide array of special human rights treaties protecting racial and ethnic minorities, women, children and persons with disabilities have now been recognized and are monitored in their implementation by treaty committees, special rapporteurs and the UN Human Rights Council. The human rights expansion process continues. International Human Rights and Justice offers a scholarly and eclectic examination and analysis of topical — and indeed controversial — human rights, equality and protection issues which confront our world today. The intended audience includes legal scholars and practitioners, human rights advocates and students who wish to increase their knowledge of (and passion for) the human rights field. The contributors include senior university academics and administrators, human rights researchers and policy-makers, philosophers, political scientists, United Nations officials and NGO representatives spanning North America, Europe, the Middle East, Africa and Australia. They have examined a wide range of human rights applications which evidence their inherent pervasiveness and dynamism in everyday life. These include: • The scope of the human right to benefit from scientific progress • Recent undermining of the protective mechanisms of the European Convention on Human Rights (at a time of mass refugee flows into southern Europe) • Human rights, well-being and the case for equality in the post-2015 development agenda • Equality of access to justice in American courts as a human right • The protection of the reproductive rights of African women in a cultural context • The potential for United Nations human rights norms and protective mechanisms to advance the constitutional recognition of
Australian Aboriginal human rights • Freedom of expression as a fundamental international human right and South African constitutional right • The destruction of the cultural heritage of humanity in armed conflict as a breach of human rights • MNCs, governments and the development of human rights infrastructure post-Washington Consensus • The contribution of cultural practices to ensure greater protection of the human rights of African children • The reindeer herding right in Norway and Sweden as a protected right under the European Convention on Human Rights • Ensuring justice for the accused in criminal proceedings under the European Convention on Human Rights through the delivery of adequate interpretation and translation services.

Juvenile Delinquency: Causes, Control and Consequences
Bonnie A. Nelson
In series: Law, Crime and Law Enforcement
Softcover: 978-1-63485-742-0. $95.00.
This book focuses on the causes, control and consequences of juvenile delinquency. Chapter One begins with an overview of the social, cultural and interpersonal issues with justice involved adolescents. Chapter Two's purpose is to help understand the major developmental theorist's view of critical developmental milestones, understand the social, biological and interpersonal effects on an adolescents' functioning; learn how rage, anger and delinquency are central components in the developing adolescents' skills to manage behavioral outbursts; identify aspects of depression and anxiety in adolescents and how these symptoms manifest into pathology; learn skills and tools to work with adolescents who struggle with these changes and adolescents who are defiant to the therapy process; identify markers related to low and inflated self-esteem and how it may disrupt adolescent development; improve awareness of friendship development and group identity contribute and its impact on decision making; and identify ethical and other best practice implications. Chapter Three studies the construction of juvenile restorative justice in Italy and Chile, how these policies are implemented in practice, and how families participate in these processes. Chapter Four discusses youth transitions and social exclusion through an empirical study of young ex-offenders' reintegration in China.

Law and Legal Issues in the United States: Analyses and Developments, Volume 5
Laurent B. Landers
In series: Law and Legal Issues in the United States: Analyses and Developments
Hardcover: 978-1-63485-262-3. $145.00.
e-book: 978-1-63485-263-0. $145.00.
This series provides an overview of current analyses and developments pertaining to the law and legal issues in the United States. Topics covered in this volume include Congressional redistricting; an overview of 18 U.S.C. 2; federal criminal law; constitutional analysis of suspicionless drug testing requirements for the receipt of governmental benefits; telemarketing regulation; federal aid for reconstruction of houses of worship; tort suits against federal contractors; legal protections for subcontractors on federal prime contracts; and validity and construction of the Federal Chemical Weapons statute.

Law Enforcement and Crime
Emanuel T. Rhodes
In series: Law, Crime and Law Enforcement
Hardcover: 978-1-63484-127-6. $110.00.
This book provides an overview of current analyses and developments pertaining to the law enforcement and crime. Chapter one analyzes individual elements of the polygraph examination in pre-employment cases in law enforcement agencies, and attempts to answer the following questions: How are existing standards “scientific”? What should be done to raise the level of quality control in this kind of examinations? Chapter two studies the use of insects as evidence and as a forensic indicator in law enforcement technology. Chapter three explores a public health approach to preventing child fatalities. Chapter four discusses the prospects of the use of prison informers. Chapter five studies the homicide rates in the U.S. and their correlation with other publicly available data applying this nonstandard visualization technique; and a comparison of homicide rates in the U.S. to that of different Latin American countries is shown. The last chapter is an attempt to show that violence in American popular culture can be justified, and may even serve the story. The chapter will focus on depicting concrete scenes from Paul Verhoeven’s 1987 film Robocop to prove that apart from showing violence, they actually raise important sociological and psychological matters.

Patent Litigation Reform: Proposals and Perspectives
Richard K. Gutierrez
In series: Intellectual Property in the 21st Century
Hardcover: 978-1-63485-526-6. $150.00.
Congress has shown significant interest in altering the current patent system in response to concerns about entities that engage in patent litigation tactics that have been criticized as abusive or deceptive. Many congressional hearings on the topic of patent litigation abuse have been held in the 114th and 113th Congresses, and several legislative proposals have been introduced; one bill in the 113th Congress, H.R. 3309, the Innovation Act, was passed by the House in December 2013. In June 2015, the House Judiciary Committee approved the Innovation Act (H.R. 9) by a vote of 24 to 8, and the Senate Judiciary Committee passed the PATENT Act (S. 1137) by a vote of 16 to 4; both bills are awaiting floor action. This book describes how the major provisions of current patent litigation reform legislation, with a particular focus on these two bills that have seen the most legislative activity, would change existing patent law to address the perceived problems in the patent litigation system.

Policing: Strategies, Management and Potential Risks
Jessie Ingram
In series: Law, Crime and Law Enforcement
2016. 175 pp.
This book discusses strategies, management and potential risks of policing. Chapter One describes and examines the ‘Policing Excellence’ and ‘Prevention First’ programs, and will discuss their successes and challenges since their introduction in 2009 in New Zealand. Chapter Two analyzes the action of the Military Police of Minas Gerais (PMMG) during the World Cup protests carried out in 2013 and 2014 in the state capital Belo Horizonte, Brazil. Chapter Three examines the emerging problem of cyber terrorism. It x-rays the concept of cyber terrorism as well as the tenor of existing scholarship on how to police it; and discusses the scope and ramifications of the problem and proposes a model for effectively policing Africa’s terror-genic cyberspace.

Prescription Drugs and the DEA: Interactions and Issues with Controlled Substances Registrants
Kara Morris
In series: Drug Transit and Distribution, Interception and Control
Hardcover: 978-1-63484-606-6. $120.00.
e-book: 978-1-63484-607-3. $120.00.
The Drug Enforcement Administration (DEA) administers and enforces the Controlled Substances Act (CSA) as it pertains to ensuring the availability of controlled substances, including certain prescription drugs, for legitimate use while limiting their availability for abuse and diversion. The CSA requires those handling controlled substances to register with DEA. This book examines to what extent registrants interact with DEA about their CSA responsibilities, and registrants’ perspectives on those interactions; how state agencies and national associations interact with DEA, and their perspectives on those interactions; and stakeholders’ perspectives on how DEA enforcement actions have affected prescription drug abuse and diversion and access to those drugs for legitimate needs. The book also highlights certain non-criminal regulatory requirements.

Sex Trafficking: Federal Criminal Law and Child Trafficking Issues
Darla Glover
In series: Law, Crime and Law Enforcement
Hardcover: 978-1-63485-314-9. $120.00.
e-book: 978-1-63485-315-6. $120.00.
Sex trafficking is a state crime. Nevertheless, it is also a federal crime when it involves conducting the activities of a sex trafficking enterprise in a way that affects interstate or foreign commerce or that involves travel in interstate or foreign commerce. Section 1591 of Title 18 of the United States Code outlaws the activities of sex trafficking enterprise that affects interstate or foreign commerce, including patronizing such an enterprise. The Mann Act outlaws sex trafficking activities that involve travel in interstate or foreign commerce. This book provides an overview of sex trafficking. It focuses on the sex trafficking of children in the United States and reviews the Preventing Sex Trafficking and Strengthening Families Act.

The Intersection of Copyright Law and Internet Policy: Select Issues and Perspectives
Kayla Stanley
In series: Intellectual Property in the 21st Century
This book addresses important issues at the intersection of copyright law and Internet policy. It is the result of a comprehensive, multi-year review of three key topics: 1) the legal framework for the creation of remixes; 2) the relevance and scope of the first sale doctrine in the digital environment; and 3) the application of statutory damages in the context of individual file-sharers and secondary liability for large-scale online infringement. Each section provides recommendations based on the stakeholder input received.

Use of Restrictive Housing in the Prison System:
Overview, Concerns, Recommendations
Brenda Lewis
In series: Law, Crime and Law Enforcement
2016.
Hardcover: 978-1-53610-038-9. $150.00.
This book was drafted to provide an overview of restrictive housing in the American criminal justice system and propose recommendations for safely reducing the use of this practice.

MEDIA AND COMMUNICATIONS

Advances in Social Networking Research
Salvador Reese
In series: Media and Communications - Technologies, Policies and Challenges
2016. 239 pp.
This book provides current research on social networking. The first chapter presents an application of network analysis to characterize the role of the Information and Communication Technologies (ICT) sector as an enabler of knowledge and innovation diffusion across the economy. Chapter Two proposes a novel algorithm for computing the similarity of users in a social network considering their characteristics. Chapter Three addresses both the modeling of information dissemination, especially via epidemics and evolutionary game theoretic techniques, as well as their control via optimal control frameworks and dual optimization techniques. Chapter Four is designed to explore socially networked spaces as an important process within teacher professional development. Social networking enables teachers to access new ideas, to collaborate and to contribute to a shared knowledge, regardless of time and place.

The Discourse of Digital Civic Engagement:
Perspectives from the Developing World
Rotimi Taiwo and Tunde Opeibi (Department of English, Obafemi Awolowo University, Nigeria, and University of Lagos, Nigeria)
In series: Electronics and Telecommunications Research
Hardcover: 978-1-63484-120-7. $190.00.
e-book: 978-1-63484-121-4. $190.00.
This book is an impressive collection of chapters which investigates the role that digital communication technologies play in political discourse and civic engagement in Nigeria, Africa’s largest democracy. The collection, written by fifteen seasoned African scholars and, drawn from diverse backgrounds approaches digital civic engagement from different perspectives of discourse analysis, such as, critical discourse analysis, corpus-assisted discourse model, socio-semiotic approaches and multimodal discourse analysis, computer-mediated discourse analysis, appraisal theory, as well as sociolinguistic and applied linguistic approaches. The authors demonstrate how the Internet has become the space for citizens’ participation in the process of democratization, as well as the key driver of change in many developing nations. The process of civic engagement which manifests through the verbal and visual semiotic resources on different social networking spaces, such as online newspapers feedback forums, Facebook, Twitter, texting and instant messaging, discussion forums, political cartoons, and Charismatic religious sermons are explored. This book is a must read for researchers who are interested in the discourse of online civic engagement in the developing world.

MIDDLE EAST

Orientalism and the Myth of the Arab Mind: Five Middle Eastern Essays
Nissim Rejwan (Research Fellow, The Harry S. Truman Research Institute for the Advancement of Peace, The Hebrew University of Jerusalem, Jerusalem, Israel)
In series: *Politics and Economics of the Middle East* 2016. 155 pp.
Hardcover: 978-1-63484-361-4, $160.00.

In Orientalism and the Myth of the Arab Mind, Nissim Rejwan deftly surveys, analyzes, criticizes and dismisses the primarily Western Orientalists' insistence on dwelling on the so-called "Arab mind". In an attempt to amplify this idea, he cites a number of points made by scholars and observers who wrote on both sides of the subject: Raphael Patai, John Laffin, Edward Said, Bernard Lewis, and Akbar Ahmed, among others. Nissim Rejwan is the author of a dozen books on Arab and Middle Eastern culture and history, and manages skilfully to give a summary of the great number of points made by all those who took part in the controversial subject of "the Arab mind". Apart from this particular subject, Orientalism and the Myth of the Arab Mind offers a good deal on other Middle Eastern and Arab topics.

**The Iran Nuclear Agreement and Joint Comprehensive Plan of Action: Elements and Considerations**

**Benjamin Martinez**

In series: *Politics and Economics of the Middle East* 2016. 136 pp.
Hardcover: 978-1-63484-444-4, $120.00.

On July 14, 2015, Iran and the six powers that have negotiated with Iran about its nuclear program since 2006 (the United States, the United Kingdom, France, Russia, China, and Germany—collectively known as the P5+1) finalized a Joint Comprehensive Plan of Action (JCPOA). The JCPOA is intended to ensure that Iran’s nuclear program can be used for purely peaceful purposes, in exchange for a lift in sanctions on Iran. The JCPOA largely reflects what was agreed in an April 2, 2015, framework for the accord. The agreement replaces a Joint Plan of Action (JPA) interim nuclear accord in operation since January 2014. This book examines the Iran Nuclear Agreement, and discusses Tehran’s compliance with international obligations.

**Hiring Veterans into Civil Service Positions: Practices, Complexities, and Protection Issues**

**Sergio Ruiz**

Hardcover: 978-1-63484-436-9, $120.00.
e-book: 978-1-63484-437-6, $120.00.

The laws and regulations regarding the preferences in hiring that can or must be given to veterans and certain family members are extremely complex. The preferences vary by the specific circumstances of the veterans and the hiring authorities being used. Some veterans can be non-competitively appointed, while other veterans may not be eligible for that same hiring authority, and the availability of an authority may depend on the grade of the position being filled. The right of a veteran to have his or her application considered for a position may depend on whether an agency is considering applicants who are internal to Government but outside the agency’s own workforce. The degree of preference owed can vary by agency or position being filled. Under certain circumstances, the mother of a veteran may be eligible for preference, whereas the father would not be eligible. There are many other examples of how veterans may be treated differently under the law, but to put the message more simply: the laws relating to veterans’ preference invite misunderstandings, confusion, perceptions of wrongdoing, and possibly actual wrongdoing—whether intentional or inadvertent. This book discusses hiring authorities pertaining to veterans, the hiring of veterans under those authorities, and employee perceptions about veteran hiring. It also describes the statutes and pertinent case decisions for two laws designed to protect the employment rights of veterans in the civil service.

**PTSD and Traumatic Brain Injury Among Servicemembers: Reviews of Medication Practices and Research on Hyperbaric Oxygen Therapy**

**Tanya Rivera**

Softcover: 978-1-63484-916-6, $62.00.

VA’s adaptive sports grant program distributes $8 million annually to organizations that provide sports activities for veterans and service members with disabilities. The U.S. Olympic Committee (USOC) played an intermediary role from fiscal year 2010, when the program was implemented, through 2013. USOC received funds from VA and subgranted them to selected grantees. VA is now responsible for selecting grantees and program administration. This book reviews how VA selected grantees to provide activities for veterans and service members with disabilities; how VA monitors grantees’ use of funds; and what programs and activities were supported with fiscal year 2014 funds, and what is known about its benefits.

**Medication Continuation, When Clinically Appropriate, is Critical for Transitioning Servicemembers with Parkinson’s Disease or Traumatic Brain Injury**

**Dwight Johnson**

Softcover: 978-1-63484-685-0, $95.00.

VA’s medication continuation program for transitioning servicemembers with Parkinson’s disease or traumatic brain injury (TBI) included a variety of start-up, mid-program and end-of-program financial incentives for pharmacists to establish and maintain patients on chronic medications as recommended in the transition plan. VA pharmacists are accountable for patient medication stability by making adjustments in recommended treatment regimens. This book reviews the extent to which the program funds were used to support pharmacists in meeting these objectives and discusses the program’s accomplishments.
might affect medication continuation; and key efforts VHA has to help ensure medication continuation, and the extent it is monitoring these efforts...

Special Operations Forces: Elements, Trends in Force Structure and Funding

Naomi Duncan

In series: Military and Veteran Issues

2016. 120 pp.

Hardcover: 978-1-63484-442-0. $120.00.
e-book: 978-1-63484-443-7. $120.00.

