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MEDICINE AND HEALTH
With the term perioperative anesthesia, it is advocated that anesthesia should be considered an exhaustive process, especially in major surgeries. The purposes of this process are as follows: in the preoperative period, the patient's preparation is provided in different clinical and psychological ways; in the intraoperative period, hemodynamic, surgical, cardiac, and all systems are protected; and in the postoperative period, the patient is recovered from the anesthesia, and short-term complications are prevented.

In the postoperative period, in terms of patient safety, anesthesia recovery, and surgical follow-up, it is undoubtedly beneficial to follow up with patients in PACU for the first 24-48 hours before taking them to the service, especially for early complications, prolonged recovery, and close follow-up. PACU, an important constituent of the perioperative process, is also where every risky postoperative patient will be followed. This book aims to examine every stage of the PACU process from a clinical perspective beyond nursing care and support the medical literature. In the book chapters, the expected risks in the patients and those that should be applied clinically in treatment and follow-up processes will be discussed in general.

Postoperative pain is a common problem in clinical practice that becomes chronic in approximately 10% to 30% of adults who undergo surgery, being severe in 5 to 10% of them. It is one of the main causes of chronic pain, which makes it a major public health problem. It generates in patients who suffer it a worsening of their quality of life, their psychological well-being, and disability with the consequent incapacity for work.

Given that both its etiology and its consequences are complex and multifactorial, postoperative pain must be approached from a multimodal perspective: preventive, pharmacological, nutritional, rehabilitative, nursing intervention, psychological and, in those refractory cases, through surgical approaches or nerve block techniques. This book aims at first to analyze the pathophysiological and psychological bases that underlie its etiology. Next, it aims to carry out an updated review of the multidisciplinary programs for the treatment of postoperative pain that have been carried out and what their results have been. Moreover, the contribution of each of these disciplines in the ambulatory management of postoperative pain will be reviewed.

Finally, we want to study the peculiarities of the management of this type of pain in the oncological patient, as well as the personal and socioeconomic consequences and the increase in other comorbidities of this important reason for consultation.
ATHLETICS

Sports Medicine

Current Issues in Kinesiology and Sport Pedagogy
Colin G. Pennington (Assistant Professor, Research Fellow, Department of Sport Science, School of Kinesiology, College of Education, Tarleton State University, Texan Rider Drive, Fort Worth, Texas, USA)
In series: Physical Fitness, Diet and Exercise
Publication Date: 12/03/2021
235 pp.
Hardcover: 978-1-68507-187-5. $160.00
e-book: 978-1-68507-294-0. $160.00
This book provides an overview of current issues being discussed in higher-education kinesiology and sport pedagogy departments, as well as current research being conducted in physical education, physical education preparatory programs, and kinesiology departments more generally. Those who are served valuable content from this publication include kinesiology faculty, and college/university instructors who prepare future physical educators, future coaches, and future allied-health professionals and movement specialists [such as personal trainers, athletic trainers, physical therapists, etcetera].
This book is composed of an assortment of both qualitative and quantitative research. Some chapters include empirically collected data, others are more philosophical ‘think-pieces’ -- representing an array of current issues, research foci, methodologies, and perspectives in the field of kinesiology.
Contributing authors hail from institutions all over the United States – ranging from Texas, Washington, Illinois, Georgia, and Alabama – providing a broad and rich variety of perspectives, opinions, and experiences in the field.
Each chapter is specific to an important line of research or concept being explored in higher-education kinesiology and sport pedagogy. Readers will find that most chapters do not overlap in particular concept, but rather they all generally apply to the advancement of leadership, mentorship, teaching and conducting research in kinesiology and sport pedagogy – making the book a broad overview of current topics and the status of modern kinesiology departments in higher education.

CARDIOVASCULAR SYSTeM

Horizons in World Cardiovascular Research. Volume 22
Eleanor H. Bennington
In series: Horizons in World Cardiovascular Research
Publication Date: 01/28/2022
184 pp.
Hardcover: 978-1-68507-568-2. $250.00
e-book: 978-1-68507-596-5. $250.00
This volume includes five chapters that present recent updates in cardiovascular research from around the world. Chapter One discusses how histamine is transported from the gut via the bloodstream to the heart and puts forward novel evidence that histamine can be produced in the heart itself. Chapter Two provides an analytical comparison of induced pluripotent stem cells, mesenchymal stem cells, and cardiosphere-derived cells commonly used for clinical cardiac applications. Chapter Three compares outcomes of patients who underwent transcatheter aortic valve implantation with those who underwent sutureless aortic valve replacement. Chapter Four analyzes changes in electrocardiogram leads, reflecting manifestation and development of acute and chronic myocardial ischemia. Lastly, Chapter Five reviews existing and upcoming cardiac magnetic resonance imaging techniques to evaluate systemic and pulmonary impedance in healthy individuals and cardiovascular disease states.
A Compendium of Principles and Practice of Laser Biophotonics in Oral Medicine

Dr. Fakir Mohan Debta, BDS, MDS (Professor and Head, Dept. of Oral Medicine and Radiology, SCB Dental College and Hospital, Cuttack, Odisha, India), Dr. Ekagrata Mishraa, BDS, MDS (Post-PG Resident, Dept. of Oral Medicine and Radiology, SCB Dental College and Hospital, Cuttack, Odisha, India) and Dr. Neha Patyal, BDS, MDS (Post-PG Resident, Dept. of Public Health Dentistry, SCB Dental College and Hospital, Cuttack, Odisha, India)

In series: Dentistry and Oral Sciences
Publication Date: 01/14/2022
190 pp.
Hardcover: 978-1-68507-441-8, $160.00
e-book: 978-1-68507-516-3, $160.00

Photonics is a light-based optical technology that is considered as the leading technology for the new millennium. The science of light generation, manipulation, transmission, and measurement is known as photonics. The application of photonics technologies and principles to medicine and life sciences is known as biophotonics. Laser (Light Amplification by the Stimulated Emission of Radiation) is one of the most important inventions of the twentieth century in biophotonic technology. In the field of oral medicine, lasers have a multitude of preventive, therapeutic and adjunctive applications. Applications in clinical scenarios like orofacial pain, temporomandibular joint disorders, potentially malignant disorders of oral mucosa, herpes, recurrent aphthous ulcers, burning mouth syndrome, nerve repair, laser and antimicrobial photodynamic therapies in cancer patients, non-neoplastic proliferative lesions of oral soft tissue, and vascular lesions have shown promising results. Lasers also aid in optically enhanced diagnosis of oral lesions using florescence, coherence and spectroscopic techniques. This endeavor, entitled A Compendium of Principles and Practice of Laser Biophotonics in Oral Medicine, is a concise but comprehensive body of information, written in a simple tone, attempting to cruise the readers’ vision through every perspective, to seek objective information on all aspects of the instrument and its uses, fostering a preliminary step towards efficient laser diagnosis and therapy. This book facilitates exploration of physical concepts with lucidity without getting engrossed in excruciating jargon.

Laser Light Therapy in Dentistry: Efficacy, Uses and Limitations

Georgios E. Romanos, DDS, PhD (Professor, Stony Brook University, School of Dental Medicine, Department of Periodontology, Stony Brook, New York, USA)

In series: Dentistry and Oral Sciences
Publication Date: 11/11/2021
454 pp.
Hardcover: 978-1-68507-068-7, $270.00
e-book: 978-1-68507-345-9, $270.00

Light Therapy in Dentistry: Efficacy, Uses and Limitations is a scientific puzzle of new information for laser applications in dentistry and their translation to medicine. It describes a symphony of essential information and orchestration of therapeutic concepts presenting the jewels of learning to clinicians, researchers, and specialized individuals who want to know more about laser applications in dental sciences.
Multiple Choice Questions on Oral Medicine and Radiology - A Rapid Review in Dentistry
Karthik Rajaram Mohan, (Associate Professor, Department of Oral Medicine and Radiology, Vinayaka Mission's Sankarachariyar Dental College, Vinayaka Mission's Research Foundation (Deemed to be University), Salem, Tamilnadu, India), Ravikumar Pethagounder Thangavel (Head of Department, Department of Oral Medicine and Radiology, Vinayaka Mission's Sankarachariyar Dental College, Vinayaka Mission's Research Foundation (Deemed to be University), Salem, Tamilnadu, India) and Saramma Mathew Fenn, PhD (Associate Professor, Department of Oral Medicine and Radiology, Vinayaka Mission's Sankarachariyar Dental College, Vinayaka Mission's Research Foundation (Deemed to be University), Salem, Tamilnadu, India)

In series: Dentistry and Oral Sciences
Publication Date: 02/17/2022
390 pp.
Hardcover: 978-1-68507-584-2. $230.00

This book contains a series of multiple-choice questions on oral medicine and radiology that will be helpful for undergraduates and postgraduates in the field of dentistry, as well as undergraduates who are applying for licensure examinations like NEET, USMLE, and National Board examinations.

DERMATOLOGY

Mycosis Fungoides: Causes, Diagnosis and Treatment
Xiaohui Zhang, MD, PhD (Associate Member, Department of Pathology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, USA) and Lubomir Sokol, MD, PhD (Senior Member, Department of Malignant Hematology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL, USA)

In series: Dermatology - Laboratory and Clinical Research
Publication Date: 11/11/2021
282 pp.
Hardcover: 978-1-68507-093-9. $195.00
e-book: 978-1-68507-156-1. $195.00

Mycosis fungoides (MF) is the most common subtype of cutaneous lymphomas. The initial diagnosis of MF is often difficult, particularly in the early stage, requiring arduous clinical and pathological workups with repeat skin biopsies. Differential diagnosis ranging from benign dermatoses to other hematolymphoid neoplasms can be tricky and extremely challenging. Clinical management and treatment vary widely among providers and institutions. This book is an up-to-date overview of MF, covering almost every aspect of the disease. The chapters encompass etiology, clinical workup and diagnosis, pathological diagnosis, clinical and pathological variants, differential diagnosis, treatment and prognosis, as well as the state-of-the-art understanding of the molecular genetics of MF. Pediatric MF and Sézary syndrome (SS) are also included for completeness in the book.
EXERCISE

The Science of Human Motricity
Estélio Henrique Martin Dantas, PhD (Professor, Physical Education and Medicine, Universidade Federal do Estado do Rio de Janeiro, RJ Brazil and Universidade Tiradentes, SE Brazil), Karollyni Bastos Andrade Dantas, M.Sc. (Scientific Researcher, Social Work, Universidade Tiradentes, SE Brazil) and Rudy José Nodari, Junior, PHD (Scientific Researcher, Physical Education, Salus Dermatoglifia, SC Brazil)

In series: Physical Fitness, Diet and Exercise
Publication Date: 12/28/2021
327 pp.
Hardcover: 978-1-68507-431-9. $230.00
e-book: 978-1-68507-502-6. $230.00

The International Human Motricity Network (IHMN) is a non-profit educational, technical, scientific and cultural association whose main objectives are to promote the voluntary association of teaching, research or scientific dissemination institutions, as well as people and physical or legal entities interested in education, research and dissemination of science. For this purpose, it carries out bilateral or multilateral cooperation agreements between all involved, in order to promote teaching, research and content qualification for intervention in the promotion of health and performance through human motor skills.

All professionals from different areas of knowledge have the IHMN as their locus of action, since there is no limit to the crossing of information from different types of knowledge that can directly or indirectly achieve the objective of this Network. Thus, one can see the perception that all involved have of the importance of multidisciplinarity in the construction of interdisciplinarity and how much, from basic to intervention research, each of its effective members will be welcomed.

This book is a first action of all members of the Network in order to present the main lines of investigation, their themes and research results so that more researchers, institutions and other networks want to join our work, which excels in all its actions for the good of the human being.

Our greatest desire is that reading the information contained herein will be a stimulus for research, a guide to research topics, an understanding of contemporary trends and, fundamentally, a way of attracting new professionals to the world of research and the dissemination of knowledge. To do so, we list our research group leaders with the most recent results in their research topics so that you have in your hands the excellence of our knowledge produced between 2007 and 2020, the time of IHMN's existence.

Enjoy the knowledge you are now accessing and feel invited to participate in the International Human Motricity Network and thus be able to produce even more scientific knowledge, as well as disseminate to all people the importance of the human motricity and its benefits and the great value of life to the fullest.

GENETICS

Fragile X Syndrome: From Diagnosis to Treatment
Fabrizio Stasolla (Associate Professor, Developmental Psychology, “Gustino Fortunato” University of Benevento, Benevento, Italy)

In series: Genetics - Research and Issues
Publication Date: 02/08/2022
179 pp.
Softcover: 978-1-68507-572-9. $95.00
e-book: 978-1-68507-593-4. $95.00

Fragile X syndrome is an inherited disease caused by an excessive length of the FMR protein due to mutations in the FMR1 gene located on the X chromosome. It is commonly described as one of the most common genetic diseases with autism-like behaviors and related developmental disabilities. Beside intellectual delays, behavioral problems, and communication difficulties, mood disorders usually occur. Diagnosis is based on laboratory tests and DNA results. Phenotypes including long and narrow face, large ears, hyper-arched palate, flat feet, ataxia, seizures, anxiety, aggression, and hand-related stereotypic behaviors are frequently observed. Although there is no specific cure, early interventions are highly encouraging, promising, and recommended. Pharmacological treatments may be combined with
behavioral and/or cognitive behavioral interventions. Recently, assistive technology-based programs have been implemented.

This volume includes seven chapters and addresses the newest advances in the diagnosis and treatment of individuals with Fragile X syndrome. Chapter One encompasses the molecular features and pathological bases of the disease. A comprehensive literature overview was conducted. The role of the FMR protein was emphasized although few studies evaluated its function. Chapter Two deals with the neuropsychiatric symptoms related to the syndrome. A complete conceptual framework was exhaustively detailed. Chapter Three emphasizes the role of pharmacotherapy in the treatment of Fragile X syndrome. A further literature review was carried out. Clinical relevance was outlined. Chapter Four provides the reader with a conceptual analysis. Besides molecular features, brain development was described. Challenging behaviors were included and the importance of the early combined intervention was critically discussed. Chapters Five, Six, and Seven detailed three case reports on the effectiveness and the suitability of assistive technology-based interventions. Specifically, Chapter Five argued for microswitch-cluster technology focused on pursuing the dual simultaneous goal of promoting an adaptive response (i.e., object manipulation) and reducing a challenging behavior (i.e., hand mouthing). Chapter Six describes a combined microswitch and VOCA program useful to ensure the participant has the choice between independent access to positive stimulation and asking for social interaction. Finally, Chapter Seven includes choice opportunities through an assistive technology-mediated program involving a boy with Fragile X in a functional task.

Targeted readers (i.e., caregivers, clinicians, speech therapists, professionals, psychologists, neurologists, parents of children with Fragile X syndrome, teachers) may find interesting and stimulating tips and insights for daily use in clinical research and practice, with the dual objective of diagnosis and treatment.

Recurrence Risk in Autism Spectrum Disorders

Michael Beenstock (Hebrew University of Jerusalem, Professor of Economics, Jerusalem, Israel)

In series: Genetics - Research and Issues
Publication Date: 11/23/2021
238 pp.
Hardcover: 978-1-68507-129-5, $160.00
e-book: 978-1-68507-244-5, $160.00

The study of autism development disorders has been dominated by the neurodevelopmental paradigm for almost 50 years. This book challenges the exclusivity of the neurodevelopmental paradigm by using unique population cohort data to study recurrence risk of ASD in Israel. Randomness in the timing of ASD diagnoses of index children is exploited, as in a natural experiment, to randomize within-group reproductive stoppage. Some parents of children on the spectrum consciously refrained from reproductive stoppage by having further children. Other parents had further children before their index child was diagnosed. The former parents raised their further children having gained experience in raising children on the spectrum. The latter parents raised their children under a veil of ignorance, to be broken when their index children were diagnosed.

Whereas neurodevelopmental theory predicts that recurrence risk is the same for both types of parents, behavioral theory predicts that they should be different. Population cohort data for Israel corroborate the predictions of behavioral theory. Indeed, corroboration applies in four different tests.

More generally, the author calls for a level playing field in which behavioral theory of recurrence risk is placed on an equal footing as the dominant neurodevelopmental paradigm. He also argues for methodological pluralism in which the epidemiological toolbox is augmented with methods from statistics and econometrics.

In summary, the author offers a critique of the current state of research on recurrence risk of ASD.

Driving Hospitals Towards Performance: Practical Managerial Guidance to Reach the “Perfect Symphony”

Irene Gabutti (Università Cattolica del Sacro Cuore Rome, Lazio, Italy)

In series: Health Care in Transition
Publication Date: 12/16/2021
136 pp.
Softcover: 978-1-68507-225-4, $95.00
e-book: 978-1-68507-382-4, $95.00

Hospitals, just like orchestras, are made up of many “instruments” which play their notes on their own, yet within a broader symphony. If even one instrument fails in doing its part, or if the orchestra director leaves even one of them behind, the overall symphony will just
not sound right and the final performance will be ruined. This book is aimed at providing practical guidance to hospital managers who are called to implement complex organizational transformations. In doing so, they must take into account a high number of managerial tools and dynamics which should not be overlooked. Failing to do so may negatively affect their long-term success in reaching strategic objectives.

Hospitals do not have violins, drums, and trumpets, but they do have departments, clinical wards, clinical pathways, and functional units. Moreover, their professionals must carry out different activities such as assisting patients, reporting their actions, communicating and, more and more frequently, managing parts of the hospitals themselves. Not only physicians are in charge of these aspects. Nurses and other clinical and non-clinical professionals are co-responsible, facing frequent changes in the number and type of activities they must perform.

In this context, hospital managers must design organizational charts and implement them by distributing resources and responsibilities, by setting and monitoring objectives, and by assessing the performance of units. They must motivate their staff and ensure an effective use of technology. Yet, although healthcare management is widely studied worldwide, it is rare to find contributions with such a broad and holistic point of view. Although each aspect and item of hospital management is key in reaching organizational success, the risk of overlooking one or more of them is high. Specifically, if management fails in directing all its tools towards its objectives, the chances of reaching outstanding performance are poor. Managerial tools must be used in an integrated and coherent way as multiple components of a single managerial strategy.

Environmental Health in Malaysia

Hisham Atan Edinur, PhD (Associate Professor, School of Health Sciences, Health Campus, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia), Sabreena Safuan, PhD (Senior Lecturer, School of Health Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia) and Mohd Tajuddin Abdullah, PhD (Professor, Faculty of Fisheries and Food Technology, Universiti Malaysia Terengganu, Kuala Nerus, Terengganu, Malaysia)

In series: Health Care in Transition
Publication Date: 09/17/2021
348 pp.
Hardcover: 978-1-68507-114-1, $230.00
e-book: 978-1-68507-136-3, $230.00

Malaysia’s political stability and economic prosperity have contributed towards its growing population comprising of residents and an influx of laborers from other countries including Indonesia, Bangladesh and Myanmar. Malaysia now hosts a population of 32 million from which an estimated 3 million are migrants that support the agricultural and electronic sectors. This book highlights the current health related issues in Malaysia including those zoonotic diseases and non-communicable diseases that are unique and common to tropical countries. Other environmental factors that have positive and negative impacts on health such as medical constituents from local plants are also discussed.

Essential Sleep Medicine and Surgery

Maria V. Suurna, MD, FACS (Department of Otolaryngology – Head and Neck Surgery, Weill Cornell Medicine, New York, New York, USA), Stacey L. Ishman, MD (Healthvine Health Network, Tristate Child Health Services, Department of Otolaryngology – Head and Neck Surgery, University of Cincinnati College of Medicine, Cincinnati, Ohio, USA), Josephine H. Nguyen, MD (Assistant Editor – Sacramento Ear, Nose, and Throat Surgical and Medical Group, Inc., Stockton, California, USA) and KJ Lee, MD (Chief Editor – Yale University School of Medicine, Quinnipiac University Netter School of Medicine, New Haven, Connecticut, USA; Hofstra University Zucker School of Medicine, Hempstead, New York, USA)

In series: KJ Lee Essential Medicine Series
Publication Date: 12/17/2021
682 pp.
Hardcover: 978-1-68507-220-9, $245.00
e-book: 978-1-68507-389-3, $245.00

This textbook presents a succinct yet comprehensive overview of the current essential topics in sleep medicine. Each chapter, written by experts in the many fields that make up sleep medicine, provides a unique, multidisciplinary perspective on the diagnosis and management of sleep disorders. Information is presented in outline format to optimize the learning experience with multiple choice questions to consolidate learning and practice guidelines to further one’s grasp of the topics while
presenting the opportunity for efficient reference. Finally, this textbook’s outline format, clear and concise language, and rich set of practice guidelines make it a trusted resource for nonmedical professionals hoping to learn more about sleep disorders and their treatments.

**Novel Perspectives in Economics of Personalized Medicine and Healthcare Systems**

Romina Pržiklas Družeta, PhD (Assistant Professor, Faculty of Economics and Tourism, Juraj Dobrila University of Pula, Croatia), Marinko Škare, PhD (Vice Rector for Research, Art and Cooperation, Juraj Dobrila University of Pula, Croatia) and Sandra Kraljević Pavelić, PhD (Professor, Faculty of Health Studies, University of Rijeka, Croatia)

In series: *Health Care in Transition*

Publication Date: 12/17/2021

540 pp.

Hardcover: 978-1-68507-390-9. $310.00
e-book: 978-1-68507-393-0. $310.00

This book represents a valuable interdisciplinary contribution created to fill an existing gap in the field of health economics and healthcare systems.

The book brings the latest insights from the growing field of health economics and healthcare systems. It deals with various economic, technological, sociological, ethical, legal and philosophical implications and questions arising from the development and implementation of personalized medicine. It is unprecedented in combining practical guidelines for the use of economic tools and techniques with an analysis of the current process of decision-making in the health service sector. The book also provides several insights into the factors that determine human health, the socioeconomic aspects of population aging and the social implications of the evolving burden of disease.

Some contributions are highly innovative and cover extremely relevant branches of medicine such as oncology, neurology and endocrinology. In addition, in a brave, yet professional and sovereign manner, the book covers the issue of biological predictors of health outcomes; though they are currently mainly used as global analytical methods, they are yet to be applied or have only recently been applied in clinical medicine. Further, it provides an example from traditional Korean medicine, a proven and valuable tool for personalized medical healthcare.

This edition is unique in the sense that 30 chapters were written by 41 authors, all of them experts in their respective fields of research. The authors hail from Croatia, Hungary, South Korea and the United States. The volume is intended to serve as valuable teaching material for university students, as well as a reference book for research scholars, policymakers, business executives, health managers, physicians and freelance readers.

**IMMUNOLOGY**

**A Clinical Manual of Sarcoidosis**

Vikas Pathak, MD, FCCP, FACP, FCCM, ATSF, DAABIP (Interventional Pulmonology and Critical Care Medicine, Associate Professor of Medicine, Department of Internal Medicine, Campbell University School of Osteopathic Medicine, Fayetteville, North Carolina, USA; Clinical Associate Professor, Department of Family Medicine and Population Health, Virginia Commonwealth University School of Medicine, Richmond, Virginia, USA) and Shambhu Aryal, MD, FCCP (Medical Director, Lung Transplant Program, Medical Director, Comprehensive Sarcoidosis Center, Inova Advanced Lung Disease and Lung Transplant Programs, Inova Heart and Vascular Institute, Falls Church, Virginia, USA)

In series: *Pulmonary and Respiratory Diseases and Disorders*

Publication Date: 04/11/2022

325 pp.

Hardcover: 978-1-68507-681-8. $230.00
e-book: 978-1-68507-782-2. $230.00
Sarcoidosis is a challenging condition. First identified in 1877, it has been considered a rare condition. However, the lifetime risk of sarcoidosis is about 2.5% for African Americans and almost 1% for Caucasians making it a rather common occurrence. Despite that, it remains an elusive condition with no obvious etiology and is often a challenge to treat. The disease is well known to cause a multisystem involvement but the general pulmonologist is often left carrying the bag as the “sarcoidologist” because it affects the lungs in over 90% of patients. However, managing multisystem sarcoidosis is a tough task and very few resources are available to help the practitioner taking care of the patient with sarcoidosis. As pulmonologists with deep interest in sarcoidosis, we felt that a handbook with organ based manifestations of sarcoid would be a very helpful resource for our colleagues. As a result, this book came into being. It is a clinical handbook that bridges the gap between short reviews on sarcoidosis and detailed monographs regarding all aspects of the disease and should come in handy to the practicing clinician. It is a result of the hard work of several outstanding clinicians well-known in the world of sarcoidosis who have put a lot of hours into their work. We deeply acknowledge their time and effort.

Dendritic Cell Biology as an Immune Dysfunction in Neoplasia
Lawrence M. Agius (Department of Pathology (Retired), Mater Dei Hospital, University of Malta Medical School, Msida, Malta)

In series: Cell Biology Research Progress
Publication Date: 01/06/2022
188 pp.
Softcover: 978-1-68507-486-9. $95.00
e-book: 978-1-68507-537-8. $95.00

This monograph deals with the susceptibility issues in the development of an effective response to antigenicity as presented by emerging or established neoplastic lesions. An attempt has been made to present critical views of the dysfunction of carcinogenesis in terms of evolving immune responses in terms of recruitment of dendritic cell biology. It is within such conceptual framework that autoimmunity presents an attractive response to neoplasia in terms that allow for access to the malignant transformation process. It is significant to potentiate the immune responses that involve the integral immune dimensions that characterize and recharacterize the dynamics of turnover of dendritic cells as the most powerful agents in presentation of neoantigenicity as provided by tumor cell proliferation and spread within the body.

The performance of staged dimensions in antigen exposure by tumor cells is critical to the presentation of tumor cells as brought forward by the proposed dynamics of an interface between tumor cells and the tumor microenvironment in the realization of an extensive autoimmune response with the realization of performance exposure of the antigenicity as a biologic agent in its own right.

This book is aimed to cancer researchers, pathologists, and immunologists with a strong interest in carcinogenesis and cancer cell progression as dictated by proposed immune response to tumor antigenicity.

Mast Cells and their Role in Health and Disease
Ana I. Faustino, PhD
Paula A. Oliveira, PhD

In series: Immunology and Immune System Disorders
Publication Date: 02/17/2022
129 pp.
Softcover: 978-1-68507-628-3. $82.00
e-book: 978-1-68507-690-0. $82.00

This book presents a review concerning the role of mast cells in health and disease. Mast cells were first described by Paul Erlich in his PhD thesis and are considered the remaining cells of an ancient immune system. Indeed, they are placed in common portals of infection, like the urinary and respiratory tracts.

The first chapter addresses the role of mast cells in cancer development and progression. Chapters II and III address the role of mast cells in periodontal disease and oral lichen planus, respectively. The role of brain mast cells in neuroinflammation and cognition was described in Chapter IV.

Together, these chapters provide the readers an overview of the role of mast cells in different conditions. Since the information presented in this book was obtained from years of works of expertise in the field, we hope that it will be useful for those researchers aiming to better understand the role of mast cells in different conditions.
The Innate Immune System in Health and Disease: From the Lab Bench Work to Its Clinical Implications. Volume 1
Jorge Morales-Montor (Departamento de Inmunología, Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, Ciudad de México, México)

In series: Immunology and Immune System Disorders
Publication Date: 02/02/2022
319 pp.
Hardcover: 978-1-68507-507-1. $230.00
e-book: 978-1-68507-644-3. $230.00

The aim of this book, The Innate Immune System in Health and Disease: From the Lab Bench Work to Its Clinical Implications. Volume 1, is to provide updated information to scientists and clinicians that is valuable in their quest to gather information, carry out new investigations, and develop novel drugs that are more effective and do not cause adverse effects targeting the innate immune system. This book is of high priority to people interested in an update on innate immunity. Volume 1 examines the participation of innate immunity in diseases such as infections by viruses, cancer, or parasites. Specifically, this volume discusses innate immunity as it relates to chronic HIV infection, type 2 diabetes, and SARS-CoV-2, as well as its relationship with vitamin D. The dual role of neutrophils in cancer development and the plasticity of natural killer cells are investigated. Also, the immune response to infections from helminth and Toxoplasma gondii are described.