Special Operations Forces are military operations requiring unique modes of employment, tactical techniques, equipment, and training. Often conducted in hostile, denied, or politically sensitive environments, and characterized by one or more of the following: time sensitive, clandestine, low visibility, conducted with/through indigenous forces, requiring regional expertise, and/or a high degree of risk. Special Operations Forces (SOF) are those active and reserve component forces of the services designated by the Secretary of Defense and specifically organized, trained, and equipped to conduct and support special operations. Since 2001, the Department of Defense (DOD) has increased the size and funding of SOF and emphasized SOF’s importance to meet national security needs. SOF deployments have focused on the Middle East and placed significant demands on the force during this period. This book examines trends since FY 2001 in authorized special operations military positions; the extent to which DOD has determined total funding for SOF; and the extent to which DOD has taken steps to manage the pace of SOF deployments, among other issues.

Support for Servicemembers and Veterans: Programs Addressing the Effects of Combat and Transition to Civilian Life

Gayle Marsh

In series: Military and Veteran Issues

2016. 120 pp.

Softcover: 978-1-63484-950-0. $95.00.
e-book: 978-1-63484-955-5. $95.00.

The Department of Defense (DOD) and the Department of Veterans Affairs (VA) play key roles in offering post-combat support to servicemembers and veterans through various programs and activities. This book identifies the number of programs, including the types of services offered that address the effects of combat on post-9/11 active-duty servicemembers and their families; help post-9/11 servicemembers and veterans transition to civilian life; and help raise public awareness and understanding of servicemembers’ and veterans’ combat and transition experiences.

The Future of the U.S. Army: Background and the National Commission’s Report

Josephine Hoffman

In series: Military and Veteran Issues


Hardcover: 978-1-63485-875-5. $175.00.

The American people expect their Army to be trained and ready whenever called upon to achieve national objectives. In an increasingly complex world with an increasing array of diverse threats at home and abroad, America’s Army must possess a wide range of capabilities to fulfill its myriad missions. However, even as the demand for Army forces expands and diversifies, the fiscal resources necessary to meet that demand have declined and will remain challenging for several years. This tension between growing requirements and fewer resources not only creates national-level risk, it also has resulted in some unhealthy competitive tension among the Army’s components, especially between the Regular Army and the Army National Guard. In

large part, these factors, plus the Army’s proposal, endorsed by the Department of Defense, to consolidate all Apache aircraft in the Regular Army, prompted the Congress to establish the National Commission on the Future of the Army (NCOA). This book provides a background, discusses the National Commission’s Report to the President and the Congress of the United States regarding the future of the Army.

The Post-9/11 GI Bill: Administrative Issues and Recommendations

Delores Norton

In series: Military and Veteran Issues


Softcover: 978-1-63485-161-9. $95.00.

This book compares and contrasts the administration of the Post-9/11 Veterans Educational Assistance Act of 2008—enacted as Title V of the Supplemental Appropriations Act, 2008—and Federal Pell Grants, as authorized by Title IV-A-1 of the Higher Education Act (HEA). The Post-9/11 GI Bill provides educational assistance payments to eligible servicemembers and veterans, and their dependents. One of its primary objectives is readjustment of veterans to civilian life and the workforce. The federal Pell Grant program provides grant aid payments to eligible and financially needy undergraduate students, regardless of military service record. One of its primary objectives is to increase postsecondary education access of low-income individuals. This book investigates whether the administrative processes supporting Pell Grants can provide lessons for achieving more timely, efficient, and student-friendly administration of the Post-9/11 GI Bill, thus ensuring that it achieves its policy objectives with respect to educational achievement of the target population. Furthermore, the book examines the extent of overpayments made in the Post-9/11 GI Bill; how effectively VA has addressed their causes; and the effectiveness of VA’s collection efforts.

The War Powers Resolution: Provisions, Practice, and Proposals

Stanley E. Baldwin

In series: Military and Veteran Issues


Hardcover: 978-1-63485-266-1. $145.00.

Under the Constitution, the war powers are divided between Congress and the President. Among other relevant grants, Congress has the power to declare war and raise and support the armed forces) while the President is Commander in Chief. It is generally agreed that the Commander-in-Chief role gives the President power to utilize the armed forces to repel attacks against the United States, but there has long been controversy over whether he is constitutionally authorized to send forces into hostile situations abroad without a declaration of war or other congressional authorization. This book discusses and assesses the War Powers Resolution and its application since enactment in 1973, providing detailed background on various cases in which it was used, as well as cases in which issues of its applicability were raised. It focuses on the several proposals for a new AUMF specifically targeting the Islamic State made during the 113th and 114th Congresses. It includes a brief review of existing authorities and AUMFs, as well as a discussion of issues related to various proposals included in existing and proposed AUMFs that both authorize and limit presidential use of military force. Appendices provide a comparative analysis of similar provisions in new AUMFs proposed in the 113th and 114th Congresses.

Traumatic Brain Injury Among Military Personnel: Overview and Recommendations

Ralph Wagner
In series: **Military and Veteran Issues**


Hardcover: 978-1-63485-634-8. $150.00.
e-book: 978-1-63485-635-5. $150.00.

Since the mid-2000s, public health and health care–communities have become aware of the increased rates of traumatic brain injury (TBI) among active duty U.S. military personnel. In response to these public health concerns, Congress passed the Traumatic Brain Injury Act of 2008, which requires the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH), in consultation with the Department of Defense (DoD) and the Department of Veterans Affairs (VA), to determine how best to improve the collection and dissemination of information on the incidence and the prevalence of TBI among persons who sustained these injuries while in the military; and to make recommendations on the manner in which CDC, NIH, DoD, and VA can collaborate further on the development and improvement of TBI diagnostic tools and treatments. This book presents the major findings and recommendations of the members of the CDC, NIH, DoD, and VA Leadership Panel. It also focuses on current efforts of the VA’s Veterans Health Administration (VHA) to understand, identify, and treat TBI among veterans.

**U.S. Military Medical Professionals: Ethical Guidelines, Practices, and Issues**

*Erin Andrews*

In series: **Military and Veteran Issues**


Hardcover: 978-1-63484-697-4. $120.00.
e-book: 978-1-63484-702-5. $120.00.

Military health care professionals serve in a variety of settings, more diverse than is typically found in the civilian environment. The Military Health System (MHS) is a global, comprehensive, integrated system that includes combat medical services, peace-time health care delivery to Service members and eligible beneficiaries, public health services, medical education and training, and medical research and development. MHS personnel provide a continuum of health services from austere operational environments through remote, fixed military treatment facilities (MTFs), to major tertiary care medical centers distributed across the United States. Military health care professionals are also expected to care for detainees, enemy combatants, nonstate actors, local nationals, and coalition forces. In addition, U.S. military personnel are often deployed to assist in humanitarian missions, such as natural disasters or to provide care to local citizens in combat zones. Directly applying ethical principles from civilian medical ethics may not be appropriate in military medicine. The basic discrepancy between the two settings involves their goals and how these goals can be achieved. This book examines the ethical guidelines, practices, and issues for U.S. military medical professionals.

**Veterans’ Access to Mental Health Care: Assessments**

*Edgar W. Schneider*

In series: **Military and Veteran Issues**


Hardcover: 978-1-63485-195-4. $145.00.

Between 2005 and 2013, the number of veterans receiving mental health care from the Department of Veterans Affairs (VA) Veterans Health Administration (VHA) increased 63 percent, outpacing overall growth in veterans receiving any VHA health care. In fiscal year 2014, VHA spent more than $3.9 billion providing outpatient specialty mental health care (mental health care) to more than 1.5 million veterans. This book examines, among other things, veterans’ access to timely mental health care, and VHA’s related oversight.

**PHILOSOPHY**

**Human Dynamics: A Complexity Science Open Handbook**

*Franco F. Orsucci (University College, London)*

In series: **Chaos and Complexity**


The classical Roman poet, Titus Lucretius Carus (c. 99 BC – c. 55 BC), described the clinamen, or swerve, as an occurrence that we now call singularity, also popularized as the butterfly effect. His poem, De Rerum Natura (On the Nature of Things), reminds us that an awareness of the intrinsic complexity of natural dynamics has been present for a very long time in human culture (Lucretius, 54BC in 1971; Greenblatt, 2011). It is quite recently, however, that complexity has become a suitable scientific approach. The meta-paradigm of Complexity Science crosses over different disciplines, from physics and mathematics to biology, social sciences, and now psychotherapy. Complexity Science is the scientific toolbox for complex dynamical systems. This definition comprehends a series of sub-disciplines: dissipative systems, cellular automata, fractals, catastrophes, self-organization, self-organized criticality, chaos theory, fuzzy logic, stochastic resonance, cellular automata, neural networks, genetic algorithms, and others.

**The Scepticaemic Surgeon: How Not to Win Friends and Influence People**

*Michael Baum (Professor Emeritus of Surgery & Visiting Professor in Medical Humanities, University College London, UK)*

In series: **World Philosophy**


Softcover: 978-1-63458-117-6. $89.00.

Michel de Montaigne invented the literary term “essay” derived from the French word essai, meaning to put on trial. In his collection of essays he describes his life’s work in testing his responses to different subjects and situations, using his ego and alter ego as council for and against the case. In one such essay he writes, “Why do doctors begin by practising on the credibility of their patients with so many false promises of a cure, if not to call the powers of the imagination to the aid of their fraudulent concoctions?” It is hard to believe that this was written over 400 years ago, yet this book of essays in the style invented by Montaigne, is still addressing the same follies ascribed to 16th Century French citizens. In 1764 Voltaire published his Dictionnaire philosophe in which he took the essay format one step further by adding his sardonic wit, to better illuminate the follies and fallacies of that époque. One of his aphorisms that resonates 250 years on, went like this: “Faith consists in believing when it is beyond the power of reason to believe. It is not enough that a thing be possible for it to be believed”. Thomas Browne, an English essayist of the same period attempted to understand the follies of mankind and their capacity of making “vulgar errors” in observation and belief. One was entitled “That a man hath one Rib less than a woman”. Christian orthodoxy of the day taught a fundamentalist interpretation of the Bible. It therefore followed that if Eve were fashioned from Adam’s rib, then Eve’s descendents would always have one more rib than Adam’s descendents. Browne doubted that and went to study anatomy in the Low Countries and made his business to count the number of ribs on both sides of the chest in male and female cadavers. In this collection of essays Michael Baum follows in the footsteps of these giants of the Enlightenment a provides with a selection of his essays written over a period of more than 20 years where he challenges much of the received wisdom of the current era. Building on a foundation of scientific and
moral philosophy he then carries out a hatchet job on the proponents of quackery. His scepticism then carries over in attacks on the closed minds of those who inhibit innovation and those who are stuck in the time warp of the uncritical acceptance of screening for cancer. Throughout this book it can be seen that he is guided by the teachings of medical humanities. In 1989 Dr. Petr Skrabanek published a book entitled “Follies and Fallacies in Medicine” continuing the tradition of the age of enlightenment where, for the first time, the pathological state of scepticaemia is defined as follows. Scepticaemia: An uncommon generalized disorder of low infectivity. Medical school education is likely to confer life-long immunity. We give early warning: take care in reading any further as the bug might infect you as well.

**POLITICAL SCIENCE**

**Building Partner Capacity: Case Studies of U.S. Goals, Efforts and Outcomes**  
**Dorian O’Keefe**  
*In series: American Political, Economic, and Security Issues*  
Hardcover: 978-1-63484-750-6. $145.00.  

Since 2001, successive U.S. administrations have increasingly prioritized efforts to build foreign security forces—particularly in weak and failing states—arguing that do so advances U.S. national security objectives. In turn, the Department of Defense (DOD) has invested billions of dollars in “Building Partner Capacity,” (BPC) a term that refers to a broad set of missions, programs, activities, and authorities intended to improve the ability of other nations to achieve those security-oriented goals they share with the United States. This book first seeks to build a common understanding of what, exactly, constitutes BPC by illuminating the various ways in which different USG components define it. In so doing, it charts the evolution of BPC in national strategy documents since the term was first coined in 2006. With that intellectual baseline established, it then explores whether BPC has proven an effective means by which the United States has accomplished its strategic objectives to which such programs have directed since World War II. Moreover, the book discusses Section 1206 of the National Defense Authorization Act (NDAA), which provides the Secretary of Defense with authority to train and equip foreign military forces for two specified purposes—counterterrorism and stability operations—and foreign security forces for counterrterrorism operations. The book also provides basic information on the Global Security Contingency Fund (GSCF) legislation; describes processes State and DOD have developed to manage the program; describes the status of GSCF projects; and assesses the extent to which State and DOD have clearly defined time frames for GSCF projects.

**Cameras in Federal Courts: Issues and Perspectives**  
**Marilyn Davis**  
*In series: Government Procedures and Operations*  
2016.  
Softcover: 978-1-53610-031-0. $62.00.  

The issue of whether or not to allow video cameras into the courtroom has been discussed and debated by Members of Congress, the legal community, journalists, and the public since the introduction of newscast film in the early 20th century. Technological advances have shifted some of the considerations in this ongoing dialogue, as newscast cameras gave way to television cameras and Internet video. Increasingly, new technology makes video recording less disruptive, accessible to more people, and able to be distributed quickly, if not instantaneously. Most state courts, and several international supreme courts, allow video cameras to record and televise, or otherwise broadcast, their proceedings under certain circumstances. This book is not intended to provide a legal analysis of court cases relevant to the use of video cameras in federal courtrooms. This book provides information about the current judicial policies and attitudes related to video camera use in the U.S. Supreme Court, federal circuit courts, and federal district courts; summaries of the major debates and considerations for policymakers on the subject of courtroom cameras, including the appropriateness of congressional action, standards for public and media access to the courts, and potential effects on courtroom proceedings; descriptions of the four legislative proposals currently before the 114th Congress, including the Cameras in the Courtroom Act (H.R. 94 and S. 780), the Sunshine in the Courtroom Act (H.R. 917 and S. 783), the Transparency in Government Act (H.R. 1381), and the Eyes on the Courts Act (H.R. 3723); and complementary policy measures that might accomplish similar objectives.

**Firearms Trafficking: U.S. Role in Efforts to Stem the Flow Across Mexico's Borders**  
**Isaac E. Adams**  
*In series: American Political, Economic, and Security Issues*  
2016. 84 pp.  

Violent crimes committed by drug trafficking organizations in Mexico often involve firearms, and a 2009 Government Accountability Office (GAO) report found that many of these firearms originated in the United States. The Department of Justice’s Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) and the Department of Homeland Security’s Immigration and Customs Enforcement (ICE) have sought to stem firearms trafficking from the United States to Mexico. This book examines, among other things, the origin of firearms seized in Mexico that have been traced by ATF; the extent to which collaboration among U.S. agencies combating firearms trafficking has improved; and the extent to which the National Southwest Border Counternarcotics Strategy measures progress by U.S. agencies to stem firearms trafficking to Mexico. Furthermore, the book examines the activities undertaken by U.S. agencies to build partner capacity to combat firearms trafficking and the extent to which they considered key factors in selecting the activities; and progress the United States has made in building such capacity.

**Information Security Across Federal Agencies: Analysis of Adequacy and Effectiveness**  
**Shane Palmer**  
*In series: American Political, Economic, and Security Issues*  
2016. 87 pp.  
Softcover: 978-1-63484-948-7. $62.00.  

Persistent weaknesses at 24 federal agencies illustrate the challenges they face in effectively applying information security policies and practices. Most agencies continue to have weaknesses in (1) limiting, preventing, and detecting inappropriate access to computer resources; (2) managing the configuration of software and hardware; (3) segregating duties to ensure that a single individual does not have control over all key aspects of a computer-related operation; (4) planning for continuity of operations in the event of a disaster or disruption; and (5) implementing agency-wide security management programs that are critical to identifying control deficiencies, resolving problems, and managing risks on an ongoing basis. These deficiencies put critical information and information systems, support the operations, assets, and personnel of federal agencies at risk, and can impair agencies’ efforts to fully implement effective information security programs. This book provides an analysis on the adequacy and
effectiveness of agencies’ information security policies and practices; and agencies’ implementation of the Federal Information Security Management Act of 2002 (FISMA) requirements.

**Intelligence Analysis: Unclassified Area and Point Estimates (and other Intelligence Related Topics)**
*John Michael Weaver (DPA, Assistant Professor of Intelligence Analysis, York College, PA, USA) and Jennifer Pomeroy (Ph.D., Assistant Professor of Geography, York College, PA, USA)*

In series: *Intelligence and Counterintelligence Studies* 2016.
Hardcover: 978-1-53610-092-1. $190.00.

Globalization has impacted the world with a seemingly inextricable linkage among all countries on this planet. This publication provides an intelligence analysis of regions and countries from around the world that are specified in the latest National Security Strategy of the United States. These regions and countries are dissected using predominately qualitative analysis techniques, focusing on secondary data sources in order to provide and open a source intelligence look at threats as seen by the United States. Moreover, this book looks at other contemporary intelligence-related issues from other authors as well. The key audience for this book include the seventeen members of the U.S. intelligence community, governments of other countries that share the United States’ assessment of current threats, nongovernmental organizations (NGOs) looking to provide support abroad, and private sector companies looking to expand their operations overseas.

**Iranian Foreign Policy: Context, Regional Analyses and U.S. Interests**
*Lucille Beck*

In series: *Politics and Economics of the Middle East* 2016. 148 pp.
Hardcover: 978-1-63484-817-6. $145.00.

Iran’s foreign policy is the product of many, and sometimes competing, factors: the ideology of Iran’s Islamic revolution; Iranian leadership’s perception of threats to the regime and to the country; long-standing Iranian national interests; and the interaction of the Iranian regime’s various factions and constituencies. This book begins with an examination of Iran’s policy motivators and instruments of Iran’s foreign policy before moving on to deeper analyses of Iranian foreign policy as a whole and by region.

**Political Leadership in the Spanish Transition to Democracy (1975-1982)**
*José Francisco Jiménez-Díaz (Area of Political Science & Public Administration, Faculty of Law, Universidad Pablo de Olavide, Seville, Spain) and Santiago Delgado-Fernández (Faculty of Political Sciences & Sociology, Universidad de Granada, Granada, Spain)*

In series: *Political Leaders and Their Assessment* 2016. 238 pp.

A key idea in the study of democratic transitions is the notion that political actors play a pivotal role in initiating, controlling and shaping the changes that lead to democracy. Based on this premise, this book aims to offer an in-depth study of a series of political leaders that played a significant role in the Spanish democratic transition (1975-1982). This book opens with an introduction providing the historical, political and theoretical context for the study of the political leaders of the Spanish transition to democracy. The authors then offer in the first half of the book a study of the central and/or innovative leaders of the political transformation, i.e. Torcuato Fernández-Miranda, Adolfo Suárez González, Pedro González Márquez, Manuel Fraga Iribarne and Santiago Carrillo Solares. The second half of the book analyzes the leadership roles of Fernando Abril Martorell, Francisco Fernández Ordóñez, Alfonso Guerra González, Jordi Pujol i Soley and Xabier Arzalluz Antia. Taken together, these ten leaders represented the main options in the political spectrum of the Spanish transition. Despite numerous studies devoted to the Spanish transition, little attention has been paid to it. This book aims to reconsider these ideas in an effort to improve upon our knowledge of political leadership during a crucial time in recent Spanish history.

**Small Countries of the Persian Gulf and U.S. Relations: Bahrain, Kuwait, Qatar, and United Arab Emirates**
*Alexis Graves*

In series: *Politics and Economics of the Middle East* 2016. 172 pp.
Hardcover: 978-1-63484-821-3. $120.00.
e-book: 978-1-63484-822-0. $120.00.

Bahrain is a longtime ally that is pivotal to maintaining Persian Gulf security. Kuwait remains pivotal to U.S. efforts to secure the Persian Gulf region because of its consistent cooperation with U.S. strategy and operations in the region and its proximity to both Iran and Iraq. Qatar, a small peninsular country in the Persian Gulf, emerged as a partner of the United States in the mid-1990s and currently serves as host to major U.S. military facilities. The United Arab Emirates has been a significant U.S. partner in Gulf security for more than two decades, and the alliance has deepened further in recent years in order to address multiple regional threats. This book further discusses the U.S. relations with these four small countries of the Persian Gulf.

**The Federal Election Commission: Background, Issues, and Campaign Finance Oversight**
*Randy Sharpe*

Hardcover: 978-1-63485-445-0. $160.00.

More than 40 years ago, Congress created the Federal Election Commission (FEC) to administer the Federal Election Campaign Act (FECA) and related amendments. Today, the FEC is responsible for administering disclosure of millions of campaign finance transactions; interpretation and civil enforcement of FECA and agency regulations; and administering the presidential public financing program. This book provides selected information about the FEC’s history and ongoing issues that are likely to be of interest to Congress for appropriations, legislative, or oversight activities. It also provides Congress with a resource for understanding the FEC’s enforcement process and context for why enforcement is consequential; discusses deadlocked votes among members of the FEC; discusses current Supreme Court and other case law evaluating the constitutionality of limits on contributions and expenditures; and examines recent developments of the state of campaign finance policy.

**Transactional Analysis as a Communication Framework and Dynamic Strategy for Peace Education: Practices, Trends and Challenges for International Geopolitical Conflict Resolution and Reconciliation**
*Khaled Taktek (Associate Professor, School of Education Laurentian University, Sudbury, Ontario, Canada)*
James Monroe was the fifth president of the United States, whose terms extended from his election in 1816 through his retirement after the election of 1824. He brought an extensive résumé to the office, as Monroe had fought in the American Revolution, served in the Articles of Confederation Congress, became a lawyer, served as Governor of Virginia, Minister to France, England, and Spain, and was elected president as a Democratic-Republican. He had married Elizabeth Kortright from New York who spoke fluent French, and she greatly assisted him in rescuing the Marquise Adrienne Lafayette family during the French Reign of Terror. James Monroe was a deliberate man who studied all sides of a political question, consulted with his Cabinet, and made his own decisions with an instinct for command. He was a man’s man who rode hard, shot sure, spoke plainly, and loved his family unconditionally. He worked hard to establish himself as a planter aristocrat in Virginia and befriended most politicians of his era, working with George Washington, John Adams, Thomas Jefferson, James Madison, Patrick Henry, Alexander Hamilton, and David Livingston. Monroe was an ardent negotiator and was instrumental in securing the Louisiana Purchase, which doubled the size of the United States. He is most well-known and admired for his famed Monroe Doctrine, which guaranteed the independence of Latin American countries following the Napoleonic Wars. Monroe was a true statesman who ensured America’s national security by rounding out U.S. natural boundaries through treaties and diplomacy, and provided for strong defenses at U.S. ports, harbors, and military installations. By enforcing the Monroe Doctrine, President Monroe established a strong place for America in world affairs, earning international respect and admiration.

Rutherford B. Hayes: A Life of Service
Thomas Culbertson (Director Emeritus, Rutherford B. Hayes Presidential Library and Museums, Fremont, Ohio, USA)
In series: First Men, America’s Presidents
Edited by: Peterson, Barbara Bennett (Oregon State University, USA)
Hardcover: 978-1-63485-360-6. $190.00.
It had never occurred to Rutherford B. Hayes that he could be a presidential contender until he won an unprecedented third term as Ohio’s governor in 1875. Up to that point, he had been content with his life, but once he got the presidential bug it could not be shaken. At the 1876 Republican National convention, Mts Blaine appeared to have the presidential nomination within his grasp until there was a stampede for Hayes on the seventh ballot. As a Civil War hero, congressman, governor, and solid family man, Hayes was an attractive candidate. As a reformer, he had no ties to the scandals that had marred the Johnson and Grant Administrations. After a hotly contested campaign, Hayes lost the popular vote to New York Governor Samuel Tilden by a quarter million votes. The electoral count was unclear as both parties claimed to have won three Southern states. It took three months and the creation of an Electoral Commission to declare Hayes the presidential winner, just two days before his inauguration. For four years, President Hayes battled a hostile Congress controlled by Democrats as he attempted to reform the civil service, defending the independence of the presidency in an attempt to end sectionalism. His most controversial decision was to try a course of conciliation toward the South in an attempt to heal the rift from the Civil War. Many historians have said that Hayes ended Reconstruction, but in reality it was over before Hayes took office. When he was nominated to run for President, Hayes promised to serve only one term and did not renege on that promise. He returned to Ohio to live out his life with his family and to work for his community, veterans, education, prison reform, and equal rights.

Meena Bose (Hofstra University, NY, USA)
In series: Political Leaders and Their Assessment
2016.
The George W. Bush Presidency. Volume II: Domestic and Economic Policy
Meena Bose and Richard Himelfarb (Hofstra University, NY, USA)
In series: Political Leaders and Their Assessment 2016.
Hardcover: 978-1-63485-576-1. $190.00.
e-book: 978-1-63485-570-0. $190.00.
Given the focus on foreign affairs and national security following 9/11, it is easy to overlook the domestic and economic legacies of the George W. Bush presidency. However, the articles in this volume argue that not only were these policies consequential to the nation, but in a number of instances they defied the conventional wisdom concerning the Bush White House. While Bush pursued ideologically conservative policies in some areas (e.g., Social Security, Supreme Court nominations and taxes), in others he did not (e.g., education, trade, government spending). Other examples include staffing (more competent and less ideological than one would expect) and press relations (relatively transparent). Taken together, these chapters will provoke second thoughts about Bush’s domestic presidency as they argue that his policies frequently deviated from doctrinaire conservatism and changed the nation. Target Audience: Scholars of the American presidency in political science, history, rhetoric and communication, journalism, and other academic disciplines, as well as their students. Also general readers interested in the American presidency and American politics.

The George W. Bush Presidency. Volume III: Foreign Policy
Meena Bose and Paul Fritz (Hofstra University, NY, USA)
In series: Political Leaders and Their Assessment 2016.
Hardcover: 978-1-63485-783-3. $190.00.
While candidate George W. Bush promised a humble foreign policy, after the September 11, 2001 terrorist attacks President Bush implemented a highly ambitious – and controversial – foreign policy agenda. Examining the contentious decision to invade Iraq, the expansion of presidential power in foreign affairs, the apparent unilateralism that challenged established international norms, and the ideological underpinnings of Bush’s foreign policy, many articles in this collection demonstrate why the administration proved to be so divisive domestically and internationally. However, other pieces in the collection show the Bush administration pursued more conventional approaches to certain international issues, such as the rising power of China and a nuclear North Korea. This collection thus both challenges some conventional views of Bush’s foreign policy and provides a deeper understanding of why George W. Bush is viewed as one of the most controversial foreign policy presidents of the modern era.

Religion

Christianity and Mental Health: Suffering, Joy, Inner Conflicts, Transcendence and Salvation
Kam-shing Yip (Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hung Hom, Hong Kong, China)
e-book: 978-1-63483-647-0. $190.00.
Spirituality, Christianity and mental health have long been a concern in our society. This concern is increasingly pressing in recent decades as mental problems soar because of tension, anxiety, failure and frustration in our societies. In terms of Christian belief, spirituality is interpreted as the encounter with The Almighty God and the total recognition and surrender to the salvation of Jesus Christ. Thus, mental health, in terms of Christianity, should consist of two major different types. The first type is secular mental health. The second type should be a sacred and spiritual model of mental health. This book focuses on a combination of secular discussions as well as a biblical interpretation of Christianity and mental health, hardship and resilience, rejoice and sadness, freedom and inner conflict, sins and spiritual transcendence. Chapter one starts with a comprehensive review on the concept of secular mental health. The writer describes an initial conceptualization of sacred mental health within Christian belief and biblical articulation. Chapter Two is a full articulation of secular and Christian concepts of suffering described in the Book of Job. Chapter Three is a refined comparison among secular concepts about positive psychology and happiness, existential articulation on the meaning of life, as well as the full articulation of rejoice from imitation of Christ humility in Book of Philippians written by Paul in Holy Bible. Chapter Four is a comprehensive discussion on secular and sacred conflicts in Christians as well as freedom from a connection with the Holy Spirit and immersion with Jesus’ crucifixion and resurrection.

Islam: Global Issues, Challenges and Perspectives of the 21st Century
Doreen Peters
This book reviews global issues, challenges and perspectives of the 21st century. Chapter One focuses on recent history and contemporary political issues to explain the ongoing conflicts in Iraq. Chapter Two aims to find out the answers on how Islamic economics system will shape the future global economy. Chapter Three discusses Islam and essentialism. Chapter Four focuses on challenges and perspectives of teaching Muslim religious education in the 21st century. Chapter Five explores how Muslims have themselves become a burden to the religion of Islam in the 21st century as a result of their intransigent on issues and the belief that the only way to be a Muslim is to live in the 7th century of the earlier period of Islam.
Religion and Spirituality for the Healthcare Provider

**Benjamin R. Doolittle** (Departments of Medicine and Pediatrics, Yale University School of Medicine, New Haven, CT, USA)

In series: *Religion and Spirituality*
2016. 132 pp.
Softcover: 978-1-63484-935-7. $160.00.

There is compelling evidence that religious involvement and spiritual attitudes are beneficial to health. Religious involvement has been associated with increased lifespan, improved mood, improved coping with illness, and lower blood pressure and cholesterol. And yet, there is a “religiousity gap” between patients and their healthcare providers. Patients often have strong religious and spiritual attitudes that influence their perspective on health. Healthcare providers are often ill-equipped to address these issues. Religion and Spirituality for the Healthcare Provider seeks to close that gap. Scholarly in scope, but approachable to all healthcare providers, Dr. Doolittle addresses the salient studies that explore the intersection of religion and health. He gives guidance about common challenges faced by healthcare providers: end of life issues, chronic illness, mental health, mindfulness and religious diversity. He also tackles controversies with the changing, complex role religion plays in modern society. Dr. Doolittle is an internal medicine-pediatrics physician on the faculty of Yale Medical School. In addition, he is an ordained minister with active involvement in the urban church.

Religiosity: Psychological Perspectives, Individual Differences and Health Benefits

**Rochelle Cooper**

In series: *Religion and Spirituality*
Hardcover: 978-1-63484-585-4. $190.00.

This book reviews several psychological perspectives of religiosity. It studies individual differences and health benefits of religiosity as well. Chapter One focuses on religious conversion and provides a review of psychological concepts related to religious conversion and defines religious conversion as a positive change in religious beliefs including significant changes in spiritual and personal life. Chapter Two examines whether the meaning of life can mediate the relationships between religiosity and hope. Chapter Three discusses the contribution of religiosity and spirituality to well-being. Chapter Four explores the associations between religiosity, subjective well-being, and psychopathology. Chapter Five describes two studies that explores whether the experience of loneliness is influenced by one’s degree of religious observance. Chapter Six reviews research on whether religiosity is a protective factor for suicidal ideation and behavior. Chapter Seven studies spiritual tactics, sickness and depressed moods in older adults. Chapter Eight reviews often conflicting scientific literature dealing with spirituality and religiosity and eating disorder symptomatology in women. Finally, Chapter Nine discusses religion, spirituality and health in the Chinese context.

True Islam, Jihad, and Terrorism: The Science of Islamic Foreign Policy

**Jaan S. Islam** (Department of Political Science, Dalhousie University; Global Organization for Faith, Wisdom, and Peace, Research Associate, Nova Scotia, Canada)

In series: *Religion and Spirituality*
2016. 266 pp.

After the rise of the Islamic State of Syria and Levant (ISIL), the world has been debating over an old issue, characterized by some as the “clash of civilizations”. Jihad, the Arabic term for “struggle”, was the target and “Islamic terrorism” and “Islamic fascism” became the popularized terms of the post-9/11 era. The following discourse has formed two theories attempting to define Islam and the role of Jihad in Islam. The first is that of the apologists who define Jihad as an internal struggle; the second sponsors the concept of “offensive” Jihad. In this book, existing theories are deconstructed to establish that there is no such thing as “offensive” Jihad or “internal” Jihad. Debunking both branches of political thought was possible using a cognition tool derived from the education system instituted by the Prophet Muhammad, the central figure of this controversy. The deconstruction is then followed up with an examination of an actual historical case, viz. the wars for Islam at the time of The Prophet as well as during the four rightly guided Caliphs. By doing so, this book systematically eliminates all confusion regarding Jihad. By addressing the fundamental premises involved in both sides of this controversy, the book develops an analytical tool that is free from dogmatic assertions and ensuing contradictions, eventually defining the significance of this analysis for a properly balanced understanding of Islamic foreign policy and Shari’ah law. A clear directive is produced in order to analyze any violence that takes place today and determine if the justification provided is Islamic or not.

RUSSIA

Russia in Latin America: Engagement and its Implications for the United States

**Stuart Santiago**

In series: *Russian Political, Economic, and Security Issues*
Hardcover: 978-1-63484-168-9. $120.00.
e-book: 978-1-63484-177-1. $120.00.

Russia’s expanded engagement in Latin America has been seen as a response to escalating tension over its involvement in the Ukraine. Russia’s activities are seemingly designed to force the United States to respond to a challenge in its own hemisphere, illustrating the interconnected global security environment. This book focuses on the character of the ongoing Russian re-engagement with Latin America and the Caribbean and its implications for the United States.