The Innate Immune System in Health and Disease: From the Lab Bench Work to Its Clinical Implications. Volume 2 promises to be a must-have book for all people who want to know about the role of the basic functioning of the innate immune system in several diseases of actual relevance to human health.

Key Features:
• Provides basic and clinical evidence based on molecular interactions to address the role of innate immunity in viral diseases, such as HIV and SARS-CoV-2
• Discusses the role of vitamin D as modulator of the immune response during viral infections
• Addresses the immunometabolic interactions in type 2 diabetes and SARS-CoV-2 infection (COVID-19)
• Analyzes the dual role for neutrophils and myeloid-derived suppressor cells in the development of colorectal cancer
• Provides evidence of the plasticity of natural killer cells in cancer and its opportunities for therapy
• Delves into the dual role of neutrophils in cancer development
• Presents updated information on innate immunity against Toxoplasma gondii infection
• Discusses in depth the role of the innate immune response during helminth infections

We hope that readers enjoy this book and that it may be of use to all people involved, from scientists in the lab to clinicians in the field.

The Innate Immune System in Health and Disease: From the Lab Bench Work to Its Clinical Implications. Volume 2
Jorge Morales-Montor (Departamento de Inmunología, Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, Ciudad de México, México)

In series: Immunology and Immune System Disorders
Publication Date: 02/02/2022
306 pp.
Hardcover: 978-1-68507-510-1. $230.00

The aim of this book, The Innate Immune System in Health and Disease: From the Lab Bench Work to Its Clinical Implications. Volume 2, is to provide updated information to scientists and clinicians that is valuable in their quest to gather information, carry out new investigations, or to check on clinical implications of the innate immune system function during disease. This book is of high priority to people interested in an update on innate immunity. Volume 2 examines topics such as the participation of the innate immune system in homeostasis and in the pathogenesis of chronic inflammatory diseases, the innate immune response and its modulation by sex hormones during chronic lung inflammation, and asthma beyond adaptive immunity. Moreover, the role of TLRs during arthritis rheumatoid onset and development is discussed as well as the modulation of the innate immune system by extracellular vesicles. Furthermore, a novel strategy to interrupt the transmission of diseases by mosquitoes and the modulation of the innate immune system by the endocrine disrupting compounds bisphenol A (BPA) and phthalates are discussed.

The Innate Immune System in Health and Disease: From the Lab Bench Work to Its Clinical Implications. Volume 2 promises to be a must-have book for all people who want to know about the role of the basic functioning of the innate immune system in several diseases of actual relevance to human health.

Key Features:
Medicine and Health

- Provides evidence of the role of innate lymphoid cells in homeostasis and in the pathogenesis of chronic inflammatory diseases
- Discusses the role of the innate immune response and its modulation by sex hormones during chronic lung inflammation
- Analyzes asthma beyond adaptive immunity
- Delves in the onset of arthritis rheumatoid in the gaze of TLRs
- Offers new information regarding modulation of the innate immune system by extracellular vesicles
- Provides information about the enhanced innate immune response as a novel strategy to interrupt the transmission of diseases by mosquitoes
- Includes information on the modulation of the innate immune system by the endocrine disrupting compounds bisphenol A (BPA) and phthalates

We hope that readers enjoy this book and that it may be of use to all people involved, from scientists in the lab to clinicians in the field.

**INFECTIOUS DISEASE AND MICROBIOLOGY**

**Antimicrobial Peptides: Function, Mechanisms of Action and Role in Health and Disease**

*Paresh Chandra Ray (Professor of Chemistry, Physics and Atmospheric Sciences, Jackson State University, Jackson, MS, USA)*

In series: *Microbiology Research Advances*

Publication Date: 09/09/2021

238 pp.

Hardcover: 978-1-68507-005-2. $160.00

e-book: 978-1-68507-082-3. $160.00

The increasing prevalence of antibiotic-resistant bacteria, known as superbugs, has threatened the field of infectious disease medicine over most of the past century. Antimicrobial peptides, a crucial part of innate immunity that exists in most living organisms, have become a central pillar for the next generation of medical challenges for infectious diseases, cancer, and other health problems. The development of new antimicrobial peptides to tackle ongoing superbug infections, cancer and other diseases is a fast-growing research area for chemistry, medical physics, biological science, food and agricultural science and different disciplines of medicine. This volume discusses the basic science behind potential pharmacological agents, which is necessary to understand how these peptides can be used in our daily lives. The book provides a foundation for a wide variety of antimicrobial peptide-based therapeutic approaches, which is invaluable for established scientists, junior researchers, and students involved in basic science, material science, the medical field and different disciplines of engineering. It contains nine chapters written by world leaders in this area, covering basic science and possible therapeutic applications with immense societal implications. Antimicrobial peptides are an exciting new therapeutic agent with promising applications for a wide variety of illnesses.

**COVID-19 by Cases: A Pandemic Review**

*Sujanthy S. Rajaram, MD, MPH, FACP, FAASM, FCCM (Clinical Professor of Medicine, Sidney Kimmel Medical College of Thomas Jefferson University, Critical Care Medicine, Department of Cardiovascular Medicine, Gagnon Cardiovascular Institute - Morristown Medical Center, Atlantic Health System, Morristown, New Jersey, USA), Anthony Longo, MD (Department of Medicine, Morristown Medical Center, Atlantic Health System, Morristown, New Jersey, USA) and Nicole Burak, MD (Department of Medicine, Morristown Medical Center, Atlantic Health System, Morristown, New Jersey, USA)*

In series: *New Developments in Medical Research*

Publication Date: 10/20/2021

439 pp.

Hardcover: 978-1-68507-099-1. $270.00

e-book: 978-1-68507-262-9. $270.00
A clinical account written by front-line providers, COVID-19 by Cases is the first comprehensive review text on COVID-19. As such, the inventive format features a case-based and systems-based review of observations, clinical knowledge, basic science, ethics, and personal experiences during the COVID-19 pandemic. With each systems-based chapter encompassing a case report, literature review, and discussion, COVID-19 by Cases is intended for a broad audience, including clinical providers, clinical educators, and students. It also serves as a standalone account to preserve this unique time in human history. COVID-19 by Cases is a multi-institutional effort with input from hospitalists, outpatient physicians, specialists, residents, nurses, pharmacists, clinical educators, and students.

**COVID-19 Contracting: Opportunities, Actions and Reimbursements**

**Eric Neudorf**

In series: *Infectious Diseases and Microbiology*

Publication Date: 03/04/2022

203 pp.

Hardcover: 978-1-68507-710-5, $160.00

e-book: 978-1-68507-733-4, $160.00

In March 2020, Congress passed the CARES Act as part of the federal response to COVID-19. The act had certain provisions for federal contracting, including providing additional flexibilities. Contracting plays a critical role in the pandemic response as agencies obligate billions of dollars for goods and services. The act also included a provision to review federal contracting in response to COVID-19. This book examines, among other objectives, COVID-19 contract obligations and characteristics of vendors, contracting challenges, including with agency assessments of vendors, and whether lessons learned reflect those challenges.

**Diseases Transmitted by Ticks**

**Hacer İşler, MD** (Microbiology Specialist, Health Sciences University, Samsun Eğitim ve Araştırma Hastanesi, İlkadım, Turkey) and **Metin Özdemir, MD** (Department of Medical Microbiology, Samsun Gazi State Hospital, Samsun, Turkey)

In series: *Infectious Diseases and Microbiology*

Publication Date: 12/16/2021

388 pp.

Hardcover: 978-1-68507-359-6, $230.00

e-book: 978-1-68507-383-1, $230.00

The incidence of tick-borne diseases affecting humans has increased with increased travel and exposure to exotic environments. Ticks are important as vectors of European tick-borne encephalitis, Russian summer-spring encephalitis, and Lyme disease in America, Europe, and Asia. No struggle methods used to date have provided complete eradication of ticks and reduced the risk of tick-borne disease transmission. Ticks are still the most important vectors in the transmission of many infectious diseases. The primarily transmitted diseases to humans from ticks can be listed as Crimean Congo Hemorrhagic Fever (CCHF), Lyme disease, Q fever, Tick-borne encephalitis, Mediterranean spotted fever, Monocytic ehrlichiosis, Granulocytic ehrlichiosis, Babesiosis. Besides causing severe health problems in humans, ticks also create significant economic losses on livestock. This group of diseases is more common than thought and can become chronic or show a severe course and result in death without being diagnosed.

Tick-borne diseases are incredibly diverse, both biologically and clinically, and symptoms are often non-specific, making recognition and appropriate treatment difficult. We aimed to examine the various disease syndromes in detail from a clinical perspective and support the medical literature for these diseases, which generally occur outside the clinicians' practice field. In the book chapters, the expected risks of the patients, the epidemiology and pathogenesis of the disease, and necessary clinical applications in treatment and follow-up processes will be discussed.

We aimed to draw attention to the issues about tick-borne diseases in the light of recent developments and cases. As a ready-made resource, this book will cover basic and recent literature information, which will be very useful for students and professionals in human and veterinary medicine, public health, medical entomology, acarology, and ecology.
Impacts and Implications of COVID-19: An Analytical and Empirical Study

Anand Sharma (Assistant Professor, Department of Computer Science and Engineering, Mody University of Science and Technology, Lakshmangarh, Rajasthan, India), Prateek Agrawal (Associate Professor and HOD- Intelligent Systems Discipline of Computer Science & Engineering, Lovely Professional University, Punjab, India; Post Doctoral Researcher, Institute of Information Technology, University of Klagenfurt, Austria), Vishu Madaan (Assistant Professor, School of Computer Science Engineering, Lovely Professional University, Punjab, India) and Anuj Agarwal (COO, Taifa Gas Tanzania Ltd., Tanzania)

In series: Infectious Diseases and Microbiology

Publication Date: 09/17/2021
212 pp.
Hardcover: 978-1-53619-670-2. $160.00
e-book: 978-1-68507-081-6. $160.00

Impacts and Implications of COVID-19: An Analytical and Empirical Study describes the most recent research developments regarding COVID-19. This book includes a wide range of interdisciplinary submissions that address the latest findings regarding a wide variety of psychological, social, managerial, and technological issues for fighting COVID-19. Chapter One discusses how machine learning applies to prediction, forecasting, screening, contact tracing, treatment, medication and the drug or vaccine invention process in connection with COVID-19. Chapter Two deals with immunomodulatory therapy for clinical management of COVID-19 patients. Chapter Three describes the importance of social distancing and the development of a tool to detect social distancing. Chapter Four discusses the impact of COVID-19 on the education sector, and Chapter Five focuses on the impacts of COVID-19 on employment, e-commerce, and e-pharmacies. Chapter Six gives an insight into the policies regarding COVID-19 in India, and Chapter Seven compares vaccine candidates based on their status in trial phases, route of administration, dosage, efficacy, and safety. Chapter Eight explores how the pandemic has impacted human communication and relationships, as people have been forced to interact in the digital space rather than the physical one. Chapter Nine describes the urgent need to devise sustainable and effective strategies to mitigate the problems relating to shortages of labor and equipment in the agricultural sector due to the pandemic. Finally, Chapter Ten describes the role of physical therapy in the recovery of COVID-19 patients.

Pathogenic Bacteria: Pathogenesis, Virulence Factors and Antibacterial Treatment Strategies

Keith D. Watts

In series: Microbiology Research Advances
Publication Date: 12/16/2021
171 pp.
Softcover: 978-1-68507-422-7. $95.00
e-book: 978-1-68507-424-1. $95.00

Although most forms of bacteria are harmless, pathogenic bacteria can cause disease and as such these microorganisms warrant scientific attention. Chapter One describes the virulence problem caused by extracellular polymeric substances and antibacterial compounds capable of inhibiting their production, biofilm formation, and bacterial pathogenicity. Chapter Two provides an overview of biophysical techniques that can validate targets of phytochemicals with anti-virulence properties that can help elucidate their mode of action. Chapter Three discusses terpenes’ anti-virulence modes of action, inhibition of biofilm, disruption of the cell wall and bacterial membrane, intercellular leakage, interruption of nucleic acids transcription, and interference with the quorum sensing signaling process. Chapter Four investigates the anti-pathogenic potential of essential oil from the plant asafoetida obtained through microwave-assisted extraction method. Finally, Chapter Five deals with the effect of audible sound waves on bacteria.
The Aviation Industry and COVID-19

Stefan Schneider

In series: Infectious Diseases and Microbiology
Publication Date: 02/25/2022
192 pp.
Hardcover: 978-1-68507-712-9. $160.00
e-book: 978-1-68507-729-7. $160.00

International flight restrictions, local stay-at-home orders, and a general fear of contracting and spreading COVID-19 through air travel had a sudden and profound effect on the U.S. aviation industry. According to Department of Transportation (DOT) statistics, passenger traffic in April 2020 was 96 percent lower system-wide than April 2019, and remained 60 percent below 2019.

This book examines the immediate effects of the COVID-19 pandemic on businesses across the aviation industry; actions those businesses took in response; actions the FAA took to help the industry respond to the pandemic; and the outlook for industry recovery, among other issues.

Various Methods and Novel Techniques: Rapid Molecular Detection of Human, Plant, Genetic, and Microbial Infectious Diseases, Pathogenic Bacteria, and Organisms

Wenli Sun (Associate Professor, Biotechnology Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China) and Mohamad Hesam Shahrajabian (Senior Researcher, Biotechnology Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China)

In series: Medical Procedures, Testing and Technology
Publication Date: 03/30/2022
87 pp.
Softcover: 978-1-68507-721-1. $82.00
e-book: 978-1-68507-808-9. $82.00

In this book, various methods for detection of infectious diseases in humans and other organisms are described. These include polymerase chain reaction (PCR) technology, loop-mediated isothermal amplification (LAMP), and recombinase polymerase amplification (RPA). Each method presents different strengths and weaknesses and varies by sensitivity, specificity, and rapidity, among other characteristics. These techniques can be used for the detection of pathogens like SARS-CoV, MERS-CoV, SARS-CoV-2, influenza, lymphocystis disease virus, swine acute diarrhea syndrome coronavirus, swine vesicular disease virus, classical swine fever virus, infectious bursal disease virus, Marek’s disease virus, human papillomaviruses, infectious bronchitis virus, Newcastle disease virus, sacbrood virus, beak and feather disease virus, foot-and-mouth disease virus, bovine herpesvirus-1, and more. Other applications of these methods include molecular diagnosis of cancer, identification of genetically modified organisms, and detection of food adulteration.

Parasitology

Toxoplasma gondii: Prevalence and Role in Health and Disease

Erica S. Martins-Duarte. PhD (Adjunct Professor, Department of Parasitology, Universidade Federal de Minas Gerais, MG Brazil) and Daniel Adesse, PhD (Associate Researcher, Oswaldo Cruz Institute, Oswaldo Cruz Foundation (Fiocruz), Rio de Janeiro Brazil)

In series: Parasites and Parasitic Diseases
Publication Date: 11/11/2021
346 pp.
Hardcover: 978-1-68507-229-2. $230.00

Toxoplasma gondii is a globally spread protozoan parasite responsible for causing toxoplasmosis. Infection by T. gondii shows high seroprevalence in humans, especially in South America. Written by specialists, this book brings important contributions and information on parasite biology, including its life cycle, ultrastructural features of tachyzoite, bradyzoite and their main specific organelles, mechanisms of host cell invasion, parasite replication and epigenetics regulation. Moreover, the book will encompass mechanisms of pathogenesis and host
immune response to the infection, including purinergic signaling, and mechanisms of immune evasion by the parasite. Finally, this book also addresses relevant aspects of disease, information about the current chemotherapy of toxoplasmosis and perspectives for a future chronic disease treatment, epidemiology, and methods for visualization of the parasite by optical and electron microscopy.

INTELLECTUAL DISABILITIES

Chronic Disease and Disability: Neurodevelopmental Disabilities
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In series: Health and Human Development
Publication Date: 02/02/2022
255 pp.
Hardcover: 978-1-68507-492-0. $195.00

Neurodevelopmental disabilities are a diverse group of chronic disorders that begin at any time during the development process – from conception through completion of adolescence. The impact of such disabilities last throughout an individual’s lifetime. The underlying basis for these disorders lies in fundamental deficits in the developing brain due to genetic, prenatal, perinatal, metabolic, and other factors. Developmental disabilities affect 17% of individuals younger than 18 years of age in the United States. Prevention along with early recognition and intervention is critically important to mitigate the adverse impact of developmental disabilities, both at an individual level and at societal level. Children and adults with disabilities need routine preventive and acute medical care and access to services similar to those who do not have such disabilities. The quality of life and health outcomes for individuals with disabilities largely depend on the access and adequacy of community-based support systems. With appropriate support, most individuals with disability can maintain relative independence and productive life. In this book we have gathered some recent selected topics on neurodevelopmental disabilities which we hope will be of interest for the reader.
ELISA: Advances in Research and Applications

Jose Ma. M. Angeles, PhD (Editor and Associate Professor, Department of Parasitology, College of Public Health, University of the Philippines Manila, Manila, Philippines)

In series: Medical Procedures, Testing and Technology
Publication Date: 01/21/2022
242 pp.
Hardcover: 978-1-68507-500-2, $160.00
e-book: 978-1-68507-594-1, $160.00

In September 1971, Swiss scientists Eva Engvall and Peter Perlmann published a communication in the journal Immunochemistry on enzyme-linked immunosorbent assay (ELISA) as a quantitative assay of immunoglobulin G. They have modified radioimmunoassay (RIA) by replacing the radioactive iodine with enzymes and used in determining the levels of IgG in rabbit serum.

Fifty years after, ELISA is still the most commonly used technique in measuring peptides, proteins, antibodies, antigens, and hormones in various samples. This plate-based assay is a very versatile laboratory technique and offers many advantages to laboratory scientists and researchers such as generating quick results, simple protocols, high sensitivity, being easily automated and being convenient to perform. Its application in the diagnosis of different infectious diseases has shown the unquestionable importance of this technique even in the modern world.

In this book, the usefulness of ELISA in the control of different parasitic diseases including schistosomiasis, babesiosis, and malaria will be discussed. There is also a chapter featuring an extensive discussion on the use of ELISA in functional food development and regulation. And finally, the last two chapters will present advanced techniques inspired by ELISA including a rapid immunoassay for detecting paralytic shellfish poisoning toxins and the enzyme-linked aptamer assay.

May this book provide significant information regarding the current advances and applications of ELISA and possibly inspire its use in another 50 years.

Nephrology and Urology

Issues in Kidney Disease – Acute Kidney Injury

Stephen Z. Fadem, MD, FACP, FASN (Selzman Institute for Kidney Health, Section of Nephrology and Michael E. DeBakey Veterans Affairs Medical Center, Baylor College of Medicine, Houston, TX, USA; Kidney Associates, Houston, TX, USA) and Ahmed Arslan Yousef Awan (Selzman Institute for Kidney Health, Section of Nephrology, Department of Medicine, and Division of Abdominal Transplantation, Department of Surgery, Baylor College of Medicine, Houston, TX, USA)

In series: Issues in Kidney Disease
Publication Date: 10/12/2021
368 pp.
Hardcover: 978-1-68507-002-1, $145.00
e-book: 978-1-68507-125-7, $145.00

Issues in Kidney Disease–Acute Kidney Injury is a collection of nineteen independent chapters written by internationally renowned authors, covering a wide range of topics, including the basic concepts and management of acute kidney injury (AKI), contrast induced nephropathy, acute tubular necrosis, interstitial nephritis, glomerulonephritis, obstructive uropathy, COVID-19, cardiorenal and hepatorenal syndrome. This book also addresses kidney injury in specialized populations like pregnant patients and patients with kidney transplant. A whole chapter is also dedicated to imaging in patients with kidney injury.

This book will appeal to renal fellows, nephrologists, and practicing physicians involved in the care of AKI patients in critical care units and medical floors, including all those interested in the advances and innovations undergoing in this field. It brings timely and updated reviews and addresses trends, challenges, and controversies of kidney injury.
**Issues in Kidney Disease – Chronic Kidney Disease**  
Stephen Z. Fadem, MD, FACP, FASN (Selzman Institute for Kidney Health, Section of Nephrology and Michael E. DeBakey Veterans Affairs Medical Center, Baylor College of Medicine, Houston, TX, USA; Kidney Associates, Houston, TX, USA) and Samaya Javed Anumudu (Baylor College of Medicine, Medicine-Nephrology, Houston, TX, USA)  
In series: Issues in Kidney Disease  
Publication Date: 10/12/2021  
418 pp.  
Hardcover: 978-1-68507-001-4. $145.00  
e-book: 978-1-68507-124-0. $145.00  

Issues in Kidney Disease – Chronic Kidney Disease (CKD) is a collection of 17 detailed chapters written by world leaders and experts in nephrology in order to provide a comprehensive review of kidney disease using evidence-based recommendations and guidelines. This book starts with an excellent introduction and classification of CKD and progresses into various important aspects of CKD care including prevention, diabetes, hypertension, acid-base disturbances, genetic and age considerations, glomerulonephritis, interstitial nephritis, aging, as well as considerations for patients in pregnancy and with malignancy. This book will appeal to trainees and practicing clinicians in internal and family medicine, as well as nephrology, who would like current and practical clinical knowledge of chronic kidney disease to help improve the lives of patients with this condition.

**Issues in Kidney Disease – Dialysis**  
Stephen Z. Fadem, MD, FACP, FASN (Selzman Institute for Kidney Health, Section of Nephrology and Michael E. DeBakey Veterans Affairs Medical Center, Baylor College of Medicine, Houston, TX, USA; Kidney Associates, Houston, TX, USA) and José A. Moura-Neto, MD, MS, MBA, FASN (Department of Internal Medicine, Bahiana School of Medicine and Public Health, Salvador, Bahia, Brazil)  
In series: Issues in Kidney Disease  
Publication Date: 09/17/2021  
366 pp.  
Hardcover: 978-1-68507-000-7. $145.00  
e-book: 978-1-68507-123-3. $145.00  

Issues in Kidney Disease – Dialysis is a collection of nineteen independent chapters written by internationally renowned authors, covering a wide range of topics, from the history and milestones to the future, in different renal replacement therapy modalities, such as hemodialysis, online hemodiafiltration, and peritoneal dialysis. This book will appeal to renal fellows, nephrologists, and physicians involved with chronic kidney disease patients on maintenance dialysis, including all those interested in the advances and challenges still facing medicine. It brings timely and updated reviews and addresses trends, challenges, and controversies of dialysis therapies.

**NEUROLOGY**

**Essentials of Movement Disorders - A Problem-Based Approach**  
Sujith Ovallath, MBBS, MD (Med), DNB (Neurology), DM (Neurology) (Professor, Clinical Fellowship in Movement Disorders, University of British Columbia, Canada; Director, James Parkinson’s Movement Disorder Research Centre, Kannur Medical College; Visiting DBS Consultant Aster MIMS Calicut, Kerala, India)  
In series: Neurology - Laboratory and Clinical Research Developments  
Publication Date: 03/04/2022  
435 pp.
This is a clinical and practical oriented textbook that will enable clinicians who have less expertise in the field of movement disorders to make a reasonably accurate diagnosis through a problem-oriented approach. This textbook includes a selective collection of topics that are relevant to practicing neurologists. Some of the best experts in the field of movement disorders from around the world have contributed to this book. Long discussions on pathology and genetics are limited in order to make the book simple, easy to comprehend, and practically useful for the day-to-day management of movement disorders.

**NEUROSCIENCE**

**Horizons in Neuroscience Research. Volume 44**
*Andres Costa and Eugenio Villalba*
In series: *Horizons in Neuroscience Research*
Publication Date: 09/09/2021
242 pp.
Hardcover: 978-1-68507-072-4. $250.00
e-book: 978-1-68507-085-4. $250.00
This edited volume includes seven chapters, each detailing recent advancements in the field of neuroscience. Chapter One evaluates the role of several factors, including health system barriers, cultural beliefs and knowledge of Alzheimer’s disease in predicting help-seeking intentions for early symptoms of Alzheimer’s disease among American Indians and Alaska Natives. Chapter Two examines the utility of transcranial magnetic stimulation to support and predict the clinical diagnosis of the most common neurodegenerative dementias. Chapter Three discusses the results of migraine-candidate gene association studies conducted in the last three decades. Chapter Four reviews the history, types, indications, benefits, and complications of telemetric intracranial pressure monitoring. Chapter Five reviews the current concepts on pathophysiologic mechanisms involved in the development of neurogenic pulmonary edema and discusses the associated clinical and therapeutic aspects. Chapter Six follows the evolution of the dopamine receptor blocking agent medication class and the consequential changes in our knowledge of dopamine’s role in psychotic disorders. Finally, Chapter Seven describes patient selection criteria, diagnostic work-up, medical management and surgical techniques for patients with recurrent strokes secondary to steno-occlusive cerebrovascular disease.

**Horizons in Neuroscience Research. Volume 45**
*Andres Costa and Eugenio Villalba*
In series: *Horizons in Neuroscience Research*
Publication Date: 12/28/2021
244 pp.
Hardcover: 978-1-68507-509-5. $250.00
e-book: 978-1-68507-517-0. $250.00
This edited volume includes five chapters detailing recent advancements in neuroscience research. Chapter One provides a comprehensive overview of the role of caspase in neurological diseases. Chapter Two discusses both the beneficial and neurotoxic effects of β-Sitosterol β-D-Glucoside. Chapter Three describes technological innovations in therapy for childhood apraxia of speech, including the verbal motor learning method. Chapter Four details the neuroprotective properties of glycosaminoglycans. Lastly, Chapter Five elucidates the role of the hippocampal network in the brain.

**Horizons in Neuroscience Research. Volume 46**
*Andres Costa and Eugenio Villalba*
In series: *Horizons in Neuroscience Research*
Publication Date: 03/16/2022
205 pp.
Hardcover: 978-1-68507-679-5. $250.00
e-book: 978-1-68507-728-0. $250.00
This compilation provides some updates in the field of neuroscience research. Chapter One collects up-to-date research on post-traumatic stress disorder (PTSD) and elucidates the temporal development of this disorder. Chapter Two explains the role of lipid peroxidation in the development of hydrocephalic astrogliosis. Chapter Three is devoted to the effect of
pyrimidine derivatives on changes in mitochondrial function in rats under conditions of permanent cerebral ischemia. Chapter Four investigates the relationship between PTSD and the brain’s spatio-temporal dynamics through an experimental study on mice. Chapter Five provides an overview on studies to treat social cognition disturbances in mental disorders such as schizophrenia with transcranial direct current stimulation and discusses its neurobiological mechanisms. Finally, Chapter Six deals with the role of nucleosome ensembles in the control of the visual apparatus as a neuro controller in the operative work of the brain as a whole.

**Neuroendoscopic Procedures and Challenges**  
*Soner Duru, MD (Professor of Neurosurgery, Cincinnati, OH, USA)*  
In series: *Neurosurgery Research Progress*  
Publication Date: 09/17/2021  
166 pp.  
Softcover: 978-1-68507-092-2. $95.00  
e-book: 978-1-68507-155-4. $95.00

In 1910, L’Espinasse performed the first neurosurgical endoscopic procedure for choroid plexus electrocoagulation in an infant with hydrocephalus, by use of a cystoscope. One infant was successfully treated. Walter Dandy used an endoscope to perform an unsuccessful choroid plexectomy in 1922. The next year, Mixter, using a urethroscope, performed the first successful endoscopic third ventriculostomy in a 9-month-old girl with obstructive hydrocephalus. In 1935, Scarff reported his initial results about endoscopic third ventriculostomy using a novel endoscope. His ventriculoscope had an irrigation system to prevent intraventricular collapse and was equipped with a flexible unipolar probe. In 1952, Nulsen and Spitz began the era of ventricular cerebrospinal fluid (CSF) shunting, marking the end of the initial era of neuroendoscopy. This dark period for neuroendoscopy continued until 1970s. However, in this period image capabilities of endoscopes improved with technological developments. In 1978, Vries demonstrated that ETVs were technically feasible using a fiberoptic endoscope to treat patients with hydrocephalus. In 1990, Jones and colleagues described a 50% shunt-free success rate for ETV in 24 patients with various forms of hydrocephalus. Four years later, the same group reported an improved success rate of 61% in a series of 103 patients. Currently, ETV is primarily used to treat obstructive hydrocephalus due to benign aqueductal stenosis or compressive periaqueductal mass lesions. Modern shunt-free success rates range from 80 to 95%.