Siberia: Ecology, Diversity and Environmental Impact

**Tabitha Robbins**

In series: *Russian Political, Economic, and Security Issues*
Hardcover: 978-1-63485-414-6. $190.00.

This book discusses the ecology, diversity and environmental impact of Siberia. Chapter One discusses cultural interaction and mutual influence of the civilizations of the Ancient World and the Middle Ages: China, Japan, Korea, Iran, Central Asian nomadic empires, Turkic Khanate, Byzantium, Russian kingdoms, the Ottoman Empire and the Arab Caliphate to Siberia and the Urals. Chapter Two presents issues regarding the current state of soil resources in the world, and focuses on agricultural development of Siberian land within Russia and the world and its hidden productive potential, which in the process of time will have greater economic importance. Chapter Three reviews the impact of recent climate changes and technogenic contamination with fluorides emitted by aluminum smelters on the microbial transformation of carbon, the regimes of functioning, and the state of agroecosystems on gray forest soils (Luvic Greyzem Phaeozems) in
the forest-steppe zone of the Baikal region on the basis of data of the long-term agroecological monitoring. Chapter Four studies the ecological interactions that take place within the vast region of Siberia among the avian reservoir hosts and viral populations, and the environment they utilize. Chapter Five presents the results of hydrochemical research conducted in the spring of 2013 and end of August of 2014 in the northern part of Western Siberia. Chapter Six presents the results of research on selected terrestrial surface waters in the arctic tundra of Western Siberia conducted during the Spring of 2013, Fall of 2014, and Winter of 2015.

SOCIAL JUSTICE

International Perspectives on Race (and Racism): Historical and Contemporary Considerations in Education and Society
Diane Brook Napier (Retired Professor of Comparative and International Education, University of Georgia, Athens, Georgia, USA)

In series: Social Issues, Justice and Status
Hardcover: 978-1-63483-126-0. $310.00.
Softcover: 978-1-63483-153-6. $179.00.

This volume brings together cutting edge research, critical commentary and candid, personal accounts in a rich array of fresh perspectives on the dimensions of race and racism that have been prevalent in many societies (for instance, in education, other sectors of human resource development and mainstream versus minority life experiences). Contributions from countries and settings worldwide illustrate the diversity of experiences and situations regarding race that have existed in a given time period, and the complexity of injustice issues wherein race is one of many interrelated and entwined factors contributing to a situation in a given society. Sub-themes emerge in aspects such as language, religion, gender, age, culture, national origin and immigrant status, migration history, workforce demands and literature. Accounts of pre-colonial, colonial and post-colonial historical contexts — and the accompanying shifts in attitudes and policies toward racial groups, ethnic minority groups, indigenous peoples and other subaltern groups offer readers a view on significant changes in the world regarding diversity and identity issues. These matters are rooted in policy and practices of daily life in the context of globalization and in comparative perspective across countries. Insider perspectives, personal accounts and author testimonies from inside countries add a valuable personal dimension. Furthermore, this collection brings together cases in a wide range of settings, both in developed countries of the north and in developing countries and post-colonial states of the south, and a spread of perspectives from established scholars as well as new emerging scholars. Collectively, the contributions also focus on efforts to transcend the legacies of racism and injustice, exploitation and exclusion. The different cases reveal universal issues and common threads, and also contextually shaped distinctive features within different countries. The result is a panorama of insights on race and related issues as well as prospects for building post-racial societies, ranging from the global level and the local level within countries to personal dimensions. This collection is distinctive in that all regions of the world are represented, and it includes stories from the corners of the world that are seldom highlighted. This volume is a valuable resource illustrating historical and contemporary research along with thoughts on race and racism issues. While the interdisciplinary fields of Comparative and International Education and Post-Colonial Studies are the primary scholarly areas of focus, because of the interdisciplinary nature of the content, it will interest scholars and readers in a wide spectrum of fields including education, history, political science and policy studies, comparative literature, sociology, culture studies, literature, art, social work, development studies, global studies, third world studies and diversity and multiculturalism studies.

Peace: Economic, Global and Social Challenges
Shawn Gonzales

In series: Social Justice, Global and Social Challenges
2016. 177 pp.
Hardcover: 978-1-63483-584-7. $160.00.

This book provides insights into the economic, global and social challenges of peace in today's world. It also explores the nature of contemporary conflict and peace processes whereby certain parties seek to maintain the hostilities for economic gain. Through their research, the authors make a theoretical contribution towards reexamining the concept of international peace diplomacy from an educational perspective.

Stereotypes and Stereotyping: Misperceptions, Perspectives and Role of Social Media
Claude Fields

In series: Social Justice, Equality and Empowerment
Hardcover: 978-1-63483-510-6. $190.00.
e-book: 978-1-63484-541-0. $190.00.

Stereotypes and Stereotyping: Misperceptions, Perspectives and Role of Social Media provides current research on misperceptions, perspectives, and the role of social media on stereotypes and stereotyping. The first chapter assesses implicit and explicit attitudes toward high socioeconomic status (SES) students and links these attitudes to the achievement and personality judgments of a high and a low SES student. Chapter Two reviews current national trends and interdisciplinary research in psychology, sociology, and education documenting educational disparities related to students’ gender, race and ethnicity, social class, and college generational status. Chapter Three discusses stereotypes towards people with AIDS in college students. Chapter Four examines if college women’s social media usage predicts how they budget their time regarding physical appearance and academic work while in school, and also examines if it predicts their perceptions of the relative importance of appearance related behaviors and domain specific skills for their future careers. Chapter Five studies demographic differences in the level of intercultural sensitivity, EFL interests, and ethnocentrism among college students in Taiwan. Chapter Six uses psychological theories and findings to identify and analyze factors that may have contributed to the deaths in the three shootings of Trayvon Martin, Michael Brown, and Tamir Rice. It considers the roles that physical appearance and shooter bias may have played in all three cases. Chapter Seven evaluates stereotypes in counter-stereotypic occupations. Chapter Eight provides an overview of the current research on the accuracy of national stereotypes and introduce results of a research project on national stereotypes in five Central European countries. Chapter Nine reviews the roles of identity processing styles and self-consciousness in aging and ageism.

SOCIAL TOPICS

Adoption Options, Considerations and Guidance
Julio Hernandez

In series: Family Issues in the 21st Century
Hardcover: 978-1-63483-256-2. $150.00.

The prospect of adopting a child can be both exciting and overwhelming. There are many different types of adoption and choices to be made in pursuing an adoption. Your options for adoption will
depend on the needs and interests of an adoptable child or youth as well as what is important to your family. These factors may include your flexibility around the characteristics of the child you wish to adopt, your feelings about contact with birth family members, your resources, and how long you are willing to wait for your child. This book discusses the options available for different types of families and provides guidance for adopting a child.

**Bullying and Cyberbullying: Prevalence, Psychological Impacts and Intervention Strategies**

*Conor Mc Guckin and Lucie Corcoran (School of Education, Trinity College Dublin, College Green, Dublin, Ireland)*

In series: *Bullying and Victimization*


Cyberbullying and online victimization in general are high on the public agenda. As cyber technology continues to evolve, we must consider how best we can support our children and young people in enjoying the benefits that come with the online world, whilst also protecting them from harm. This book provides a timely review and analyses of the international literature on cyberbullying. Beginning with an overview of the evolution of international research to date, the chapters deal with some of the fundamental issues facing researchers, practitioners, and policymakers. The authors deal with issues such as how best to define cyberbullying, what we currently know about the prevalence of the behaviour, the role of gender in cyberbullying, and alternative theoretical perspectives. Cross-national research is reviewed with the objective of highlighting the similarities across different nations whilst also emphasizing the uniqueness and importance of cultural context when attempting to intervene effectively. Due to the research-evident potential for harm as a consequence of cyberbullying, it is important that we move towards appropriate coping and intervention strategies. Therefore, this book also focuses on effective coping strategies at an individual level and at a societal level, examining issues such as education and legislation in relation to cyberbullying. Furthermore, the contemporary knowledge regarding prevention and intervention is explored, with a number of perspectives provided. Ultimately, this book presents a state-of-the-art review of cyberbullying knowledge in 2016 and looks to the future with recommendations for development of theory, research, practice, and policy.

**Migrant Workers: Social Identity, Occupational Challenges and Health Practices**

*Qingwen Xu and Lucy P. Jordan (Tulane University, School of Social Work, New Orleans, LA, USA)*

In series: *Social Issues, Justice and Status*


Worldwide labor migration has transformed and reshaped various fields of government policy and professional practices. Labor migration is associated with the non-economic social phenomena that scholars have increasingly paid attention to in both sending and receiving destinations. For practitioners in the field of education, medicine, nursing, social work, mental health, public health, and other professional practices, the human face of labor migration — migrant workers and their families’ daily challenges — often reveals the human cost of migration behind the image of economic gain and benefits. Migrant workers and their families are facing vexing challenges ranging from basic needs to psychosocial well-being, despite who they are and where they come from. Traditional ways of thinking and knowing cannot address these challenges adequately; rather, established divisions of professions, systems, disciplines, and/or areas of practice might just be the factor that constrains the ability to clearly articulate compelling problems and adds an additional layer of complexity to problem solving. This book focuses on country policies and practices, and draws on theoretical ideas that provide the intellectual basis. In addition, it offers vivid examples of how migrant workers manage to work, pursue economic security, strive and adjust in new communities, define and negotiate self and identity, and seek health and well-being. While the book illuminates shared challenges and experiences for each group of migrant workers (i.e. low-skilled workers, internal migrants and other types of migrating laborers), it also synthesizes the intersectionality across all migrant workers, as they remain committed to bettering the lives of their families and communities in their origin countries as well as new host countries and communities. This volume reflects the efforts of interdisciplinary research and collaboration. Based on empirical studies and policy analysis, the researchers draw broader implications for evidence-based practice and policy in migration studies, and offer practical suggestions for policy and service delivery design, including formal and informal mechanisms of support which can inform the professional reader.

**Professional Development: Recent Advances and Future Directions**

*Tanya Norton*

In series: *Professions - Training, Education and Demographics*


Teacher professional development, while a relatively new phenomenon beginning in the 1970s, is important because preservice teacher preparation is limited in scope by its length of time, clinical apprenticeship, and cognitive load for learning demanding tasks and represents just the beginning of teachers’ professional development. Novice teachers in particular face a steep learning curve and need supportive induction programs to continue to develop their practice so that it aligns with standards-based teaching. Teacher professional development activities commonly focus on learning more content, pedagogy, or both. Teachers’ learning through professional development (PD) programs often occurs in groups of teachers as they work with both the PD providers and each other as part of a community of practice that supports situated learning. This book provides new research advances in the professional development of teachers. It also discusses interdisciplinary professional development for mental health workers.

**Space, Gender and Urban Architecture**

*Cyrus Vakili-Zad (Cities Centre, University of Toronto/University of Malta, Toronto, Ontario, Canada)*

In series: *Focus on Civilizations and Cultures*


This book explores the historical roots of the current status of women in Malta, and through extensive examination of the intricate interconnectedness between history, culture, religion and the use of space in architecture (specifically the Maltese covered balcony), suggests the provenance dates back to era of the Knights of Malta who ruled between 1530 and 1798. Malta boasts hundreds of open-air stone balconies, a common architectural characteristic of Mediterranean subtropical climates, allowing air to circulate through the home during the hot summers. However, Malta also has many covered or boxed-balconies called ‘Gallarija’, especially in the capital city of Valletta where the Knights lived. They are a costly addition counterproductive to the balconies intended purpose. The first known Gallarija-type balcony sits on the Magistral Palace built by the Knights in 1675. The
Knights of Malta, a group of ultra-religious celibate warriors from Western European aristocracy with a mission to prevent the Muslim expansion into Europe at any cost. With full support from the Pope, the Knights ruled Malta with an iron fist for over 250 years and imposed their male dominated social and political ideology, completely devaluing womanly contribution to the social, economic and political development of Malta. The Knights were forbidden from any contact with women, a vow they were not willing to uphold, and thus the author argues that the Knights adopted the ‘Gallarja’ to reinforce the self-imposed isolation and conceal their illicit sexual relations with Maltese women and prostitutes. The author presents historical evidence and accounts connecting the ‘Maltese Gallarja’ to ‘Moushrabiyya’ and similar covered balconies found throughout Muslim countries of North Africa and the Middle East. The Muslim counterparts were made of carved wood latticework initially designed to keep water cool and later to obscure segregated women within the home. The Knights consciously and intentionally modified the design by adding glass and shutters to completely isolate themselves from citizens, and most importantly to ensure their sins go unnoticed.

**Urban and Rural Developments: Perspectives, Strategies and Challenges**

_Vivian Fletcher_


Hardcover: 978-1-63485-083-4. $190.00.


This book provides research on urban and rural developments. Chapter One reviews Japanese tourism-based community development and provides recommendations for development options in Japan. Chapter Two identifies the main challenges of territorial impacts of sectoral and territorially based policies. Chapter Three addresses mediations and enablers in the main traditional communities of northeastern Brazil and explores how these communities face problems in maintaining their exclusive living conditions and identities. Chapter Four analyzes a Nigerian case for urban growth and rural development. Chapter Five explicates Nigeria’s approach to the provision of infrastructure for urban housing. Chapter Six disentangles the poorly understood relationship between landfills and economic development. Chapter Seven examines professional sports franchises and city status. Chapter Eight discusses the planning implications of an Edge Sports Complex in Scottsdale, Arizona.

**What Happened to the Toronto Slums and Where Did All the Poor Go? (1866-1946)**

_Cyrus Vakili-Zad (Neighbourhood Change, University of Toronto, Canada)_

In series: _Social Issues, Justice and Status_ 2016.


By the late 19th century and the early 20th century, there were at least nineteen large and small areas, streets or neighbourhoods that were declared or labelled slums in Toronto. By the 1960s, almost all the slums had been cleared and were replaced by institutional, governmental and residential modern buildings. However, the footprints of these slums, their boundaries and characteristics of their residents had been lost. This book intends to trace the development of these slums and outline their lifecycles. Although the book deals with all major Toronto slums, the emphasis focuses on Regent Park, which replaced the largest Anglo-Saxon slum in North America named Cabbagetown. Regent Park was also the first large housing project that received the approval from Toronto electors, which partially replaced Cabbagetown. In order to comprehend why Toronto ratepayers approved the project, we are considering the movement to implement the project (that had been recommended by the Curtis Report) as a social movement for affordable housing and utilizing the Resource Mobilization Approach (RMA) to analyse and evaluate the success and/or failure of the project. In this book, the authors want to challenge the widely held assumption that policy making in Canada was “an elite process primarily involving Cabinet ministers and senior civil servants” by bringing the citizens’ participation back in and highlighting their critical role in challenging the government’s housing policy and the building of Regent Park. This book has two parts: the first part examines the fate of the slum dwellers. Now that slums are gone, what happened to the poor working classes that used to live in these slums? The second part argues that when all the slums in the old city dissolve and are replaced by luxury condominiums and expensive gentrified homes, where will the recent immigrants go for accommodation? The recent information indicates that the majority of the low-income immigrants are seeking accommodations in the high-rise apartments of St. James Town or in the inner suburb communities in Scarborough, North York and Etobicoke. As these high-rise apartment buildings (mainly built in the 1980s and 1990s) age and deteriorate while overcrowding continues, there is a possibility that what happened in the late 19th century and the beginning of the 20th century will be repeated, causing the development of new slums. This alone should draw the attention of the municipal government and is one of the goals of the authors of this book. Target Audience: Academics, Students, Researchers, and those who interested in cities, urban and neighborhood change and development, and municipal urban policy advisors.

**SOCIOLGY**

Advances in Sociology Research. **Volume 18**

_Jared A. Jaworski_

In series: _Advances in Sociology Research_ 2016. 201 pp.

Hardcover: 978-1-63484-319-5. $160.00.


The authors of this book discuss the latest advances in sociology research. Chapters include research on the importance of stories in assessing personal and/or community problems and designing culturally relevant and effective solutions; the repercussions of precarious, low-status work regarding access to healthcare services by immigrant workers in Greece; the repercussions of work and employment in precarious, low-status/low wage jobs of immigrant workers on their trade union participation and work rights claims in Greece; new oral traditions of popular culture in the face of global challenges; norm conformity, rationalization and resident participation in multi-owned housing management; myths and facts of closing the gender gap in trade union activities in Nigeria; and the phenomenon of homophobia within the framework of masculine domination as well as its role in setting the binary regarding gender boundaries.