The field of neuroendoscopy has extended beyond ventricular procedures. The endoscope is currently used for all types of neurosurgically treatable diseases such as obstructive hydrocephalus, various intraventricular lesions, hypothalamic hamartomas, craniosynostosis, skull base tumors, and spinal lesions and rare subtypes of hydrocephalus. With the evolution of surgical techniques, endoscopy has emerged as a suitable alternative to many instances of more invasive methods. Surgeons using a neuroendoscope can perform many complex operations through very small incisions. Nowadays, neurosurgeons prefer neuroendoscopic surgery for many different lesions because of less damage to healthy tissue, low complication rate and excellent results. Neuroendoscopic surgery is a specialty within neurosurgery and requires a neurosurgeon to undergo specialized training.

In this book, we focused on neuroendoscopic procedures and challenges. We have created this book with the hope that it can be a guide for neurosurgeons who are interested in neuroendoscopic interventions.

**Psychobiological Principles of the Memory Process**  
*Ignacio González-Burgos, PhD (Senior Researcher, Laboratorio “Burgos” de Investigaciones, Psicobiológicas, Zapopan, Jalisco, México)*  
In series: *Neuroscience Research Progress*  
Publication Date: 03/30/2022  
221 pp.  
Hardcover: 978-1-68507-661-0. $160.00  
e-book: 978-1-68507-776-1. $160.00

Memory is a cognitive process that has been addressed widely in scientific study. In fact, the number of original research articles that have attempted to characterize memory from different approaches is so vast that integrating the knowledge derived from this extensive body of scientific research makes formal compilations, such as the one offered to the reader in this book, necessary.

Psychobiological Principles of the Memory Process is a particularly useful book by virtue of the fact that it addresses genetic, molecular, cellular, and systematic aspects related to the organization and performance of memory, under both normal conditions and those associated with pathology, and because it examines clinical and experimental approaches throughout development. The 7 chapters that make up the book were written with a homogeneous structure and in clear, concise scientific language that is adequate for specialists and science students, but is also accessible to non-specialized, or amateur, neuroscience readers.
Rett Syndrome (RTT): From Diagnosis to Treatment

Fabrizio Stasolla (Assistant Professor, Developmental Psychology, "Giustino Fortunato" University of Benevento, Benevento, Italy)

In series: Health Psychology Research Focus

Publication Date: 09/17/2021

135 pp.
Softcover: 978-1-68507-070-0. $82.00
e-book: 978-1-68507-133-2. $82.00

Rett syndrome, a rare genetic disease caused by mutations of the MECP2 gene, includes severe to profound developmental impairments. Communicative, intellectual, and motor disabilities are usually embedded. Children with Rett syndrome are individuals with multiple difficulties. Caregivers, families and professionals face serious daily challenges due to clinical conditions determined by Rett syndrome. Accordingly, traditional interventions may not be adequate. Customized programs based on cognitive-behavioral approaches and assistive technology setups are highly warranted.

The current book includes the newest empirical contributions to tackle functional consequences of Rett syndrome. Sleep and pain disorders were targeted in Chapter One. A cross-disciplinary investigation to enhance active participation and constructive engagement of children with Rett syndrome was detailed in Chapter Two. The importance of functional activities was emphasized in Chapter Three. Communication guidelines to support communication skills of individuals with Rett syndrome were critically discussed in Chapter Four. The relevance of music and music therapy to promote positive participation was argued in Chapter Five. A selective review on the use of assistive technology-based programs in individuals with Rett syndrome was provided in Chapter Six. A case report to help locomotion fluency of an adolescent with Rett syndrome through the use of microswitches and contingent positive stimulation was presented in Chapter Seven.

The book was supported by illustrative examples described by the chapters’ contributors and their professional experience. Readers may find helpful insights within each edited chapter. Caregivers, families, and professionals may have a practical guide to everyday settings and environments or contexts. Clarity and readability for a large audience are undoubtedly strengths and advantages of the current volume. Although technical terminology was used throughout, both future research and practice can widely find meaningful tips and tangible suggestions to tackle daily barriers and/or obstacles in individuals with Rett syndrome and severe to profound developmental delays.

The Dentate Gyrus: Structure, Functions and Health Implications

Feng-Ru Tang, PhD, MD (Radiation Physiology Lab, Singapore Nuclear Research and Safety Initiative, National University of Singapore, Singapore)

In series: Neuroscience Research Progress

Publication Date: 10/22/2021

359 pp.
Hardcover: 978-1-68507-212-4. $230.00
e-book: 978-1-68507-240-7. $230.00

The dentate gyrus (DG) is one of the most sensitive regions to various brain insults due to the occurrence of neurogenesis in its subgranular zone. Thus, it may serve as a brain sensor to radiation exposure, chemical and biological toxins, alcohol abuse, smoking, drug treatments, hormone imbalances, stress, pain, hypoxia, brain trauma, malnutrition and aging. DG is also involved in the pathogenesis of multiple neurological and neuropsychological disorders including intractable temporal lobe epilepsy (TLE), Alzheimer’s disease (AD), major depressive disorder (MDD), post-traumatic stress disorder (PTSD), and schizophrenia.

Over decades of research, our understanding regarding the function and physiology of the DG is ever-changing. While it is commonly believed that the dentate granule cells are primarily responsible for executing higher brain functions such as learning and memory, there is increasing evidence demonstrating that the glial cells, particularly microglia, astrocytes and oligodendrocytes, are also involved in memory formation. Therefore, a book that systematically reviews DG structure, function and health implications is needed to update clinicians and researchers with state-of-the-art knowledge.

In the first three chapters of this book, the recent progresses in the study of DG development with relevant molecular mechanisms, the cytoarchitectonics of DG with laminar and sublaminar distribution of different types of neurons and glial cells, as well as afferent and efferent of the DG and their neurophysiological roles will be described respectively. In Chapters 4 and 5, DG as a brain sensor to radiation exposure, and pre- and post-natal radiation-induced DG damage and cognitive impairment will be reviewed accordingly. The involvement of DG in pathogenesis of neurological disorders including TLE and AD will be discussed in Chapters 6 and 7. Finally, in the last two chapters, i.e., Chapters 8 and 9, the roles of DG in the development of neuropsychological disorders including MDD, PTSD and schizophrenia will be presented.
Central Nervous System

GAIRS Checklist For Rett Syndrome: A Complete and Practical Instrument of Assessment and Intervention
Rosa Angela Fabio, PhD (Department of Medicine, University of Messina, Messina, Italy; Airett Centre for Innovation and Research, Verona, Italy), Samantha Giannatiempo (Tice Learning Centre, Piacenza, Italy; Airett Centre for Innovation and Research, Verona, Italy) and Martina Semino (Tice Learning Centre, Piacenza, Italy; Airett Centre for Innovation and Research, Verona, Italy)

In series: Neurology - Laboratory and Clinical Research Developments
Publication Date: 12/03/2021
267 pp.
Hardcover: 978-1-68507-319-0. $195.00
e-book: 978-1-68507-414-2. $195.00

The purpose of the book is to present the GAIRS (Global Assessment and Intervention in Rett Syndrome) Checklist, an easy-to-use, short and accessible tool for every health-care professional in order to assess all the abilities of Rett girls but also to identify patients needing next-step evaluation and treatment. Thanks to the hierarchical order of all the targets assessed in each area of the GAIRS, this checklist can be a useful instrument not only for assessment but also for intervention.

Nutrition and Diet

"Oregano" The genus Origanum (Lamiaceae): Taxonomy, Cultivation, Chemistry, and Uses
Tuncay Dirmenci, PhD (Department of Biology Education, Necatibey Education Faculty, Balıkesir University, Balıkesir, Turkey)

In series: Botanical Research and Practices
Publication Date: 12/03/2021
462 pp.
Hardcover: 978-1-68507-315-2. $270.00
e-book: 978-1-68507-387-9. $270.00

Since the first days of community life, human beings have used different plant species for food, fodder, construction materials, fuel, dyes and treatment of diseases, among other applications. The Lamiaceae family is one of the most important plant families that includes many species that people use for various purposes in their daily life. Origanum contains several species commonly used as spices and tea for medicinal purposes, and is one of the most commercially important genera within the family Lamiaceae. In this book, the genus Origanum is introduced in seven chapters in detail. Taxonomy of Origanum is given in the first chapter, pollen characteristics are given in the second chapter, phylogeny, biogeography and character evolution are given in the third chapter, cultivated species, suitable varieties for agriculture, yield and quality characteristics, and harvesting processes are given in the fourth chapter, secondary metabolites (monoterpenes, phenolics, flavonoids, diterpenes etc.) are given in the fifth chapter, biological activities (antimicrobial, antiviral, antifungal, antioxidant, anti-inflammatory and antidiabetic activity) are given in the sixth chapter, and finally the traditional uses and prescriptions, pharmacology, commercial and economic importance of the genus are given in the seventh chapter.
Ginger and its Health Benefits
Isla Kermode
In series: Natural Products and Therapeutics
Publication Date: 02/17/2022
146 pp.
Softcover: 978-1-68507-695-5, $95.00
e-book: 978-1-68507-699-3, $95.00
Ginger is a flowering plant originally from Southeast Asia that is commonly used as a spice and is well-known for its various health benefits. Several of these benefits are described in detail in the four chapters of this book. Chapter One provides knowledge about ginger’s beneficial effects in the treatment of gastrointestinal disorders. Chapter Two highlights the composition and properties of ginger, oral application, and its future scope in dentistry. Chapter Three includes a case study of ginger extraction using microwave-assisted hydrodistillation to compare images from before and after the extraction process of ginger. Lastly, Chapter Four addresses the state of the art of research on the use of ginger in health promotion.

Ginger’s Antimicrobial, Anti-Nausea and Anti-Osteoarthritic Activities
Diana R. Cundell, PhD (Professor of Biology, Pre-Medical Studies Program Director, College of Life Sciences, Thomas Jefferson University, Philadelphia, PA, USA)
In series: Natural Products and Therapeutics
Publication Date: 10/12/2021
284 pp.
Hardcover: 978-1-68507-117-2, $195.00
e-book: 978-1-68507-165-3, $195.00
Ginger has a strong reputation as an anti-nausea agent but our understanding of the roles played by its important biological constituents (gingerols and shogaols) as antimicrobial and anti-inflammatory agents has not been examined in detail. This series of monographs seeks to look first at how and why ginger was used as an ethnomedicine and how this expanded into general antimicrobial studies. One cardinal use for ginger and its constituents may be in the topical management of osteoarthritis. Given the widespread nature of this condition and ginger’s ability to block pain receptors it may join other molecules such as capsaicin in this mode of treatment.

In Vitro Functionality of Probiotics in Foods
Amir M. Mortazavian, PhD (Professor, Department of Food Science and Technology, Faculty of Nutrition Sciences and Food Technology, National Nutrition and Food Technology Research Institute, Shahid Beheshti University of Medical Sciences, Tehran, Iran), Nasim Khorshidian, PhD (Professor, Department of Food Science and Technology, Faculty of Nutrition Sciences and Food Technology, National Nutrition and Food Technology Research Institute, Shahid Beheshti University of Medical Sciences, Tehran, Iran) and Adriano Gomes da Cruz, PhD (Professor, Department of Food, Federal Institute of Education, Science and Technology of Rio de Janeiro (IFRJ), Rio de Janeiro, Brazil)
In series: Food Science and Technology
Publication Date: 12/16/2021
374 pp.
Hardcover: 978-1-68507-193-6, $230.00
e-book: 978-1-68507-322-0, $230.00
Probiotics are a group of live microorganisms (bacteria and/or yeasts) that exert beneficial effects on humans and animals, principally by balancing the intestinal flora. Probiotic microorganisms are mostly of human and animal origin and are normal constituents of their gastrointestinal microflora. However, several probiotics have been isolated from fermented foods. Various curative properties such as immune modulation, reducing serum cholesterol, anti-mutagenic and anti-carcinogenic
effects, alleviation of lactose intolerance symptoms, strengthening defense mechanisms, improvement of intestinal barrier function and improving nutritional value have been attributed to probiotics. Regarding these health benefits, probiotics are considered as substantial ingredients in formulation of healthful and functional food products.

This book presents an overview of the probiotic concept and its various functionalities in food products. Several scientific publications have been published in the field of probiotics, but due to the lack of books devoted to in vitro functionality of probiotics, a discrete need was recognized for a book to gather the basic and recent publications in this context while following a simple and applied approach. The chapter contributors of this book are renowned and expert authors in the probiotic field from key institutions around the world. We hope the book will be a useful reference for researchers, product developers, health professionals, students and regulators.

Fruits, Vegetables and Nuts

Grape Pomace in Health and Disease Prevention
Veronica Sanda Chedea, Dr.ing. MSc. (Senior Scientist (CSI), Research Station for Viticulture and Enology, Blaj (SCDV Blaj), Blaj România)

In series: Nutrition and Diet Research Progress
Publication Date: 12/16/2021
286 pp.
Hardcover: 978-1-68507-409-8. $195.00
e-book: 978-1-68507-425-8. $195.00

Vitis vinifera L. (common grapevine) cultivars are the most widely planted around the world and have a high commercial value for fresh table grapes, dried fruit, and wine. In the winemaking process, besides the free-run and pressed juice obtained from the berries, an important quantity of a byproduct – grape pomace (GP) – is generated. The GP represents on average 20% from the total mass of grapes taken for winemaking and typically consists of skins, stalks, and seeds. The valorization of grape pomace is based on the concept that this matrix has good nutritional and medicinal properties for human health and disease prevention. In this framework, the book aims to provide up-to-date information on grape pomace (GP) and its valorization through medicinal applications.

What to Know about Carotenoids
Robert M. Albert

In series: Nutrition and Diet Research Progress
Publication Date: 09/10/2021
173 pp.
Softcover: 978-1-68507-105-9. $95.00
e-book: 978-1-68507-164-6. $95.00

Carotenoids are the yellow, red, and orange pigments that are produced by various plants, algae, fungi, and bacteria, and can act as antioxidants in humans. In Chapter One of this four-chapter monograph, the authors describe astaxanthin, a reddish carotenoid found in seafood with potent antioxidant characteristics. Chapter Two compiles the challenges encountered in the oral bioavailability of lutein, a xanthophyll carotenoid. Chapter Three reviews the main parameters of the production of yeast carotenoids and the downstream processes to obtain carotenogenic extracts. Chapter Four summarizes known data on total carotenoid contents and chemical diversity of Rosaceae fruits.

Vitamins and Supplements

A Biochemical View of Vitamins
Dorota Bartusik-Aebsisher (Professor, Medical College of The University of Rzeszow, Poland) and David Aebsisher (Professor, Medical College of The University of Rzeszow, Poland)

In series: Nutrition and Diet Research Progress
Publication Date: 01/21/2022
502 pp.
Hardcover: 978-1-68507-494-4. $310.00
e-book: 978-1-68507-573-6. $310.00
This book is an essential guide to current knowledge and analysis of vitamins. Vitamins are described in detail in medical and biotechnological processes. An analysis of vitamin sources is also provided from physiological point of view.

In this book we discuss the historical point of view of the use of vitamins, medicinal plants, and the nature and advances of biopharmacy. This book reports results from experimental and clinical work. It includes data regarding Vitamin B3 in various sources including sesame, avocado, and bananas; Vitamin C in various sources including mango, strawberries, and green salat; Vitamin D in salmon, red meat, and fish oil; Vitamin K in various sources including cucumber, asparagus, and kale; Vitamin E in nuts, cherry, green olives, bell peppers, almonds, avocado, aloe, and olives; Vitamin B5 in various sources including in corn, cauliflower, and sweet potatoes; Vitamin B2 in various sources including raspberries, grapes, and apples; Vitamin B12 in various sources including soybeans and lemon; Vitamin B9 in various sources including broccoli, pineapples, and garlic; Vitamin B6 in various sources including strawberry, lemon, and spinach; Vitamin B1 in various sources including cabbage, pistachio, and almonds; Vitamin B7 in various sources including cauliflowers, bananas, and peanuts; Vitamin B3 in peanuts, nettle, and apricots; and Vitamin C in various sources including lime. The composition and structures of the vitamins are provided. This book provides a current review in the field of vitamins and pharmacology.

**OBSTETRICS AND GYNECOLOGY**

A Closer Look at Pregnancy and Childbirth
Louise J. Salgado
In series: Obstetrics and Gynecology Advances
Publication Date: 02/17/2022
297 pp.
Hardcover: 978-1-68507-658-0. $230.00
e-book: 978-1-68507-667-2. $230.00

This volume includes nine chapters that detail treatment options for health problems associated with pregnancy and childbirth. Chapter One gives an overview of the various technologies and techniques that can be used for prenatal diagnosis. Chapter Two collects the latest evidence on treatment for tubal ectopic pregnancy and highlights the impact that drugs and surgical techniques used for this purpose may have. Chapter Three discusses the problem of human childbirth and the rise of caesarean sections from the viewpoint of evolutionary anthropology. Chapter Four collects the latest evidence on treatment for non-tubal ectopic pregnancy. Chapter Five proposes a risk score model for venous thromboembolism prophylaxis for caesarean sections that balances clinical risks and cost-effectiveness. Chapter Six establishes a differential protocol for placenta praevia based on a model of risk factors to enable food outcomes in caesarean section. Chapter Seven provides a detailed analysis of the various therapeutic options available for ectopic tubal and non-tubal pregnancy, and their indications, contraindications and special considerations during the COVID-19 pandemic and patients affected with this disease. Chapter Eight addresses the impact of ectopic pregnancy and the effects of treatments on patients’ fertility. Finally, Chapter Nine addresses the course of ectopic pregnancy from diagnosis to treatment.

**ONCOLOGY**

Combination Therapies and their Effectiveness in Breast Cancer Treatment
Manzoor Ahmad Mir, JRF-NET, Ph.D, PGDHE, FRSB
(Coordinator/Head, Department of Bioresources, School of Biological Sciences, University of Kashmir, Jammu and Kashmir, Srinagar, Jammu and Kashmir, India)
In series: Cancer Etiology, Diagnosis and Treatments
Publication Date: 11/05/2021
411 pp.
Hardcover: 978-1-68507-195-0. $230.00
e-book: 978-1-68507-247-6. $230.00

This book highlights up-to-date and novel information with clinical aspects regarding breast cancer. It covers aspects ranging from epidemiology, biology, and molecular classification to currently available and potentially new therapeutic options for breast cancer. It highlights insights into breast cancer at the molecular level with a holistic approach to use combinational strategies involving various therapies for targeting different
pathways involved in this particular malignancy. This book contains a range of latest resources, including schematic illustrations, recent reviews, and information for patients with breast cancer. Various novel biomarkers that are under clinical investigation will also be discussed in this book. Furthermore, the relapse and recurrence after treatment with various therapies presents a great problem, as it develops resistance to which combinational strategy may prove to be a promising approach, and in this book, we have discussed all the aspects of combination therapy in breast cancer. People including students, research scholars, educators, pharmaceutical professionals, clinicians, researchers, practitioners and patients as well as their family members will find this book very much useful.

Horizons in Cancer Research. Volume 82

*Hiroto S. Watanabe*

In series: *Horizons in Cancer Research*

Publication Date: 12/03/2021

214 pp.

Hardcover: 978-1-68507-432-6. $250.00

e-book: 978-1-68507-448-7. $250.00

This volume presents some of the latest research surrounding cancer. Chapter One provides a background on the importance of magnesium homeostasis, reviews the pre-clinical and clinical studies using magnesium therapy for cisplatin-induced acute kidney injury, and proposes future investigations to improve the translatability of these results to cancer treatment. Chapter Two discusses various liquid biomarkers of ovarian cancer such as exosomes, cell free DNA, miRNAs, circulating tumor cells, secretory proteins and autoantibodies and their subsequent detection via various nanobiosensors. Chapter Three explores the potential of mouse xenograft models for elucidating resistance mechanisms to cancer therapeutics. Chapter Four summarizes melatonin’s beneficial effects in ovarian follicular cells and oocytes, followed by a comprehensive description of melatonin as an alternative treatment for ovarian cancer. Chapter Five deals with the gene signatures potentially implicated in the development of endometrial cancer. Lastly, Chapter Six updates current understanding of the role of glucocorticoid receptor-mediated actions in triple-negative breast cancer.

How Plant Flavonoids Affect the Outcome of Hormonal and Biological Cancer Therapies: A Handbook for Doctors and Patients

*Katrin Sak, PhD (Head of the NGO Praeventio, Tartu, Estonia)*

In series: *Cancer Etiology, Diagnosis and Treatments*

Publication Date: 03/04/2022

311 pp.

Hardcover: 978-1-68507-608-5. $230.00

e-book: 978-1-68507-698-6. $230.00

Cancer is a steadily increasing public health concern and severe socio-economic burden all over the world. Based on the current statistics of the WHO, almost 10 million people lost their lives due to malignant disorders in 2020, implying that one in every six deaths is due to cancer. In parallel, the global population of cancer survivors is also growing, propelled by advances in early detection, diagnosis and treatment methods, but also by demographic aging. More and more cancer patients today decide to use dietary supplements and herbal products in order to enhance their overall health, delay the progression of disease, augment the outcome of conventional therapies, mitigate diagnosis-related depression and anxiety, and alleviate drug-associated side effects, doing it mostly unbeknownst to their health care providers. Such over-the-counter supplements usually contain diverse flavonoids, such as catechins from green tea extracts, isoflavones from soy products, flavanones from citrus oils or silibinin from milk thistle seeds, just to name a few. A variety of flavonoid-rich products are often consumed concurrently with standard cancer therapies, without anticipating and understanding the potential interactions between plant-derived bioactive flavonoids and clinically used anticancer drugs. In this book, diverse effects of these polyphenolic phytochemicals on hormonal and targeted biological cancer therapies are covered, being a reasoned follow-up to the two previous books *Plant Flavonoids Affect Cancer Chemotherapeutic Efficacy: A Handbook for Doctors and Patients* (2019) and *Dietary Flavonoids Interfere with Cancer Radiotherapy* (2019). Besides naturally occurring flavonoids, the impact of flavonoid-rich plant extracts as well as semisynthetic derivatives on anticancer activities of co-administered hormonal and targeted drugs are thoroughly discussed, and some indicative recommendations to patients undergoing hormonal cancer therapies or targeted biological cancer therapies are provided.
Meningiomas: From Diagnosis to Treatment
Richard A. Prayson, MD, ME (Department of Anatomic Pathology, Cleveland Clinic, Cleveland, Ohio, USA)
In series: Rare Disorders Research Progress
Publication Date: 03/30/2022
183 pp.
Softcover: 978-1-68507-715-0. $95.00
e-book: 978-1-68507-807-2. $95.00
Meningiomas are among the most common primary tumors of the central neoplasm and are probably the most common primary nonglial tumor type. They are also the most common of the extra-axial tumors of the brain. Understanding of meningiomas and their classification, grading and molecular biology and genetics has evolved significantly over the past few decades. Environmental and genetic factors have been implicated in the development of these neoplasms. They arise from meningotheial (arachnoidal cap cells), typically situated in the meninges, near the dura. However, these cells can be found in other locations less commonly which accounts for the development of meningiomas in unusual locations (sometimes outside the central nervous system). Although the majority of these tumors are considered low grade neoplasms, classification and grading schemas have identified subtypes of meningiomas that are associated with more aggressive behavior or have unusual presentations. The fourteen chapters in this book address some of these various aspects of this diverse group of tumors.

Mesothelioma: Risk Factors, Treatment and Prognosis
Albert K. Martin
In series: Cancer Etiology, Diagnosis and Treatments
Publication Date: 09/10/2021
175 pp.
Softcover: 978-1-68507-075-5. $95.00
e-book: 978-1-68507-134-9. $95.00
Mesothelioma is a type of cancer in which tumors form in the tissue that lines the lungs, heart, stomach, and other organs. While mesothelioma is relatively rare, it represents a serious health crisis as the disease is aggressive and often fatal. This book includes five chapters that detail the treatment and prognosis of the disease as well as the factors that put a person at risk for developing mesothelioma. Chapter One describes the most promising emerging immunotherapy combinations for the treatment of malignant pleural mesothelioma, discussing the biological rational underlying their development as well as the issues surrounding their clinical development. Chapter Two provides an overview of malignant mesothelioma, describing the history of its diagnosis and treatment as well as the role that asbestos exposure and other factors play in its development. Chapter Three revises the role of the main inflammatory and immunological markers as prognostic indicators in malignant pleural mesothelioma and discusses the surgical effects on immune response against cancer. Chapter Four explores the main cancer markers utilized for mesothelioma diagnosis as well as the new developments in the field. Lastly, Chapter Five examines the various surgical options available for removing pleural tumors.

OPHTHALMOLOGY

Keep It Single and Simple – Binocular Vision Testing Made Easy
Jameel Rizwana Hussaindeen, M.Phil. Opt, Ph.D., FCOD-I, FAAO
(HOD – Binocular vision/ Vision therapy clinic, Sankara Nethralaya, Unit of Medical Research Foundation, Chennai, India; Clinical Diplomate – Binocular vision, Perception & Pediatric Optometry Section & Inaugural President, India Chapter – American Academy of Optometry (AAO)) and Mitchell Scheiman, OD, PhD (Professor, Dean of Research and Sponsored Programs, Director of Graduate Programs, Salus University, Pennsylvania College of Optometry, PA USA)
In series: Eye and Vision Research Developments
Publication Date: 10/12/2021
This book is intended to engage students and practitioners in eyecare in the management of accommodative and binocular vision disorders through the use of case presentations. These are the cases that an eyecare professional encounters in day-to-day practice, and this book enables one to test their understanding of the assessment, diagnosis, and management through a quiz format. This book should grab your interest, resonate with your clinical practice, and bring new perspectives to your clinical approach, and add value to your diagnostic knowledge and skill set.

The Optimal Tech

Keli B. O'Connor, COMT, ABOC (Clinical Coordinator, Center for Advanced Retinal & Ocular Therapeutics at University of Pennsylvania, Philadelphia, PA, USA)

In series: Eye and Vision Research Developments
Publication Date: 01/28/2022
169 pp.
Softcover: 978-1-68507-498-2. $95.00
e-book: 978-1-68507-578-1. $95.00

The Optimal Tech provides information on the many facets of our job as eye care assistants while encouraging techs who may feel overwhelmed. Every subspecialty is broken down to the anatomy of the eye it involves, ailments one would expect to encounter while working with the subspecialty, and what a typical exam looks like for these injuries and diseases. Not only are technicians primed for eventually performing ophthalmic tests or assisting with surgery, but they are provided an explanation of why techs and doctors order all that they do.

ORTHOPEDICS

Musculoskeletal Pain (Common Clinical Presentations)
Mehmet Cenk Turgut, MD (Department of Orthopedics and Traumatology, Regional Training and Research Hospital, Erzurum, Turkey) and Serdar Toy, MD (Department of Orthopedics and Traumatology, Ağrı Training and Research Hospital, Ağrı, Turkey)

In series: Orthopedic Research and Therapy
Publication Date: 12/17/2021
408 pp.
Hardcover: 978-1-68507-410-4. $230.00
e-book: 978-1-68507-482-1. $230.00

With the increasing interest in sports and the prolongation of life expectancy, the frequency of musculoskeletal pain is increasing day by day. Musculoskeletal pain, which is included in the differential diagnosis of every physician regardless of branch, can cause serious problems in people's daily lives. People's unresolved pain disrupts their social lives and brings along various psychological problems. When this becomes a vicious cycle, it creates pain that cannot be solved. In this book, the possibilities of recognizing and understanding pain and taking an active role in the treatment process are presented. This book, which offers a deep examination of the physiology and genetics of pain, provides an approach to the causes and treatments of musculoskeletal pain that physicians frequently encounter in their daily clinics. We hope that this book, which we have prepared with the contributions of all relevant specialists, will be a book that our physicians will frequently benefit from.
Osteogenesis Imperfecta: From Diagnosis to Treatment

Dmitry A. Popkov MD, PhD (Professor, National Ilizarov Medical Research Centre for Traumatology and Orthopaedics, Kurgan, Russia; Associated member of Medical Academy of France) and Sergey Ryabykh MD, PhD (Priorov National Medical Research Center of Traumatology and Orthopedics, Moscow, Russia)

In series: Orthopedic Research and Therapy

Publication Date: 01/07/2022

293 pp.