Advances in Sociology Research. **Volume 19**

_Jared A. Jaworski_


Hardcover: 978-1-63485-507-5. $250.00.


The authors of this book discuss the latest advances in sociology research. Chapter One presents a review of the current literature of AIDS in the Caribbean and postulates several hypotheses to explain the unusually high rate of HIV infection and AIDS in the heterosexual population. Chapter Two examines how three sub-groups of skinheads - heterosexual men, gay men, and women - each define masculinity within a culture that espouses a traditional hegemonic definition of masculinity. Chapter Three seeks to understand the effects of international policies of civil society empowerment as promoted by the United Nations Development Programme (UNDP) on the practice of ‘power’ among social actors within the governance context of land-use
decision-making in the counties of the South. Chapter Four investigates how “social context” is associated with risk factors for cardiovascular disease in different geographic locations. Chapter Five traces the history of the Darfur conflict, examines the actions of primary actors and explores potential solutions. Chapter Six provides an understanding of how the Renal Patient Support Group (RPSG) raises Chronic Kidney Disease (CKD) awareness; supports health professionals and researchers; and provides a reflection on the first 6-years (2009-2015). Chapter Seven analyzes and compares the arguments of important theorists about Fashion, such as Barthes, Flugel, Koënig, Lipovetsky, Simmel, Eco, Sigurtä, Livolsi, Alberoni, Dorflès, Lomazzi, Schwarz or Cordwell, among others. The phenomenon of Fashion is also analyzed under its diverse cultural dimensions, such as history, communication, language and expressivity.

**African American Caregivers: Seasons of Care Practice and Policy Perspectives for Social Workers and Human Service Professionals**

*Sandra Edmonds Crewe (Howard University) and Charnetta Gadling-Cole (Department of Social Work, Psychology and Counseling, Alabama A&M University, AL, USA)*

In series: *Social Issues, Justice and Status*


Hardcover: 978-1-63321-967-0. $185.00.

Softcover: 978-1-63484-573-1. $89.00.

e-book: 978-1-63321-996-0. $185.00.

Caregiving is a long standing tradition in the African American community. This book provides historical and contemporary insight into caregiving. The authors intertwine the African American struggle for dignity and social justice with their discussion of various aspects of caregiving. An overarching theme of the book is the resilience of African Americans in carrying out their caregiving responsibilities. Although disparities are a part of the caregiving landscape, the authors individually and collectively present a rhythm of caregiving that engages the reader in caregiving across the life span. This in depth look at the African American caregiving experience exposes readers to a broader lens, thus avoiding the often overly simplistic view or culturally limited viewpoint of their caregiving experience. Caregiving is not limited to any particular group—the old and the young are a part of the caregiving experience that is discussed in this book. The book is a collaboration between social work programs at Historically Black Colleges and Universities—Howard University (Washington, DC) and Alabama A&M University (Normal, Alabama). The book includes a wide range of content, from caring for older persons with dementia to younger disabled children. The authors/contributors also range in age and experience as caregivers. All of the authors have extensive experience working with African Americans. These are authentic accounts of the caregiving experience within the African American community. The book is authored by social workers who reflect the core values of the profession. Interwoven throughout the chapters are the National Association of Social Workers’ six core values of service, social justice, dignity and worth of person, importance of human relationship, integrity and competence. Additionally, the authors emphasize the implications for practice and policy in their unique contributions. Social workers as well as other human service professionals will find the book useful in their practice. Also, this book is especially suited for students who are working with the different populations discussed by the authors. For example, social gerontology classes will benefit from the chapter that specifically focuses on older persons and caregiving. Similarly, students focused on mental health service delivery will also benefit from the rich discussion of well-being, spirituality, and resilience. Students can use the text as well in practice and policy courses. One of the unique aspects of this book is in the chapter on caregiver reflections that links the narratives of caregivers with the various chapters. These narratives touch the heart as well as provide guidance for policy and practice that addresses the core of the caregiving experiences. Through their reflections, caregiving takes on multiple voices that merge to create harmony in the understanding of the African American experience. Narrative titles such as “Someone stop the Ride, I Really Want to Get off” and “Clara’s Gift: Caring for Grandma” are exemplary of the rich and moving stories that accompany this book.

**Armenians - Aryans. The "Blood Myth", the Race Laws of 1938 and the Armenians in Italy**

*Enrico Ferri (University "Nicolò Cusano" (UNICUSANO) – Rome, Italy)*

In series: *Focus on Civilizations and Cultures*


Several laws “in defense of the race” were readily enacted in Germany (1935) and successively applied further in Italy (1938). The hypothetical existence of a primeval Indo-European language was assumed to be associated with a similar ancestral Aryan race. Its psycho-physical traits and characteristic vision of the world were typical of the warrior race; a sense of honor, penchant for risk, willingness to emerge and respect for hierarchy were highly valued. These were the traits that identified with the race’s primacy. While the Aryan race split up into various ethnic groups, its constituent characteristics continue to be visible in most European populations today. In the 1930s these somewhat frail bases, besides a number of pseudo-sciences, such as phrenology, physiognomy and other ill-conceived theories on race, contributed to establishing the criteria according to which peoples were considered Aryans or Semites. These doctrines formed the ideological background for the discrimination, segregation and persecution of entire populations and communities, like the Jews and the Roma people. The following study traces the complex framework within which the Armenian community developed in Italy and Europe, highlighting the various arguments that emerged in favor of or against the inclusion of the Armenian people in the Aryan family and the historical milieu in which the debate took place.

**Community-Focused Assistance and Development: Selected Programs and Analyses**

*Theodore Mclaughlin*

In series: *Hunger and Poverty: Causes, Impacts and Eradication*


Hardcover: 978-1-63484-729-2. $120.00.

e-book: 978-1-63484-730-8. $120.00.

Community Services Block Grants (CSBG) provide federal funds to states, territories, and tribes for distribution to local agencies to support a wide range of community-based activities to reduce poverty. Smaller related programs—Community Economic Development (CED), Rural Community Facilities (RCF), and Individual Development Accounts (IDAs)—also support antipoverty efforts. CSBG and some of these related activities trace their roots to the War on Poverty, launched more than 50 years ago in 1964. Today, they are administered at the federal level by the Department of Health and Human Services (HHS). This book provides information on the CSBG; describes several smaller related programs that are administered by the same federal office that currently oversees the CSBG; discusses a proposal pending in Congress to reauthorize CSBG and related activities; summarizes a new “Upward Mobility Project” initiative of the Obama Administration; and discusses current and recent funding activities affecting the CSBG. Furthermore, this book describes the Community Development Financial Institutions Fund’s (CDFI Fund) history, current appropriations, and each of its programs; and informs the congressional debate concerning the Community Reinvestment Act’s (CRA) effectiveness in incentivizing bank lending and investment activity to low- and moderate-income (LMI) borrowers.
Conflicts in the City: Reflections on Urban Unrest
Luis del Romero Renau (Department of Geography, University of Valencia, Valencia, Spain)
Hardcover: 978-1-63483-913-6, $190.00.
e-book: 978-1-63483-914-3, $190.00.
The international financial crisis is the confirmation of the collapsing major social pact of the twentieth century: the progressive dismantling of the Welfare State, degradation of living conditions in the city, the rise of urban ghettos in European cities, etc. In southern European countries, two social and political failures of great significance have emerged: the failure of the promise of continuous standard of living improvements, with the verification that younger generations will have worse living conditions than their parents; and secondly, the failure of the binomy political democracy – capitalism. This tension has meant suspending the regular democratic mechanisms in countries such as Ireland, Portugal and Greece, and it has also been expressed with a growing imposition of authority from post democratic institutions, making them practically free from democratic control. In this context, the urban conflict becomes the center of political, academic and public debates, especially after the new cycle of protests started in 2011, with the global movement of the indignant to occupy the Arab Spring. The novelty is that this cycle of protests becomes full attention, and is no longer centered in the workplace as it traditionally occurred, but in the areas of social reproduction: housing, public space, education, health or environment are some of the reasons for protest. This book stands at the center for the analysis of urban conflicts, the set of protests taking place in the city to contest the way it is planned, governed, managed, imagined and represented. Therefore, the aim is to understand the conflict as a social phenomenon; it devotes full attention to analyze the genesis, evolution and resolution by consensus or not of a wide range of cases of conflict. The starting point is the consideration of urban conflict as a positive and necessary scenario for communication between urban actors at a time or situation where there is no such communication. The book is intended mainly from a multidisciplinary and multicultural perspective to reflect and understand how and why territorial conflicts arise in the city and its principal expression of protest.

Corruption in the Infrastructure Provision: The Role of Accountability Mechanisms in the Community Driven Development Projects of Indonesia
Thomas Nektarios Papanastasiou (Faculty of Legal and Social Studies, Lecturer in Law, Neapolis University Pafos, Pafos, Cyprus)
Hardcover: 978-1-63484-455-0, $160.00.
This book explores the accountability mechanisms of the Community Driven Development (CDD) projects in provision of water-services to decentralized rural-Indonesia and examines how these mechanisms prevent or mitigate corruption risks. The analysis is based on three water supply community development programs in Indonesia. This book examines the selected project’s accountability-mechanisms by analysing three key areas (factors): legitimacy, transparency and monitoring or oversight control. This book asserts that if the project’s regulatory framework provides mechanisms of legitimacy, transparency and monitoring control at the community grassroots level, this in turn can increase the responsiveness and accountability of the infrastructure providers and therefore prevent (more effectively) the risk of corruption. The core result attained from the research outlined in this book is that when projects include specific mechanisms of legitimacy, transparency and monitoring control, they improve accountability and tackle the corruption risk better. This book encourages “bottom-up” accountability, moving away from the developmental authoritarianism, and building projects of local adaptation, ownership and deep-rooted democratization.

Cultural Competence: Elements, Developments and Emerging Trends
Kristina Lowell
In series: Focus on Civilizations and Cultures 2016. 90 pp.
Hardcover: 978-1-63484-582-3, $82.00.
e-book: 978-1-63484-595-3, $82.00.
Cultural competence and responsiveness are considered essential for classroom teachers who teach diverse groups of students. Teacher training programs have tremendous opportunities to develop the cultural competence of pre-service teachers in the classroom, in the field, and as ongoing professional development. The first chapter of this book explores pre-service teachers’ perceptions of their needs in regards to cultural competence preparation. Cultural competency in understanding psychopathology and psychological distress has become an explicit goal. Chapter Two systematically reviews a range of relative literature to form a cohesive view on aspects that promote further development of cultural competencies in mental health service settings. The chapter gives particular attention to collectivist cultures and explores pathogenic, pathoselective, pathoplastic, pathocollaborating, and pathoreactive influences that culture exerts on psychopathology, as well as its link to culture-related phenomena. Chapter Three studies the elements of decision-making responses used by occupational therapy practitioners when confronted with conflict within an international context when there are differences in beliefs and practices between practitioner and client.

Cultural Theory for the Humanities
Robert Pennington (Emeritus Professor, Fo Guang University, Taiwan)
In series: Focus on Civilizations and Cultures 2016. 181 pp.
Hardcover: 978-1-63484-665-3, $190.00.
This theory of culture, a synthesis of thinking from Europe, the Americas and Asia, illustrates the function and meaning of culture rather than form. It fuses philosophy, anthropology, sociology, history, science, psychology, literature, literary criticism and linguistics — all areas that a comprehensive theory must comprise because they constitute culture. The essence of culture is identity, or psychosocial homeostasis. A primary problem for cultural solution is the determination of what has identity. As social concepts, individuals can have identity in some cultures but not in others. Where identity is possible, it is generally derived from shared identities of defined groups and even of the culture itself. Essential identity of individuals, even in cultures that admit it, does not occur within the scope of culture. This theory concerns the possibilities and forms of culturally recognizable identity. The Editor of this book examines this Cultural Theory for the humanities.

Detention of Immigrants: Assessments of Medical Care and Holding Facilities
Adrian Shwartz
Softcover: 978-1-53610-114-0, $95.00.
The Department of Homeland Security (DHS) is responsible for providing safe, secure, and humane confinement for detained aliens who may be subject to removal or have been ordered removed from the United States. This book examines the extent to which DHS has
processes for administering detainee medical care and maintaining cost information for care; monitors and assesses compliance with medical care standards; and oversees processes to obtain and address complaints about detainee medical care.

Divorce: Risk Factors, Patterns and Impact on Children's Well-Being
Shannon Grant
In series: Family Issues in the 21st Century

This book provides current research on the risk factors, patterns and impact on children's well-being of marital divorce. The purpose of the first chapter is to examine the relationships between divorce, the single-mother family, the single-father family, and youth crime using a social disorganization framework and community-level data from 454 Canadian municipalities in 2001 and 2006. Chapter two provides a review of the disruptions in close relationships in children and adolescents with divorced parents. Chapter three reviews the more scintillant literature on naturally occurring coping efforts among children of divorce, including the importance of social support, help-seeking behaviours, and the continuum of active to more passive coping strategies originating from the cognitive-behavioral perspective. Chapter four compares perceptions of coparenting in divorced and married parents, both fathers and mothers, and assessing their relations to school-age and adolescent children’s psychosocial adjustment. Chapter five studies stepfamily transitions and common accompanying beliefs, and reports the findings of an empirical study which aimed to predict two aspects of remarital quality – dyadic adjustment and relationship commitment – via a measure of the changes in one’s beliefs over time about remarriage and stepfamilies. Chapter six illuminates how specific children seek to connect and balance out the everyday life by being attentive to repeated routines as well as differences between their two households. The final chapter studies children’s experiences of sibling relationships after parental separation.

Domestic Violence: Prevalence, Risk Factors and Perspectives
Mitchell Ortiz
In series: Family Issues in the 21st Century
2016.

The concept of domestic violence refers to acts of violence and abuse of one family member over another. Family violence is an issue of major concern for psychologists and families, community and social decision-makers. It is a dramatic phenomenon, which generates pain, trauma, physical and psychological scars. This book provides an overview of the prevalence, risk factors and several perspectives of domestic violence. Chapter One is about attachment as a vulnerability factor of victimization in the context of intimate partner violence. Chapter Two analyzes animal cruelty and intimate partner violence. Chapter Three focuses on violence against women and child maltreatment. Chapter Four emphasizes the victimization experience (direct and indirect) of children in the family context. Chapter Five presents data of the Children’s Exposure to Domestic Violence Scale (CEDVS) applied in Brazil. Chapter Six discusses the phenomenon of domestic violence between same-sex intimate partners. Chapter Seven studies domestic violence arising from a concept of honor and referred to as honor based violence. Chapter Eight presents current literature on the effectiveness of domestic violence interventions targeting adult perpetrators and adult and child victims. Chapter Nine provides the latest results of the research on facilitating successful treatment processes in perpetrator programs. Chapter Ten examines the Domestic Violence (Prevention and Protection) Act 2010 in Bangladesh. Chapter Eleven aims to determine whether there is an association between domestic violence and suicide risk in female victims of domestic violence attending the Multidisciplinary Center for Comprehensive Care of Violence. The last chapter sets out to show that gender based violence is no longer restricted to “women by men.”

Ethnic Minorities: Perceptions, Cultural Barriers and Health Inequalities
Ana Pratt
In series: Social Justice, Equality and Empowerment

Intergroup relations are, by definition, a two-way process, yet the perspectives of minority group members have been given considerably less attention than the perspectives of dominant group members in social psychology. For decades, researchers have explored the nature of white Americans’ attitudes, opinions, stereotypes, and behaviors toward African Americans; however, ethnic minorities’ perceptions of white Americans have been grossly understudied. Chapter one of this book on ethnic minorities aims to diversify the perspectives and approaches that psychologists pursue to understand intergroup dynamics by investigating ethnic minorities’ attitudes toward white Americans. The following chapter examines the effects of neighborhood level and individual level characteristics on the attendance of religious services among first-generation Muslim immigrants and native Christians in the Netherlands. Chapter three examines the political representation of minorities on the example of the ethnic Turkish minority in Bulgaria, an unconventional case of minority participation in politics under the liberal democratic model. Chapter four attempts to illustrate how the notion of Hong Kong Chinese Orientalism emerged from the racial hierarchy of white-yellow-black by reviewing the racial and ethnic discourses in China and Hong Kong. Chapter five attempts to construct an analytical survey of the political participation of ethnic minorities in Hong Kong after the region was handed over to China in 1997. The last chapter's objective is to critically consider the challenge of incorporating discussions of social determinants of health into human subjects' research study design; and developing strategies to help racial and ethnic minorities overcome these barriers, in order to increase their enrollment in research studies.