Hardcover: 978-1-68507-499-9. $230.00
e-book: 978-1-68507-519-4. $230.00

Osteogenesis Imperfecta should be recognized as one of the most studied skeletal systemic dysplasias. Considering recent improvements of technology, the diagnostic and therapeutic strategies for this pathology might evolve in the future.

This volume presents a collection of chapters covering a wide range of problems related to this condition. Three chapters of the book are dedicated to the modern and revised data on the molecular genetic aspects of the classification and pathogenesis of osteogenesis imperfecta. Detailed descriptions of somatic issues are presented for all body systems. Principles and results of bisphosphonate therapy and other methods of medical management are described by leading Russian specialists in this field. The most significant experience in Russia of medical treatment and physical therapy will arouse the interest of readers.

The surgical part of the book is presented not only with a description of principles, methods and results of surgical interventions on the limbs, but also on the axial skeleton. Furthermore, two chapters are dedicated to the anesthetic aspects of orthopedic surgery in children with osteogenesis imperfecta. The substantiation is given to the methods of combined anesthesia and pain management during the surgery, as well as in the immediate postoperative period, taking into account comorbidities.

Telescopic rodding of long bones is a recognized gold standard in children with the disease, but there are multiple disadvantages of this approach. In the book we report new methods, combined techniques and technical tricks allowing to overcome inconveniences and flaws of common steel telescopic intramedullary rods.

At the end of the book, we discuss outcomes of complex management and the issue of patients' quality of life after treatment performed by a multidisciplinary team. The high level of quality of life of patients is the prime and principle goal of our team.

The data presented in this book are based, on one hand, on the personal, practical, and scientific experience of each author, and on the other hand, the entire team of authors works in collaboration with each other, coordinating their decisions and interventions with colleagues, thus ensuring continuity in treatment of children and adults suffering from Osteogenesis Imperfecta.

OTOLARYNGOLOGY

Atlas of Salivary Glands Diseases

Salma Mohammed Al Sheibani, MD, Mohammed Jamil Hyder, MD and Subirendra Kumar, MD (Senior Consultants, Department of Otolaryngology and Head-Neck Surgery, Al Nahdha Hospital, MOH, Muscat, Oman)

In series: Otolaryngology Research Advances

Publication Date: 11/17/2021

282 pp.

Online Book: 978-1-68507-227-8. $0.00

This atlas provides a practical approach towards managing patients with salivary gland diseases. We have tried to richly supplement this work with illustrated case scenarios in most of the chapters. These represent our direct experience based on patients seen in our department. These illustrations will be a practical guide for otolaryngology residents and head and neck surgeons. There is also a chapter about the sialoendoscopic management of sialoadenitis, which is a relatively new approach for the management of sialoadenitis.
Before neurons and their role in pain were understood, there have been many explanations to account for pain. Hippocrates (370-460 BCE) believed that it was due to an imbalance in vital fluids and in the 11th century Avicenna (980-1037) theorized that there were a number of feeling senses including touch, pain and titillation. Today we talk about four types of pain: 1) Nociceptive pain: Typically the result of tissue injury, 2) Inflammatory pain: An abnormal inflammation caused by an inappropriate response by the body’s immune system, 3) Neuropathic pain: Pain caused by nerve irritation and 4) Functional pain: Pain without obvious origin. About 20% of adults have chronic pain and 7% of adults have chronic pain that frequently limits life or work activities, which increases with age. In this book we have gathered recent international research on pain and pain management from internationally renowned researchers from around the world, which we hope will be of interest to the reader.

**PATHOLOGY**

Advances in Neuropathology

*John O. McCarthy*

In series: *Pathology and Laboratory Medicine*

Publication Date: 03/04/2022

167 pp.

Softcover: 978-1-68507-620-7. $95.00
e-book: 978-1-68507-701-3. $95.00

This compilation includes eleven chapters detailing various advances in neuropathology. Chapter One includes a quantitative study concerning the spectrum of temporal lobe pathology in argyrophilic grain disease. Chapter Two discusses the clinical, pathologic, and recent genetic features of pineoblastoma tumors. Chapter Three describes the clinical and histopathological features of spinal ependymomas, focusing on the current approach to treatment. Chapter Four defines the clinical and molecular pathological hallmarks of diffuse intrinsic pontine glioma and explores various therapies for treatment. Chapter Five reviews the clinicopathologic and genetic features of supratentorial ependymomas. Chapter Six reviews various features of astroblastoma. Chapter Seven explores the clinical, pathology, and genetic features of pilocytic astrocytomas. Chapter Eight describes rare, benign brain tumors called craniopharyngiomas. Chapter Nine reviews the clinicopathologic features of primary amoebic meningoencephalitis and how it is impacted by climate change. Chapter Ten deals with a rare cerebral hemispheric tumor with characteristics often resembling grade 4 astrocytoma. Finally, Chapter Eleven details the clinicopathologic features of myxoid glioneuronal tumors.
Pediatrics

A Closer Look at Children’s Health
Felipe Fields
In series: Pediatrics - Laboratory and Clinical Research
Publication Date: 12/03/2021
287 pp.
Hardcover: 978-1-68507-407-4. $195.00

Eating and exercise habits developed in childhood can form the foundation of a healthy or unhealthy lifestyle in adulthood. As such, ensuring that children are introduced to healthy habits at a young age is essential to support their ability to maintain a high quality of life throughout their lives. This book contains nine chapters, each focusing on a different element of children’s health. Chapter One explores the variety of nutritional knowledge definitions, methods of assessment, and interventions to provide suggestions for research, practice, and stakeholders. Chapter Two explores recent data on the impact of COVID-19 on children’s and adolescents’ eating behaviors. Chapter Three examines the disordered and adaptive eating behaviors in pediatric obesity. Chapter Four reflects on the implementation of gamification to encourage healthy eating behavior in children. Chapter Five explores the causes of the rise of overweight and obesity among children in the United Arab Emirates. Chapter Six describes methods for the performance assessment of physical functioning in children. Chapter Seven analyzes the different factors influencing Indian children’s participation in physical activity. Chapter Eight discusses the necessity of pre-participation screening of children before they engage in moderate-vigorous intensity sports activities. Finally, Chapter Nine provides data on lower body strength and explosive power among children, collected via a vertical jump test.

Pediatrics and Adolescent Health: Recent International Research
Joav Merrick MD, MMedSci, DMSc (Professor of Pediatrics at the Division of Pediatrics, Hadassah Hebrew University Medical Center, Mt Scopus Campus, Jerusalem, Israel, Kentucky Children’s Hospital, University of Kentucky, Lexington, United States and Professor of Public Health at the Center for Healthy Development, School of Public Health, Georgia State University, Atlanta, United States, the former Medical Director of the Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem and the Founder and Director of the National Institute of Child Health and Human Development in Israel) and Mohammed Morad, MD, FRCP (National Institute of Child Health and Human Development, Jerusalem, Israel; Clalit Health Services; Department of Family Medicine, Division of Community Health, Faculty of Health Sciences, Ben Gurion University of the Negev, Beer Sheva, Israel)

In series: Pediatrics, Child and Adolescent Health
Publication Date: 02/11/2022
340 pp.
Hardcover: 978-1-68507-490-6. $230.00
e-book: 978-1-68507-637-5. $230.00

About one in four youths used a tobacco product during the past 30 days. By school level, this is approximately three in ten high school students and one in eight middle school students. Since 2014, e-cigarettes have been the most commonly used tobacco product among youths. It is reasonable to assume that many young smokers are practicing this habit while with friends or at parties, exposing their friends and peers to hazardous passive smoking, which is also the case for smaller children exposed to their parental smoking. Smoking is just one important public health issue in childhood and adolescence, but there are many other issues in this period of our development. In this book we have gathered some recent research on children and youth from various places around the world on many topics, not just limited to smoking, which we hope will be of interest to the reader.
Why Do Children Die? Selective Perspectives on Thanatology in Pediatrics

Donald E. Greydanus, MD, Dr HC (ATHENS) (Professor and Founding Chair, Department of Pediatric and Adolescent Medicine, Western Michigan University Homer Stryker MD School of Medicine, Kalamazoo, MI), Dustin C. Rowland, MS (Western Michigan University Homer Stryker MD School of Medicine, Kalamazoo, MI) and Joav Merrick MD, MMedSci, DMSc (Professor of Pediatrics at the Division of Pediatrics, Hadassah Hebrew University Medical Center, Mt Scopus Campus, Jerusalem, Israel, Kentucky Children’s Hospital, University of Kentucky, Lexington, United States and Professor of Public Health at the Center for Healthy Development, School of Public Health, Georgia State University, Atlanta, United States, the former Medical Director of the Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem and the Founder and Director of the National Institute of Child Health and Human Development in Israel)

In series: Pediatrics, Child and Adolescent Health
Publication Date: 02/17/2022
406 pp.
Hardcover: 978-1-68507-461-6. $230.00
e-book: 978-1-68507-597-2. $230.00

As we reflect on causes of death in our children, methods of prevention become critically important to research and implement. Research notes that millions of childhood injuries result in thousands of deaths. Death can be due to medical disease and considerable progress including prevention of death has been made in management of cancer and other conditions over the past century, especially in developed countries. It is also important to apply principles of management and prevention to consequences of aggression and chronic illness. As illustrated in this book, we must look at underlying issues, both medical and behavioral, in the physical and psychiatric health of our children. We should apply known principles of preventive medicine that are being researched in the 21st century to prevent needless deaths in our pediatric population. Prevention may arise from such understanding and application of known concepts with fewer pediatric deaths and fewer parents/families undergoing heart-breaking grieving processes.

PSYCHIATRY

Humanist Psychiatry, 2nd Edition

Nash N. Boutros, MD (Adjunct Professor, Department of Psychiatry, RUSH-University Medical Center, Chicago, IL, USA: Clinical Neurophysiology, Neuroscience Center, Deerfield, Illinois, USA)

In series: Psychiatry - Theory, Applications and Treatments
Publication Date: 01/06/2022
141 pp.
Softcover: 978-1-68507-501-9. $95.00
e-book: 978-1-68507-544-6. $95.00

Humanism is an optimistic philosophy that believes in the scientific process, human worth and dignity, and the ability of humankind to solve its problems no matter how complicated. “Humanist Psychiatry, 2nd Edition” is not about the practice of psychiatry, but rather about how the field is conceptualized, organized, and propelled forward. Despite the huge advances in the neurosciences in the last 30 to 40 years, the practice of psychiatry has remained stagnant except for a few newer and safer medications. This book is an outcry for all who care about human suffering in any form but particularly in the form of psychiatric disorders. The principle of worth and dignity does not place a price, nor take into consideration, the cost of taking care of human beings. Psychiatric disorders remain devastatingly widespread, under-recognized and under-treated worldwide. Psychiatric disorders are among the most common causes for disability and lost productivity. Psychiatric patients have lives that are 15 to 20 years shorter than mentally healthy populations. Advances in neuroscience research clearly and overwhelmingly point to the eventual unraveling of the mysteries of the brain. We, in psychiatry, cannot wait the decades it
will take to fully understand the brain. The term “mental” embodies the duality of mind-brain or mental-physical. Doing away with this duality is our first step to burying stigma and relegating it to medical history. “Humanist Psychiatry” begins by summarizing the humanist principles, then discusses how the biology principle should guide advances in psychiatric research and how psychiatry research could be organized. The book addresses issues of education and practice from a humanist’s viewpoint. The book then goes into more specific areas of practice, like correctional and addiction psychiatry, discussing how practice adhering to the humanist principles would impact the field. The current edition of Humanist Psychiatry deals with controversial issues like drug legalization and whether psychiatry should have its own school instead of being a branch of medicine. Finally, the book discusses the issue of stigma and how humanism can help speed up the dissipation of the stigma associated with psychiatric disorders. The 2nd edition of Humanist Psychiatry has widened its scope to address all professionals working in the field, such as social workers, psychologists and addiction therapists in addition to all those who care about the issue of psychiatric disorders from community organizers to legislators.

Influences and Importance of Self-Awareness, Self-Evaluation and Self-Esteem

Heidi R. Thomas

In series: Psychology Research Progress
Publication Date: 01/06/2022
459 pp.
Softcover: 978-1-68507-528-6. $95.00
e-book: 978-1-68507-532-3. $95.00

Self-esteem forms a critical component of mental health, as an absence of self-esteem is associated with mental disorders like depression. As such, understanding the nature and meaning of self-esteem and related phenomena like self-perception is essential for treatment of a variety of mental illnesses. Chapter One utilizes terror management theory to explain what self-esteem is, how the need for self-esteem develops, how people attain and maintain self-esteem, and why self-esteem is so important for psychological well-being. Chapter Two demonstrates how self-esteem is the fundamental mental attitude that provides the qualities necessary to perform democracy and reject authoritarian threats. Chapter Three deals with the definition of self-awareness, the description of the neural substrates that have been associated with it, and the examination of an interpretive neuroanatomical model of the phenomenon, with a focus on neurological and neuropsychological diseases. Chapter Four advocates a culture of self-evaluation as part of academic and professional culture through critical reflection on teaching and the results of one’s own work. Chapter Five analyzes self-concept as a predictor of the academic self-efficacy perceived by adolescents. Lastly, Chapter Six studies the relationship between testosterone levels and self-esteem in school-age boys and girls.