Federal Low-Income Programs: Overview, Types, Household Characteristics, and Effects
Charlotte Campbell
In series: Hunger and Poverty: Causes, Impacts and Eradication
Hardcover: 978-1-63484-733-9. $120.00.
e-book: 978-1-63484-734-6. $120.00.

The federal government provides assistance aimed at helping people with low-incomes who may earn too little to meet their basic needs, cannot support themselves through work, or who are disadvantaged in other ways. This book describes federal programs (including tax expenditures) targeted to people with low incomes; identifies the number and selected household characteristics of people in poverty; identifies the number, poverty status, and household characteristics of selected programs' recipients; and examines research on how selected programs may affect incentives to work.

Global Civilization in the 21st Century
Andrew Targowski (Western Michigan University, MI, USA)
In series: Focus on Civilizations and Cultures
Hardcover: 978-1-63117-609-8. $85.00.
Softcover: 978-1-63485-357-6. $79.00.
e-book: 978-1-63117-613-5. $85.00.
The purpose of this book is to evaluate the question: What does the New World Order (NWO) mean in the 21st century? After the Polish Revolution in 1989 and the fall of the Berlin Wall in 1989 and the Soviet Union in 1991, many people expected better times than those during the Cold War between the West and East. Since Communism lost to Capitalism, can the latter promote freedom and happiness for all of us everywhere? However, this dream did not happen, vice versa we face now so called liquid times, times of instability and chaos. Therefore, this book is written for those who would like to know why the supposedly ideal economic solution known as Capitalism cannot bring happiness to all of us as it is promised by its promoters. This means that the book should be interesting for all kinds of readers and could be potentially read by millions. The book discusses Hegelian dialectics under the form of competition among ideas that have been neglected in the NOW-21st Century and unopposed Capitalism has been transformed into Turbo-Capitalism, also known as Undemocratic Capitalism. This process is supported by additive waves of globalization taking place in the last 500+ years. Eventually in the 21st century humanity is facing the resulted transformation of western civilization into global civilization. The book analyzes this transformational process and its positive and negative repercussions for humanity. Modern globalization was triggered by the one globalization wave about 500 years ago. Later, globalization was deepened by the following four globalization waves, which eventually established global civilization in the 21st century. At this time, global civilization have strong promoters which are global corporations and capital. These secure this civilization’s good modus operandi, regardless of its negative impact on the population and depletion of the strategic resources. The better solution is not to look for one world with common culture, infrastructure, and perhaps government; (according to some wishes), but to look for a diversified world as it was before the current Globalization Wave in the 21st century. However, such a civilization should be steered by universal values, goals and strategies leading to the development of Universal Civilization. The Universal Civilization (UC) embraces the major premises of contemporary socio-political critical theory and practice, such as multi-culturalism (diversification) and limited integrationism, which leads to a better order of living on the same planet. The implementation of Universal Civilization is possible if people accept metanoia (change) and their elites, pioneers, and politicians will work towards a common goal. If the UC concept is rejected, then we have to look for another civilization, comprehensive solution, which the author does not perceive at this moment. However, for a Universal Civilization to be successful, we must first transform into a wise civilization whose wise society may eventually sustain the declining civilization of humanity.

Indigenous Peoples: Perspectives, Cultural Roles and Health Care Disparities
Jessica Morton
In series: Focus on Civilizations and Cultures
In this book, Chapter One addresses the diversity of Brazilian indigenous peoples, their history, and basic elements of distinct ethnic groups, such as their languages, social organization, rituals, myths, values, habits, and artistic expressions. Chapter Two describes some settings in which children learn about their way of life, in the framework of interactions with peers and more experienced people. It also explores how drawings and models made by children can tell stories about children’s preferences, expectations and future horizons, and reflects on how intergenerational and peer interactions involve transmission, adaptation, questioning and innovation of knowledge and skills necessary to dwelling in changing environments. Chapter Three provides a picture of mid-20th century lifestyle practices of Eeyou women when pregnant and breastfeeding with the aim to provide information that could potentially be used to improve culturally competent prenatal and postnatal care for Eeyou women. Chapter Four discusses disparities in medication use among elder American Indians. Chapter Five provides a conceptual overview of mental health disparities, historical realities, and sociocultural barriers of American Indians and Alaska natives.

Married Same-Sex Couples: Religious Objection, Social Security and Tax Treatment Issues
Gary Daniels
In series: Family Issues in the 21st Century
Softcover: 978-1-63485-485-6. $95.00.
The U.S. Supreme Court’s highly anticipated decision in Obergefell v. Hodges recognized federal constitutional protection for same-sex marriage.1 Although on its face the case addressed only whether states must issue marriage licenses to same-sex couples and recognize marriages legally formed in other states, Obergefell has implicated a number of other legal rights, particularly those related to religious exercise and civil rights. Some religious doctrines include objections to same-sex marriage, leading to questions about the extent to which individuals, businesses, or religious institutions that share such objections must recognize or accommodate couples in same-sex marriages. Because federal law includes both constitutional and statutory protections for religious beliefs that may involve such conflicts, the manner in which these protections may intersect with constitutional protection of same-sex marriage can become complicated. This book analyzes a range of legal issues for which Obergefell has implications. Moreover, this book addresses eligibility for Social Security spousal benefits for individuals in a same-sex marriage; addresses a number of frequently asked questions regarding the eligibility of same-sex couples for Social Security benefits and the interpretation of state marriage laws; provides an overview of the federal tax treatment of same-sex married couples, with a focus on the federal income tax; and provides background on, and analysis of, significant legal issues raised by the Supreme Court’s decision in Obergefell.

Migration of Unaccompanied Children From Central America: Causes, Assistance and Effectiveness
Angie Hopkins
In series: Immigration in the 21st Century: Political, Social and Economic Issues
Hardcover: 978-1-63484-604-2. $120.00.
e-book: 978-1-63484-605-9. $120.00.
U.S. agencies have sought to address causes of unaccompanied alien child (UAC) migration through recent programs, such as information campaigns to deter migration, developed in response to the migration increase and other long-standing efforts. The recent migration increase was likely triggered, according to U.S. officials, by several emergent factors such as the increased presence and sophistication of human smugglers (known as coyotes) and confusion over U.S. immigration policy. Officials also noted that certain persistent conditions such as violence and poverty have worsened in certain countries. In addition to long-standing efforts, such as U.S. Agency for International Development (USAID) anti-poverty programs, agencies have taken new actions. For example, Department of Homeland Security (DHS)-led investigative units have increasingly sought to disrupt human smuggling operations. This book reviews U.S. assistance in El Salvador, Guatemala, and Honduras addressing agency-identified causes of UAC migration; how agencies have determined where to locate these assistance efforts; and the extent to which agencies have developed processes to assess the effectiveness of programs seeking to address UAC migration.
Parent-Child Interactions and Relationships: Perceptions, Practices and Developmental Outcomes
Kristin Alvarez

In series: Family Issues in the 21st Century
2016. 221 pp.

Positive parent-child interactions play an important role in fostering the development of pre-schoolers’ knowledge and understandings of their world. This book provides current research on parent-child interactions and relationships. Chapter One reviews Parent-Child Interaction Therapy (PCIT) research conducted with diverse populations as well as adaptations that have been implemented. Chapter Two describes Integration of Working Models of Attachment into Parent-Child Interaction Therapy (IoWA-PCIT). Chapter Three reports results of a small open trial of IoWA-PCIT with children and their adoptive mothers. Chapter Four analyzes the educational representations and practices of Italian parents about childrearing. Chapter Five compares mothers and fathers on a variety of parenting measures that include behavioral observations as well as self-reported data. Chapter Six presents how experiences of adequate quality promote metacognitive functions. Chapter Seven analyzes mother-child interactions during the use of a touch screen tablet. Chapter Eight explores the effects of increased engagement with media technologies has on the quality of interactions between parents and their children. Chapter Nine suggests that supporting children’s early writing with technologies can complete the traditional early literacy and writing support via a pencil and paper. Chapter Ten examines the relationship between parent teaching of environmental print to their children, child interest in environmental print, and emergent literacy skills. Chapter Eleven describes the longitudinal effects of parent-child interactions on social competence development using the Interaction Rating Scale (IRS) for eighteen-month olds to seven-year-old children.

Self-Determination Theory: A Family Perspective
Nicolette Vanessa Roman and Eugene Lee Davids
(Child, Family and Community Research Unit, Faculty of Community and Health Sciences, University of the Western Cape, Cape Town, South Africa)

In series: Social Issues, Justice and Status

The theory of self-determination is an evidence-based theory that has been shifted from a conceptual perspective to practical implementation for the past four decades. The theory is grounded within positive psychology and has the basic assumption that every human being has the motivation and potential to be psychologically sound. In order to attain a state of psychological wellness, our basic psychological needs, which are the desire for autonomy, relatedness and competence, must be satisfied. If these needs are attained, people are therefore motivated to function optimally and at their fullest potential. In addition to satisfying basic human psychological needs, a supportive environment is required as well. In the case of this book, the family is presented in each chapter as the hypothetical environment for optimal functioning of the individual. The chapters highlight the role of family structure, family conflict, family involvement, adverse experiences within the family, parenting styles and practices. Self-Determination Theory: A Family Perspective includes reviews and primary research studies from authors in South Africa, Portugal, Belgium and Nigeria. Target Audience: This book is aimed at parents, researchers, policy and programme specialist, theorists, psychologists, social workers, academics and health professionals.

Social Support: Gender Differences, Psychological Importance and Impacts on Well-Being
Cedric Castillo

In series: Social Issues, Justice and Status

The link among health, well-being and social support is well-known. Social support represents an important protective factor against stress both directly (see the main effect hypothesis) and as a mediator. Nevertheless, it fosters health but at the same time may create a burden for those who work as caregivers and perceive the strain of their professional responsibility. This book discusses gender differences, the psychological importance and impacts on well-being of social support. Chapter One presents some theoretical consideration about health and social support from a gender perspective. Chapter Two clarifies the impacts of caring and their gender differentials. Chapter Three outlines empirical research on the determinants of gender-specific effects in tonic or stress-related physiological responses, along with potential mechanisms responsible for gender-specific effects. Chapter Four investigates the relationship between social support and both hedonic and eudaimonic well-being controlling for the effects of fluid intelligence and personality traits Italian high school students. Chapter Five creates a better understanding of universal (etic) and unique (emic) social support patterns of aging adults around the world. Chapter Six investigates the mediating role of social support in the relationships between the religious meaning system and psychological well-being. Chapter Seven discusses the importance of taking the central role of social support in the etiology and prognosis of a cardiac disease into account in cardiac rehabilitation and preventive programs.

Socioeconomic Status: Influences, Disparities and Current Issues
Geoffrey Perkins

In series: Social Issues, Justice and Status

This book provides research on the influences, disparities and current issues of socioeconomic status (SES). Chapter One discusses socioeconomic status, inequality and academic achievement. Chapter Two reviews literature on socioeconomic variables that predict a child’s executive functioning and possible contextual and cognitive variables mediating this association. Chapter Three examines socioeconomic and racial disparities in child health and health outcomes. Chapter Four analyzes attitudes toward poverty and the government safety net programs in relationship to income and party affiliation, and investigates theories to better understand the polarized attitudes toward socioeconomic status, inequality and poverty in America. Chapter Five provides a review of three different studies which underpin the proposal of the benefits and pitfalls of high SES. Chapter Six reports the findings of two questionnaire surveys focusing on the effects of socioeconomic status and trait self-control on seeking relationships.

Virtual Civilization in the 21st Century
Andrew Targowski (Western Michigan University, MI, US)

In series: Focus on Civilizations and Cultures

This book analyzes a new phenomenon in civilization: the transformation of the current “Information Wave” into virtual civilization. In the 21st century, the “real-space” of the world civilization, due to the massive, network-intensive use of computers.
world-wide, gained the virtual space known as cyberspace. Cyberspace is a product of information technology exemplified by the Internet as the world system of information highway(s) [INFOSTRADA(S)] which forms a digital space containing all sorts of files and communication exchanges practiced in online and real-time modes. For the first time in 6,000 years of human civilization, society has become a quantum society, which can be real and virtual at the same time. The virtual society is invisible for those who do not use computer networks. Even for those who do use them, cyberspace access requires software of commercial transactions-oriented activities (ex. on Amazon or eBay and others), searching on Google or Yahoo or communicating as a member of one of social networks, e.g., Facebook, Twitter, LinkedIn, and others. This book recognizes the development of the Earth’s space in the following scopes of mixed reality (MR): Real Environment (RE), Augmented Reality (AR), Augmented Virtuality (AV), and Virtual environment (VE). This book evaluates the phenomenon of virtuality:

Is this a temporary technological phantom or is it going to stay forever?
Is it a new technological wave of civilization or is it a new civilization itself? Since this editor argues it is a new civilization, a characterization of virtual society will be given. Also, if this is a new civilization, what is its religion (since every civilization is characterized by a religion)?
In addition, its culture will be analyzed. As a new civilization, virtual society will promote certain ways of practicing daily life. These new ways will be characterized and evaluated as a new kind of societal divide.

Some trends of the virtual technology will be evaluated as well. Is virtuality a positive tool which will enhance the quality of our lives, or will it provide stronger inequality among skillful and unskilful users? So far the digital divide worsened peoples’ well-being at the lowest social strata. Can virtuality improve these people’s well-being or will it worsen it? What is the future of virtuality? As a new landscape of civilization its development will be predicted within the framework of several possible futures of real civilization which can be perceived today. This kind of prediction involving the architecture and development of cyberspace and real-space in the context of contemporary civilizations such as African, Chinese, Japanese, Hindu, Buddhist, Western, Eastern, Islamic, and Global will be evaluated in this book. It will also be discussed how we develop and behave in the Virtual Civilization which perhaps will define our civilization’s success in the 21st century. Will this civilization enhance the real civilization or will it leave many of us behind in a divided environment created by the rise of virtuality?

SPORTS

A Primer for Swimming Coaches. Volume 1: Physiological Foundations
Ernest W. Maglischo, Ph.D. (Retired Swim Coach, Prescott, AZ, USA)
In series: Sports and Athletics Preparation, Performance, and Psychology
Hardcover: 978-1-63483-218-2. $270.00.
Softcover: 978-1-63485-821-2. $89.00.

It has been 12 years since the author published the 3rd edition of the Swimming Faster series and time has not stood still. Research has continued at a rapid pace, using increasingly sophisticated methodology to improve our knowledge of the training process. In this book, the author shares what he learned with members of the competitive swimming community throughout the world. The title of this book was changed to reflect his purpose in writing it. It is a source for coaches and athletes to improve their knowledge of the scientific aspects of the sport. This book should also help readers become familiar with the sometimes confusing terms used by sports scientists so they can read the results of their studies with understanding. Furthermore, this book informs the readers' enough in the areas of physiology, biochemistry and molecular biology as they pertain to the training of athletes. It is the author's hope that they will be able to evaluate the validity of that research and decide for themselves if it has merit. Finally, this book provides the readers' with the knowledge to apply the information they gain to their own unique training environments. This is so they will not have to copy the training of successful coaches without understanding why it was beneficial and how it might be modified to become even more useful within their surroundings.

A Primer for Swimming Coaches. Volume 2: Biomechanical Foundations
Ernest W. Maglischo, Ph.D. (Retired Swim Coach, Prescott, AZ, USA)
In series: Sports and Athletics Preparation, Performance, and Psychology
2016. 426 pp.
Hardcover: 978-1-63483-596-1. $190.00.
Softcover: 978-1-63485-822-9. $89.00.

The author's reasons for writing this book were, first, to provide readers with some basic hydrodynamic tenants that will help them understand the reasons for the complex nature of the stroke mechanics employed by elite, competitive swimmers. The first three chapters on resistance and propulsion were included for this purpose. The second purpose was to describe, what the author believes, is the major propulsive mechanism swimmers use: shoulder adduction. A third purpose was to comment on some of, the many “fads” and misconceptions about stroke mechanics that abound in our sport. His final reasoning behind writing this book was to speculate on some theories about stroke mechanics he developed over the years. The efficacy of these theories have yet to be validated by research, but are worth considering nonetheless. These purposes were met by the individual chapters on each competitive stroke, plus a chapter on stroke rates and stroke lengths. This book is not a continuation of the Swimming Faster series, although it contains some of the same information. Therefore, the author purposely changed the title to reflect his purpose in writing it. It contains descriptions and summaries of the most important research on swimming hydrodynamics over the last several decades, in his opinion. The descriptions of stroke mechanics are supported by photographs of some of the greatest swimmers in the world, both past and present. They were made from in-competition videos where one can see how they really swim, as opposed to what they think they should be doing, which is what one often sees in pool demonstrations and out-of-competition instructional videos.

Chasing Rainbows: An Existential Perspective of a Marathon Runner
Eric Anton Kreuter (Yorktown Heights, NY, USA)
In series: Sports and Athletics Preparation, Performance, and Psychology
2016.

Dr. Kreuter provides insights into the philosophy of the long-distance runner. He uses his own experiences with running, which span sixteen years as well as the commentsaries of other athletes. The main purpose of this book is to provide a therapeutic approach to lethargy and non-participation in a person’s life by catalyzing their internal energy, using exercise to create the catalyst for positive change. It is the inner experience of the person who transforms that can be shared with another person to provide an accessible model to follow. In the world of coaching, the information provided in this book can be used to effectively challenge a person who lacks achievement in their life by awakening their own internal dynamics. In doing so, the capabilities of that person can begin to grow. Target Audience: Therapists and coaches.
Gymnastics Performance and Motor Learning: Principles and Applications

Thomas Heinem, Ivan Cuk, Ruben Goebel, and Kostas Velentzas (University of Hildesheim, Institute of Sport Science, Universitätsplatz, Hildesheim, Germany)

In series: Sports and Athletics Preparation, Performance, and Psychology
2016.
Hardcover: 978-1-63485-737-6. $190.00.
e-book: 978-1-63485-755-0. $190.00.

The book Gymnastics Performance and Motor Learning: Principles and Applications is a state-of-the-art discussion forum for topics that are of high interest in the field of gymnastics. Experts from different countries and with different scientific backgrounds such as psychology, pedagogy, training science, sports science, and movement science provide a number of significant contributions covering recent theoretical developments, current research evidence, as well as implications for practical applications concerning the different gymnastics disciplines. Topics discussed in the book include gymnasts' gaze behavior in complex skills, spotting and guiding techniques, observational learning, augmented feedback, imagery, mental rotation, directional tendencies, interpersonal coordination, lost skill syndrome, performance indicators, as well as apparatus developments. Given the wide range of topics, Gymnastics Performance and Motor Learning: Principles and Applications may be an important source of information for graduate students, researchers, and practitioners (coaches and gymnasts) who work in the field of gymnastics. Target Audience: Given the wide range of topics, the book "Gymnastics Performance and Motor Learning – Principles and Applications" may be an important source of information for graduate students, researchers, and practitioners (coaches and gymnasts) who work in the field of gymnastics.

Recreational Fisheries in the U.S.: Selected Reports on Policy, Economics and Data Collection

Ellen K. Parker

In series: Fish, Fishing and Fisheries
Hardcover: 978-1-63485-595-2. $150.00.

Recreational fishing is a traditional American pastime integral to social, cultural, and economic life in coastal communities across the nation. This time-honored activity allows millions access to America’s great outdoors each year, while generating billions of dollars in economic activity. Traditionally shaped by commercial forces, demographic, market, and ecological shifts are changing the nature of U.S. fisheries. Our nation’s expansive coastal and ocean resources face increasing pressure as coastal populations grow, and more people pursue recreational opportunities in ecologically important marine and estuarine areas. The purpose of this book is to provide guidance for Agency consideration in its deliberations pertaining to development and maintenance of enduring and sustainable high quality saltwater recreational fisheries. This policy identifies goals and guiding principles to be integrated into NOAA’s National Marine Fisheries Service’s (NMFS) planning, budgeting, decision-making, and activities, and includes examples of implementation concepts and strategies supported by NMFS. Moreover, this book provides a detailed overview of the operating structure of the “average” Northeast for-hire head boat and charter boat, and estimates the economic activity that for-hire businesses contribute to the Northeast’s economy as measured by total employment, labor income, and sales. Lastly, this book examines challenges that have been identified with the NMFS’ data collection efforts for managing marine recreational fisheries and steps the agency has taken to improve data collection and challenges that remain.

Resistance Training: Principles, Adaptations and Health Effects

Zachary T. Fields

In series: Sports and Athletics Preparation, Performance, and Psychology
Sofcover: 978-1-63485-653-9. $95.00.
e-book: 978-1-63485-672-0. $95.00.

Resistance exercise is characterized by a voluntary muscle contraction of a body segment against an external resistance. It generates a number of effects on body composition, in particular muscle hypertrophy. In this book, Chapter One studies the effects of resistance and aerobic training on obesity, a worldwide epidemic with an alarming high prevalence. Chapter Two shows the effectiveness of resistance training on three diseases with rheumatic features. Chapter Three summarizes findings from a university-community-based resistance training program (with information sessions and social gatherings) that was designed for older people.

Sports Nutrition: A Guide for Youth Sport Coaches

Shelley L. Holden (University of South Alabama, Alabama, USA) and Timothy M. Baghurst (Oklahoma State University, Oklahoma, USA)

In series: Sports and Athletics Preparation, Performance, and Psychology
In series: Nutrition and Diet Research Progress
2016. 86 pp.
Sofcover: 978-1-63485-275-3. $82.00.
e-book: 978-1-63485-300-2. $82.00.

In the United States alone, over 60 million youth participate in organized sports. This book is designed to assist coaches of these youth by providing a fundamental understanding of sports nutrition and how to correctly fuel athletes for athletic performance. Chapters include the basics of sports nutrition, fuel for the body, timing and type of meals and snacks, fluids and hydration, dietary supplements, eating disorders, and body image, and special considerations for athletes such as those who are vegetarian, diabetic, or have a food allergy. The final chapter provides practical suggestions for parents to appreciate the importance of sports nutrition for their athlete. A greater knowledge and application of sports nutrition will assist in optimal sports performances as well as improved overall health and well-being for the athlete.

The 2016 Olympic Games in Rio: Issues, Concerns, and Background on Brazil

Cassandra Hines

In series: Sports and Athletics Preparation, Performance, and Psychology
2016.
Sofcover: 978-1-53610-122-5. $95.00.
e-book: 978-1-53610-123-2. $95.00.

Over the years, host countries and cities have had to deal with a variety of concerns, problems, or criticisms, and Rio de Janeiro is no exception. Separately or collectively, a variety of issues might pose risks to the health, safety, and general well-being of athletes and their families, team personnel, and spectators participating in or attending the 2016 Games. Chief among these are the Zika virus, public safety threats, security concerns, and environmental conditions. This book also discusses the possible implications of hosting the Olympics for Brazil and the issue of doping.
TERRORISM

Chemical Facility Anti-Terrorism Standards: Overview and Implementation Issues
Joanne Nelson
In series: Terrorism, Hot Spots and Conflict-Related Issues
2016. 82 pp.
The potential harm to public health and the environment from a large release of hazardous chemicals has long concerned congressional policymakers. Since 2006, Congress has authorized the Department of Homeland Security (DHS) to regulate chemical facilities for security purposes. To this end, the Chemical Facility Anti-Terrorism Standards (CFATS) regulates security at high-risk facilities possessing more than certain amounts of one or more chemicals of interest. Facilities possessing more than the specified amount must register with DHS through this program and perform security-related activities. This book provides information regarding the pace of DHS CFATS implementation and attempts to identify potential sources of challenges for DHS. Moreover, this book addresses the extent to which DHS has categorized facilities as subject to the CFATS regulation, and approved site security plans and conducted compliance inspections.

Focus on Terrorism. Volume 14
Joshua B. Morgan
In series: Focus on Terrorism
Hardcover: 978-1-63484-352-2. $190.00.
Terrorism, sadly, seems here to stay and to stay with a vengeance. It turns out that the United States was not prepared for it and now must play catch-up. In doing so, even an agreement on how to define terrorism is in doubt and what to do about it seems beyond comprehension at the moment. This book discusses various topics, starting with the rational choice model. The following chapters enunciates ten theses that not only take a look at global terrorism but might serve as issues that might have to be taken heed of in societal politics. Chapter Three examines the political career of Tom Metzger, an activist who did much to radicalize the far-right. Chapter Four describes the evolution of the epidemic process from mental to social and then to asocial epidemics of crime and terrorism. Chapter Five examines the conduct of UK Special Branch Counter-Terrorism Unit (CTU) officers conduct in suspect interviews. The last chapter explores the historical roots of modern tourism and worker unions to see the point of connection between both.

TOURISM

Kostas Rontos, Jose Antonio Filipe and Paris Tsartas
In series: Hospitality, Tourism and Marketing Studies
2016.
Hardcover: 978-1-63485-920-2. $230.00.
This book focuses on tourism sectors and models the latest trends in tourism activity while providing a new vision for contemporary tourism economy. Tourism is a sector confronting new challenges for advanced and developing economies. Despite global challenges, tourism continues to be a dynamic sector stimulating social and economic development. Moreover, many scientific challenges are identified in order to model and explain countries’ tourism sectors, regional and local conditions of tourism and territories’ sustainability. In addition, a set of models is provided in this book, contributing to a new vision for contemporary tourism economies, showing new tendencies in this sector and following a scientific approach concerning new policy design aimed at understanding and explaining a new philosophy carried out by governments in terms of the management of the tourism sector. On the other hand, the private sector of economic business opportunities considering the perspectives of tourism are also considered. This book serves as an excellent guide for agents either in public or private sector buildings on the associated scientific methodologies concerning their strategic planning. Therefore, the aim of the present book is to provide some contribution to the areas highlighted above.

Tourism Competitiveness in the Italy-France Cross-Border Area: The Role of Knowledge and Innovation Transfer
Iacopo Cavallini, Barbara Burchi and Marco Celi
(University of Pisa, Department of Economics and Management, Italy)
In series: Hospitality, Tourism and Marketing Studies
2016.
Softcover: 978-1-63485-028-5. $95.00.
e-book: 978-1-53610-023-5. $95.00.
This book presents the objectives, main steps and results of a European cooperation project, focusing on the importance of scientific competencies for the exploitation of the synergies and complementarities between tourism and other priority sectors for the sustainable socio-economic development of a given macro-region. This book also highlights the role of the European Union Funds for regional competitiveness with a practical guide of the most important EU instruments for financing projects on tourism, specifically connected with research and other priority sectors. Target Audience: Companies (in particular SMEs), researchers, undergraduate and postgraduate students, who have direct interests or operate in the sector of tourism, or the same subjects who operate in the other cross-border priority sectors but they want to collaborate for the development and reinforcement of the tourism as the recognized territorial leverage to improve the socio-economic development of a given region or macro-region.

Urbanization and Tourism Development in China
Jian Ming Luo (Faculty of International Tourism and Management, City University of Macau, Macau, China)
In series: Urban Development and Infrastructure
2016. 111 pp.
Softcover: 978-1-63484-268-6. $82.00.
e-book: 978-1-63484-772-8. $82.00.
The Chinese government incorporated tourism and urbanization as a key component for economic and social development in the Five-Year National Plan. This book starts with a general introduction to the concept of urbanization and tourism development in the global environment. This is followed by a discussion of urbanization in China and the Guangdong province. Chapter Two is a historical review, focusing on tourism and hotel development in China, particularly in the province of Guangdong. China’s hotel rating system and influence factors on hotel development are also discussed. In Chapter Three, the definition and measurement of urbanization are discussed through different disciplines and theories, and the related urbanization studies
in China are also discussed. In Chapter Four, the relationship of urbanization and tourism development are elaborated, and the effect of urbanization on tourism and hotel development are identified in Chapter Five through a case study. Urbanization has been a remarkable social phenomenon in the world since the Nineteenth and Twentieth centuries. It transformed the spatial and social configurations of human societies. However, this issue has rarely been investigated in literature concerning tourism and hospitality. This book attempts to build the link between urbanization, tourism and hotel development at the provincial, regional and city levels, including the economy of mid-scale hotels and upscale hotels. This book provides insight to practitioners using macroeconomic factors in relation to tourism and hotel development.

TRANSPORTATION

Cargo Preferences for U.S.-Flag Shipping: Background, Considerations, and Food Aid Issues
Edmund Sutton
In series: Transportation Issues, Policies and R&D
Softcover: 978-1-63484-945-6. $95.00.

Long-standing U.S. policy has treated the U.S.-flag international fleet as a naval auxiliary to be available in times of war or national emergency. When the United States is involved in an extended military conflict overseas, 90% or more of military cargoes are typically carried by ship. To support the U.S. merchant marine, Congress has required that “government-impelled” cargo sent overseas be carried on U.S.-flag ships. Government-impelled cargo (a.k.a. “preference cargo”) is government-owned cargo, such as military supplies and food aid, and any cargo that is somehow financed by the federal government, such as by the Export-Import Bank. While export shipments account for the vast bulk of government-impelled cargo, in 2008 Congress extended the law to require that state and local governments and private entities importing goods with federal financial assistance ship at least 50% of such cargo in U.S.-flag vessels. Regulations to implement that requirement have not been issued. This book explains the motivation behind cargo preference law, discusses issues concerning the cost-effectiveness of the program, reviews attempts to apply cargo preference to the nation’s oil trade, and identifies several disparate bills reflecting wide disagreement on the future direction of cargo preference policy. The book also examines cargo preference for food aid (CPFA) impact on food aid shipping cost and U.S. agencies’ implementation of CPFA requirements, and the extent to which the implementation of CPFA requirements contributes to sufficient sealift capacity.

Congestion Impacts of Freight Flows
Diana Hughes
In series: Transportation Issues, Policies and R&D
2016.
Softcover: 978-1-53610-033-4. $95.00.
e-book: 978-1-53610-034-1. $95.00.

About 93 trains a day on average crossed into the continental United States from Canada and Mexico in 2014, according to U.S. Department of Transportation’s (DOT) Bureau of Transportation Statistics (BTS). Trains enter and leave the United States through 30 port of entries (POEs)—23 on the northern border and 7 on the southern border. Although international freight rail plays an important role in U.S. economic and trade interests, the movement of rail through U.S. communities at the border can result in blocked highway-rail grade crossings and vehicle traffic congestion. This book describes the factors that affect the movement of freight rail and the actions taken by federal agencies and others to expedite freight rail in selected POEs; and examines what is known about the impacts of freight rail operations on highway-rail grade crossings in POE communities. Moreover, the book addresses recent changes in U.S. rail and truck freight flows and the extent to which related traffic congestion is reported to impact communities; and the extent to which DOT’s efforts to implement Moving Ahead for Progress in the 21st Century Act (MAP-21) address freight-related traffic congestion in communities.

General Aviation: Liability Insurance Issues and Mitigation of Safety Risks
Jessie Douglas
In series: Transportation Issues, Policies and R&D
Hardcover: 978-1-63484-735-3. $120.00.
e-book: 978-1-63484-736-0. $120.00.

A substantial proportion of all domestic aviation accidents and fatalities that occur each year involve general aviation (GA), which includes all aviation except commercial and military. Under federal law, the Secretary of Transportation is responsible for ensuring that commercial air carriers carry liability insurance. However, no such federal requirements exist for GA aircraft owners. In some cases, accidents involving uninsured or underinsured GA aircraft owners have occurred where individuals (passengers or third parties) who incurred losses received little or no compensation. This book examines existing liability insurance requirements for GA aircraft owners; premiums for GA liability insurance; and factors that selected stakeholders cited which should be considered in determining whether to adopt a federal liability insurance requirement. Furthermore, this book discusses the characteristics of and trends in general aviation accidents from 1999 through 2011; and recent actions taken by the Federal Aviation Administration (FAA) to improve general aviation safety.

Next Generation Air Transportation System: Global Interoperability Efforts
Kimberly Salazar
In series: Transportation Infrastructure - Roads, Highways, Bridges, Airports and Mass Transit
2016. 102 pp.
Hardcover: 978-1-63484-695-0. $120.00.
e-book: 978-1-63484-700-1. $120.00.

Aviation must be safe, efficient and sustainable both at home and abroad, so the Federal Aviation Administration’s (FAA) Air Traffic Organization (ATO) is committed to playing a leading role, and working collaboratively, to ensure the success of global aviation. The United States, Europe, and other countries across the world are modernizing their air-traffic management (ATM) systems. As these efforts proceed, international coordination in developing interoperable ATM systems and procedures will be necessary to support a global aviation network and ensure the seamless transition of aircraft and aviation information across national borders. This book examines selected stakeholders’ views on factors that might affect NextGen’s global interoperability; the extent to which the FAA has established a strategy to effectively achieve NextGen’s global interoperability; and actions FAA has taken to coordinate with other countries on global interoperability.

Pedestrian and Cyclist Safety: U.S. Trends and Initiatives and International Practices
Dora Holland
In series: Transportation Issues, Policies and R&D
Softcover: 978-1-63485-593-8. $95.00.
e-book: 978-1-63485-594-5. $95.00.

Walking and biking are becoming increasingly popular modes of transportation; nearly a million more people reported walking or biking to work in 2013 than in 2005. While total traffic fatalities declined from 2004 through 2013 (the most recent year for which data are
available), this was not matched by a similar decline in pedestrian and cyclist fatalities. This book examines trends in pedestrian and cyclist fatalities and injuries from 2004 through 2013 and characteristics of these fatalities and injuries; safety initiatives selected states and cities have implemented and their views on challenges in addressing this issue; and actions taken by the U.S. Department of Transportation (DOT) to help improve safety. Furthermore, this book identifies noteworthy and innovative international designs, treatments, and other practices that have potential to improve bicycle and pedestrian safety and access and increase walking and bicycling in the United States.

The Law of Air, Road and Sea Transportation

Georgios I. Zekos, Ph.D. (Advocate and Economist, TEI of Central Macedonia, Serres-Macedonia-Hellas, Greece)

In series: Economic Issues, Problems and Perspectives
In series: Transportation Issues, Policies and R&D


International markets expand through better communication and transport technology. Transport networks are at the heart of the supply chain and are the foundation of any country’s economy. Transport is a foundation of the European integration procedure. The present framework of international carriage law is made up of a collection of conventions. The legal document establishing the contractual link between the parties involved in the contract of carriage is the bill of lading. Ocean bills of lading have an inherent value as security to banks that finance the sale of the underlying cargo or the documentary credit to themselves, and they enable their lawful holders to sell the cargo whilst in transit by transfer of the document. Containerization brought about a revolution in the transport industry. All transport conventions set diverse liability limits and mirror dissimilar communities of interest among different transport modes. A carrier’s liability limitation in international carriage conventions is a consequence of international trade practice. The transport systems have become a source of environmental and social costs. The author discusses these issues and more in this important book on international markets and transportation.

Traffic Accidents and Safety: New Research

Garrett Bowman

In series: Transportation Issues, Policies and R&D

2016. Hardcover: 978-1-63485-517-4. $82.00.
e-book: 978-1-63485-554-9. $82.00.

Traffic accidents (TAs) represent a significant public health issue and are associated with behavioral factors, vehicles safety and conditions of the urban spaces. According to the Centers for Disease Control and Prevention, road crashes are one of the major causes of morbidity and mortality in the United States. There are many studies showing that children and adolescents may suffer significant and long-lasting psychosocial consequences following TAs. Countless research has been conducted during the last decades aiming to investigate the relationship between driver behavior and road features. This book provides new research on traffic accidents and safety. Policymakers at all levels of government are debating a wide range of options for addressing the nation’s faltering economic conditions. One option that is once again receiving attention is accelerated investments in the nation’s public infrastructure - that is, highways, mass transit, airports, water supply and wastewater, and other facilities - in order to create jobs while also promoting long-term economic growth. This book examines policy issues associated with using infrastructure as a mechanism to benefit economic recovery. Discussed are airline fees; factors which influence the extent of transit-oriented development; current law and legislative history of the federal excise tax on motor fuels and the highway trust fund; long-term financing of the highway trust fund; the Railroad Rehabilitation and Improvement Financing (RRIF) Program; vehicle safety inspections; and seat belt use among long-haul truck drivers.

Unmanned Aerial Systems: Early Integration Progress and Considerations

Wilfred Sparks

In series: Transportation Issues, Policies and R&D


Unmanned aerial systems (UAS) are aircraft that do not carry a pilot aboard, but instead operate on pre-programmed routes or are manually controlled by following commands from pilot-operated ground control stations. Unauthorized UAS operations have, in some instances, compromised safety. The Federal Aviation Administration (FAA) Modernization and Reform Act of 2012 directed FAA to take actions to safely integrate UASs into the national airspace. In response, FAA developed a phased approach to facilitate integration and established test sites among other things. This book addresses the status of FAA’s progress toward safe integration of UASs into the national airspace; research and development support from FAA’s test sites and other resources; and how other countries have progressed toward UAS integration into their airspace for commercial purposes.

UNITED STATES

The Fifty Most Influential Americans: Interviews with Professor Donald Elder III

Donald Elder III and Michael F. Shaughnessy

(Eastern New Mexico University Portales, New Mexico, USA)

In series: Distinguished Men and Women of Science, Medicine and the Arts


The Fifty Greatest Americans is a book that chronicles the individuals that have contributed mightily to our great American history, as well as to our great American culture. Working together, Dr. Donald Elder, Professor of History, and Dr. Michael Shaughnessy, Professor of Education have reviewed more than 200 years of American history and isolated the singular individuals that have made America great. Some of these individuals were involved in the founding of our nation, some were involved in the great Western American expansion (relying on the concept of manifest destiny), and some were involved in the tragic American Civil War. These individuals were not necessarily presidents, senators, governors or congressmen. They were men and women whose contributions reverberate through all disciplines of endeavor — science, music, art, dance, theatre, literature and the like. These individuals have left their mark on our society and culture, and they were critically involved in establishing the zeitgeist of their time frame. Certainly, there will be discussions among historians as to who
was inadvertently left out, and others may ponder why other individuals were included. This, again, is what makes our country great — that there could be an open discussion among scholars, teachers, researchers and colleagues as well as a cordial, congenial debate as to the relevance and importance of each individual. Some may say that women were neglected, while others may point to a lack of certain racial, ethnic minorities. This is not to say that those individuals did not contribute to America and American culture, but that space constraints demanded a prudent judicious eye towards those individuals who will be respected and revered — if not quoted — years from now. Using a question and answer format, the authors have attempted to focus on the main people and the main issues along with the main events in American history. The presidents of the United States have been focused upon in another book published by Nova, and thus are not included here. But these uncommon individuals, working in trying times under desperate odds, have managed to carve a niche for themselves in American history. They are loved, admired, respected and revered. It is hoped that this book will provide a road map for historians, leaders, policy makers and those individuals who are simply citizens involved in the democratic process. Some individuals are born into greatness, some achieve greatness and other have greatness thrust upon them. This book will help readers understand the complexities of greatness and the American Dream.

U.S. Savings Bonds, Municipal Bonds and Tax-Exempt Bonds: Selected Analyses and Issues

Henrietta Walters

In series: American Political, Economic, and Security Issues

Hardcover: 978-1-63484-696-1. $120.00.
E-book: 978-1-63484-703-2. $120.00.

U.S. savings bonds provide Americans with an affordable way to save. In 2012, Treasury stopped selling paper savings bonds at banks as part of its broader electronic initiative. As a result, savings bonds generally must be purchased through TreasuryDirect®. The one exception is the Tax Time Savings Bond program, established in 2010 to enable taxpayers to use their tax refund to buy paper savings bonds. The program is one way for lower-income families to save. Chapter One of this book examines the effect of Treasury’s elimination of paper U.S. savings bonds on the program and bond purchases; the extent to which the Tax Time Savings Bond program has promoted savings by lower-income households and Treasury’s future plans for the program; and the extent to which lower-income households are saving and programs developed by federal agencies and others. Chapter Two informs Congress about various developments related to the demand for municipal bonds, which are debt securities issued by states, cities, counties, and other government-created agencies to finance capital projects, such as highways, airports, sewers, bridges, schools, hospitals, and other public goods for residents. Chapter Three provides information about state and local government debt.

VETERAN

Veterans: Political, Social and Health Issues

Milton Townsend

In series: Military and Veteran Issues

Hardcover: 978-1-63484-691-2. $160.00.

This book provides insights into the political, social and health issues for Veterans in today's society. Chapter One explores the emotions of shame and guilt in Veterans based on research examining moral injury, survivor guilt, military sexual trauma, and stigma. Chapter Two provides an overview of agricultural initiatives in the transition and reintegration of Veterans. Chapter Three explores the political, social, and health management changes that have occurred in the field of chronic, non-cancer pain in order to provide world class service for our nation’s Veterans. Chapter Four reviews the Emotional Freedom Technique to treat Veterans with Post Traumatic Stress Disorder (PTSD). Chapter Five offers suggestions based on clinical experiences for when and how to include family members in Prolonged Exposure (PE) therapy for PTSD, while maintaining fidelity to the treatment protocol. Chapter Six explores research that has been conducted upon the oral health of veterans since 2000. Chapter Seven examines potentially mutually exclusive objectives utilizing the principles of beneficence and nonmaleficence in relationship to bioethics and the concept of need. Chapter Eight discusses the continued existence of ethnic disparities in health care for U.S. Veterans Affairs Emergency Departments.

WEAPONS

Active Shooter Incidents and Multiple Casualty Violence: Preparedness and Prevention Guidance

Clark Matthews

In series: Safety and Risk in Society

2016. 150 pp.
Hardcover: 978-1-63484-914-2. $120.00.
E-book: 978-1-63484-915-9. $120.00.

The American public has expressed increasing alarm over incidents of multiple casualty violence. While the law enforcement community has progressed in advancing training in the tactical response to incidents, there are significant gaps in strategies aimed at preventing multiple casualty violence. To address this need, the U.S. Department of Homeland Security’s Federal Law Enforcement Training Center collaborated with the U.S. Department of Justice’s Office of Community Oriented Policing Services and the Johns Hopkins University’s School of Education, Division of Public Safety Leadership, to facilitate the National Summit on Multiple Casualty Shootings. The summit planners invited subject-matters experts from a wide range of disciplines, such as law enforcement, health care, law, social sciences, education, and academia, to help improve the nation’s ability to prevent multiple casualty violence. The participants developed eight recommendations, all centered on the need to create a strategic approach to information sharing in the prevention of multiple casualty violence. This book discusses the recommendations.

WOMEN

Combat Service Opportunities for Women: Expansion and Progress Issues

Cassandra Schultz

In series: Women's Issues

Hardcover: 978-1-63484-432-1. $120.00.
E-book: 978-1-63484-433-8. $120.00.

Over the past two decades of conflict, women have served with valor and continue to serve on combat aircraft, naval vessels, and in support of ground combat operations. The expansion of roles for women in the armed forces has evolved since the early days of the military when women were restricted by law and policy from serving in certain occupations and units. Women are not precluded by law from serving in any military unit or occupational specialty. However, a 1994 Department of Defense (DOD) policy prevented women from being assigned to units below brigade level where the unit’s primary mission was to engage directly in ground combat. This policy barred women from serving in infantry, artillery, armor, combat engineers, and special
operations units of battalion size or smaller. On January 24, 2013, then-Secretary of Defense Leon Panetta rescinded the rule that restricted women from serving in combat units and directed the military departments to review their occupational standards and assignment policies for implementation no later than January 1, 2016. This book reviews the issues for Congress of having women in combat. It also assesses the status of service efforts to open positions and occupations to women, including steps to identify and mitigate potential challenges; extent the services’ efforts to validate gender-neutral occupational standards are consistent with statutory and Joint Staff requirements; and extent DOD is tracking, monitoring, and providing oversight of the services’ integration plans.

Federal Grant-Making to Women in STEM Research Fields: Analysis and Representation Proposals
Rochelle Schuler
In series: Women’s Issues
Softcover: 978-1-63485-679-9. $95.00.
In fiscal year 2014, U.S. universities received nearly $25 billion in federal grant funding for Science, Technology, Engineering, and Mathematics (STEM) research. Studies show women are largely underrepresented in STEM fields. Federal agencies are required to enforce Title IX—a law prohibiting discrimination on the basis of sex in education programs receiving any federal financial assistance—including at universities they fund. GAO was asked to provide information on federal grant-making to women in STEM. This book examines the extent to which differences exist in federal grant awards between women and men in STEM fields; the extent to which federal agencies enforce Title IX at universities they fund for STEM research; and possible actions federal agencies could take to address the representation of women in STEM research.

Pregnancy Discrimination and the Supreme Court: A Closer Look at Young v. UPS and Related Cases
Dale Pittman
In series: Women’s Issues
2016. 90 pp.
Softcover: 978-1-63485-489-4. $62.00.
e-book: 978-1-63485-490-0. $62.00.
In 2015, the Supreme Court issued a decision in Young v. United Parcel Service. In the case, a United Parcel Service (UPS) worker named Peggy Young challenged her employer’s refusal to grant her a light-duty work assignment while she was pregnant, claiming that UPS’s actions violated the Pregnancy Discrimination Act (PDA). In a highly anticipated ruling, the Justices fashioned a new test for determining when an employer’s refusal to provide accommodations for a pregnant worker constitutes a violation of the PDA, and the Court sent the case back to the lower court for reconsideration in light of these new standards. This book begins with a discussion of the facts in the Young case, followed by an overview of the PDA. The book then provides an analysis of the Young case, its implications, and a potential legislative response. Furthermore, the book focuses on sex discrimination challenges based on: the equal protection guarantees of the Fourteenth and Fifth Amendments; the prohibition against employment discrimination contained in Title VII of the Civil Rights Act of 1964; and the prohibition against sex discrimination in education contained in Title IX of the Education Amendments of 1972.

In series: Women’s Issues
Softcover: 978-1-63485-638-6. $62.00.
Women make up almost half of the nation’s workforce, yet research shows that they continue to hold a lower percentage of corporate board seats compared to men. Research highlights advantages to gender diverse boards, and some countries have taken steps to increase board gender diversity. The Securities and Exchange Commission (SEC) requires companies to disclose certain information on board diversity. This book examines the representation of women on boards of U.S. publicly-traded companies and factors that may affect it; and selected stakeholders’ views on strategies for increasing representation of women on corporate boards. Furthermore, this book discusse women in combat, and includes a discussion of the impact of women in Congress as well as historical information.

Women’s Health Research: Inclusion Issues, Data, and Strategies
Neil Wagner
In series: Women’s Issues
2016. 91 pp.
e-book: 978-1-63485-164-0. $62.00.
Women make up over half the U.S. population, but historically have been underrepresented in clinical research supported by the National Institutes of Health (NIH) and others. As a result, differences in the manifestation of certain diseases and reactions to treatment in women compared with men were not identified. For example, there have been instances of women having adverse effects that differed from those of men related to medications and other treatments. NIH’s Inclusion Policy established requirements governing women’s inclusion in its clinical research. This book examines women’s enrollment and NIH’s efforts to monitor this enrollment in NIH-funded clinical research; and NIH’s efforts to ensure that NIH-funded clinical trials are designed and conducted to analyze potential sex differences, when applicable.
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Mr. Ethan Atkin
Cranbury International LLC
7 Clarendon Ave., Suite 2
Montpelier, VT 05602 USA
Tel: 1-802-223-6565
Fax: 1-802-223-6824
eatkin@cranburyinternational.com

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Tel 822 499 4301
Fax 822 499 4363
Email: SunnyCheong@Kornet.net

Philippines
Jean Tiu Lim
General Manager
MegaTEXTS Phil., Inc.
Units 1-3, 101 Don Ramon Aboitiz Street
6000 Cebu City, Philippines
Phone: +63 32 253 3391
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Japan
Mrs. Masako Kitamura
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1-3-13-201 Higashi Mizuhodai
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2017 E-package Information

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- International Journal of Child and Adolescent Health
- International Journal of Child Health and Human Development
- International Journal of Clinical Dentistry
- International Journal of Medical and Biological Frontiers
- International Public Health Journal
- Journal of Alternative Medicine Research
- Journal of Pain Management
- Journal of Stem Cells
- Non-pharmacological Therapies in Dementia
- World Heart Journal

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- Current Politics and Economics of Africa
- Current Politics and Economics of Europe
- Current Politics and Economics of Northern and Western Asia
- Current Politics and Economics of Russia, Eastern and Central Europe
- Current Politics and Economics of South and Central America
- Current Politics and Economics of South, Southeastern, and Central Asia
- Current Politics and Economics of the Middle East
- Current Politics and Economics of the United States, Canada, and Mexico
- International Journal of Terrorism and Political Hot Spots
- Russia, China and Eurasia - Social, Historical and Cultural Issues

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- Chaos and Complexity Letters
- Environmental Research Journal
- International Journal of Chemical Modeling
- International Journal of Computer Research
- International Journal of Mathematics, Game Theory and Algebra
- Journal of Combinatorics and Number Theory
- Journal of Magnetohydrodynamics, Plasma, and Space Research
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- Journal of Psychiatric Administration and Management

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