Looking for a Perfect World: Empirical and Applied Lines

Juan González-Hernández, PhD (Associate Professor Faculty of Psychology, Research Group Health Psychology & Behavioral Medicine, University of Granada, Spain) and Antonio Jesús Muñoz-Villena (University of Granada, Spain)

In series: Psychology Research Progress
Publication Date: 03/16/2022
308 pp.
Hardcover: 978-1-68507-625-2. $230.00
e-book: 978-1-68507-746-4. $230.00

The vision of perfectionism as a multidimensional variable has gained weight in scientific evidence as social functioning sets more rigorous performance standards of an individual or group differentiation in any field (e.g., academic, sports, work, social, religious...). There is a need to establish how we achieve the goals we set ourselves in any field of action, thanks mainly to the creation of valid and reliable instruments to measure it. In today's societies, there is an increasing emphasis on how to respond to the demands of the environment as quickly as possible, being effective and achieving the best results. The demands of the environment make it possible to stimulate contextually (if they are seen as traits) and to construct perfectionist patterns and attitudes (if they are understood as learned cognitions or behaviors), which are usually associated with agonizing feelings of devaluation, incapacity or psychological vulnerability. Perfectionists are characterized by setting their goals too high as they are always on a quest to do things perfectly. In cases where they cannot do something perfectly, they do not even try, or they live with significant suffering that floods their lives, causing feelings of dissatisfaction and affecting their self-esteem, mainly because their attention is reduced to focusing only on the end of the tasks they perform, leaving the development of the task in the background. People who seek to do things perfectly are rigid when it comes to carrying them out, causing difficulty in adapting to changes, and preventing them from enjoying the present moment or taking advantage of their mistakes to improve themselves. In the same way, we can say that they reject reality, or at least they are reluctant to experience it in a way that is very different from
the way they shape it. It is impossible to make everything perfect, as all people make mistakes, but perfectionists conceive failure as an expression of their maladjustment and for this reason, they generate high levels of anxiety, becoming people who try to control everything around them.

**Obsessive-Compulsive Disorder: Symptoms, Therapy and Clinical Challenges**

*Jeffrey L. Nelson*

In series: *Psychiatry - Theory, Applications and Treatments*

Publication Date: 11/16/2021

142 pp.

Softcover: 978-1-68507-310-7. $82.00

e-book: 978-1-68507-326-8. $82.00

Obsessive-compulsive disorder (OCD), which is characterized by distressing intrusive thoughts and repetitive, time-consuming, task-oriented actions intended to counter these thoughts and reduce anxiety, represents a serious psychiatric condition and cause of disability worldwide. This book consists of five chapters that provide details on the effects of OCD and strategies for reducing its negative impact. Chapter One provides a general overview of OCD, including its neurochemical basis and treatment approaches. Chapter Two explores some of the nuisances present in working with individuals with OCD within the context of obsessive and compulsive content that may require additive elements to be considered in treatment. Chapter Three discusses the diagnostic criteria, clinical aspects, and current treatment approaches of pediatric acute-onset neuropsychiatric syndrome and pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections. Chapter Four describes the effects of the COVID-19 pandemic on children and adolescents with OCD. Lastly, Chapter Five explains the role that religion takes in certain presentations of OCD and informs clinicians how to differentiate between standard religious practices and compulsive behaviors.

**Encyclopedia of Public Health (22 Volume Set)**

*Arnold Aboubacar and Marguerita Hoyle*

In series: *Public Health in the 21st Century*

Expected Publication Date: 08/01/2022

Hardcover: 978-1-68507-015-1. $3,450.00

e-book: 978-1-68507-640-5. $230.00

This encyclopedia contains 22 volumes and a total of 552 chapters covering up-to-date research in the field of public health.

**Environmental Justice and the Intersection of Poverty, Racism and Child Health Disparities**

*I. Leslie Rubin, MD (Associate Professor, Department of Pediatrics, Morehouse School of Medicine and Co-Director, Southeast Pediatric Environmental Health Specialty Unit at Emory University, Founder, Break the Cycle of Health Disparities, Inc, Atlanta, GA, USA) and Joav Merrick, MD, MMedSci, DMSc, (National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel; Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, USA; School of Public Health, Georgia State University, Atlanta, Georgia, USA)*

In series: *Public Health: Practices, Methods and Policies*

Publication Date: 02/02/2022

330 pp.

Hardcover: 978-1-68507-489-0. $230.00

e-book: 978-1-68507-640-5. $230.00

Break the Cycle of Children’s Environmental Health Disparities (Break the Cycle) is an annual collaborative interdisciplinary research and training program involving university students in academic tracks focusing on the impact of adverse social, economic, environmental, and political factors on children’s health, development, education, and prospects for their future.
The target populations are communities where there is a substantial measure of poverty associated with social, ethnic, racial, and political marginalization, environmental exposures and environmental injustice with high risks to children’s health and well-being. Participating students are required to develop projects that focus on preventing or reducing adverse environmental factors or their impact on children’s health and promote positive practices to improve the future outcome for children who live in these communities. Student projects cover a wide range of adverse factors and their associated health implications across the lifespan, and propose solutions at an individual, family, community, and societal level, with the potential for a positive intergenerational impact. At the end of the project period, participating students are required to present the results of their work at a national conference and then write a manuscript for publication. The papers in this publication represent the work of students who participated in the 15th Annual Break the Cycle program 2019-2020. The phrase Break the Cycle in this context uses the ecological construct of the cycle of environmental health disparities and offers a framework for tackling health disparities and promoting health equity among children who are vulnerable as a consequence of adverse social, economic, environmental and political factors.

Pandemics and Global Health

Nitha Balan, MSc, PhD (Assistant Professor, Department of Microbiology, Sree Ayyappa College Eramallikkara, Chengannur, Kerala, India) and Manuel Thomas, MSc, PhD (Research Consultant, UniBiosys Biotech Research Labs, South Kalamassery, Kochi, Kerala, India)

In series: Infectious Diseases and Microbiology
Publication Date: 12/03/2021
385 pp.
Hardcover: 978-1-68507-228-5. $230.00
e-book: 978-1-68507-261-2. $230.00

Global public health is under constant strain, due to recent, ongoing, and potential global health crises especially in connection with emerging and reemerging infectious diseases. The past few decades have witnessed an unprecedented eruption of pandemics and epidemics spurred by globalization, climate change and population explosion. The book Pandemics and Global Health portrays a bird's eye view about pandemics and global public health in the 21st century. The COVID-19 pandemic has caused untold human suffering, social upheavals and a crippled economy which have wreaked havoc globally. This book is useful for academicians, policy makers, scholars, researchers, health professionals and people involved in combating epidemics and pandemics.

Public Health: Recent International Research

Joav Merrick MD, MMedSci, DMSc (Professor of Pediatrics at the Division of Pediatrics, Hadassah Hebrew University Medical Center, Mt Scopus Campus, Jerusalem, Israel, Kentucky Children’s Hospital, University of Kentucky, Lexington, United States and Professor of Public Health at the Center for Healthy Development, School of Public Health, Georgia State University, Atlanta, United States, the former Medical Director of the Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem and the Founder and Director of the National Institute of Child Health and Human Development in Israel) and Mohammed Morad, MD, FRCP (National Institute of Child Health and Human Development, Jerusalem, Israel; Clalit Health Services; Department of Family Medicine, Division of Community Health, Faculty of Health Sciences, Ben Gurion University of the Negev, Beer Sheva, Israel)

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297 pp.
Hardcover: 978-1-68507-491-3. $230.00
e-book: 978-1-68507-638-2. $230.00

Many public health issues date back in history and are still with us to this day. Alcohol and other substance use is just one example of an old problem still with us and when combined with driving in today’s world we get a dangerous combination. Public health efforts in this specific area have resulted in some positive developments and trends, but there is still much work to be done. In this book we have gathered recent international public health research not only about alcohol and driving, but
also other public health topics from internationally renowned researchers from around the world, which we hope will be of interest to the readers.

Science, Culture, and Politics: Despair and Hopes in the Time of a Pandemic
Consolato M. Sergi (Full Professor of Pathology and Pediatrics, University of Alberta, Canada; Children’s Hospital of Eastern Ontario, University of Ottawa, ON, Canada)
In series: Public Health: Practices, Methods and Policies
Publication Date: 09/17/2021
191 pp.
Hardcover: 978-1-53619-816-4, $160.00
e-book: 978-1-68507-161-5, $160.00
In June 2021, new waves of the current COVID-19 pandemic are still messing up our lives and magnetizing the compass of our life. No other epidemics or pandemics have been politicized at such a level since ancient times. The full political spectrum from right to left has tried to ride this pandemic and upset the public health response efforts. Statistics and politics have changed our daily approach to this brutal infection, but even crueler has been the palpable miscommunication. Massive and uncontrolled lockdowns and not climate change are destroying the economy of our planet. Intolerance against vaccine opponents and hesitant families has been vocalized with martial tones in both social media and news channels. In this book, the author analyzes the pandemic in a historical context, emphasizes the importance of facemasks, but also highlights our human approach to anti-mask psychology. It would be appalling to call mistakes in public health decisions “learned lessons” because it reduces the gravity of the consequences of inadequate communication. Our youth is our future. The mental issues arising from a lack of social interaction and in-person education are dreadful. Vaccines are powerful and represent the most outstanding progress in medicine. There is light at the end of the tunnel, but vaccine acceptance or herd immunity is not the answer, or probably, not the only one. There is true hope that we are going back to our world, but the COVID-19 pandemic may be an occasion to reconsider the traditional family in the center of our lives and daily politics. A tolerance towards any race needs to be contagious, militant, and blazing to vehemently rebuild and revitalize the American Dream.

RESPIRATORY AND PULMONARY

Mask Interfaces for Noninvasive Mechanical Ventilation. Principles of Technology and Clinical Practice
Antonio M. Esquinas, MD, PhD, FCCP, FNIV, FAARC (Intensive Care Unit, Hospital Morales Meseguer, Murcia, Spain)
In series: Pulmonary and Respiratory Diseases and Disorders
Publication Date: 4/28/2022
369 pp.
Hardcover: 978-1-68507-630-6, $230.00
e-book: 978-1-68507-823-2, $230.00
In noninvasive mechanical ventilation, the mask interface selection and design are the first physical contact with the patient and the more relevant determinant in their tolerance and response. There are a great number of designs and studies that focus on this topic. However, there is no practical book that incorporates deep analysis, rational physical determinants and patients’ responses. This book aims to offer comprehensive expert review chapters on the most significant recent developments in the field of mask interfaces for noninvasive mechanical ventilation, detailing the technology, practices and clinical implications in pulmonary and critical care by providing clear insights and interpretations. Chapters are intended to serve as a reference to those involved in technology, mask selection and patient interaction to properly deliver noninvasive ventilation (incorporating comfort, gas exchange, work of breathing, lung physiology, and interactions of positive pressure) in treatment of acute and chronic respiratory disorders.
This aims to offer physicians and researchers a key cornerstone book to understand the basic technology of noninvasive ventilation interfaces and noninvasive ventilation response.
The book describes how mask interface technology influences noninvasive ventilation in four main aspects:
1) patient response (comfort, adaptation, noninvasive ventilation failure)
2) methodology (ventilatory modes, mechanical ventilators as a scientific reference for researchers, respiratory technicians and physicians)
3) New mask interface technology and new indications of noninvasive ventilation, and
4) Summary of key practical elements about mask interfaces to understand indications of noninvasive ventilation.
Respiratory Disorders in Neuromuscular Disease: Management and Practice Principles
Giuseppe Fiorentino, MD (UOC Fisiopatologia and Respiratory Rehabilitation AO Dei Colli, Naples, Italy) and Antonio Esquinas, MD (Intensive Care Unit; Hospital Morales Meseguer, Murcia, Spain)
In series: Advances in Respiratory and Critical Care Medicine
Publication Date: 11/23/2021
626 pp.
Hardcover: 978-1-53619-890-4. $310.00
e-book: 978-1-68507-270-4. $310.00
Over the years, the life expectancy of patients with neuromuscular disease has improved thanks to new knowledge and technological innovations. This new book is entirely dedicated to the knowledge of the complex and unique profile of patients suffering from neuromuscular pathology. Many key points are discussed by specialists dedicated to neuromuscular patient care.
Respiratory support is often indispensable to sustain the patient’s life. Non-invasive ventilation (NIV) has taken on an increasingly important role in the care of patients with chronic respiratory failure secondary to neuromuscular disease. The NIV approach and complementary techniques are described. The management of airways and clearance of secretions are important aspects which are dealt with in a dedicated session, and a new theme – laryngeal response pattern during NIV and cough assist techniques – is also addressed.
The timing of the tracheostomy and choice of cannula are decisive in the management of the neuromuscular patient, thus the use of invasive mechanical ventilation. Topics of interest also include perioperative respiratory management, weaning from mechanical ventilation and extubation.
The use of imaging techniques, such as videofluoroscopy of swallowing and sonography can support the clinician in the diagnosis of complications. Today, even pulmonary rehabilitation is an integral and indispensable part of patient care.
The text – developed with the contribution of experts dedicated to the daily care of patients with neuromuscular disorders – is an ambitious project which aims to provide an extensive discussion of the topic and support for those who already work with this type of patient, as well as for those who are starting to engage in this type of patient care.

Tracheostomy: Indications, Safety and Outcomes
Amit Agrawal, MD (Department of Neurosurgery, All India Institute of Medical Sciences, Saket Nagar, Bhopal, Madhya Pradesh, India), Nitish Kumar Baisakhiya (Professor and Head, Department of ENT, LN Medical College and JK Hospital, Bhopal, Madhya Pradesh, India) and Anuj Jain, MD (Department of Anesthesiology and Critical Care, All India Institute of Medical Sciences, Saket Nagar, Bhopal, Madhya Pradesh, India)
In series: Surgery - Procedures, Complications, and Results
Publication Date: 12/16/2021
327 pp.
Hardcover: 978-1-68507-188-2. $230.00
e-book: 978-1-68507-263-6. $230.00
Tracheostomy is one of the simplest, most valuable operations in surgical practice. In tracheostomy an opening is made in the anterior wall of the trachea and this opening is used for insufflation of oxygen-air mixture into the lungs. A tracheostomy may be performed on an emergency or elective basis; it may be a temporary or a permanent one. Over the past several years the indications for a tracheostomy have radically evolved. Earlier tracheostomies were mostly done to relieve an upper airway obstruction; now tracheostomies are mostly done in critical care settings to facilitate mechanical ventilation. Open surgical tracheostomy (OST) is usually done in an operation theatre.
A detailed description is given in the relevant chapter of the book, but a certain salient point needs to be emphasized here. First and foremost, neck anatomy is to be clearly defined and structures should be identified, as most of the complications occur when the surgeon deviates from the midline. Percutaneous tracheostomy (PCT) has certain distinct advantages over open surgical tracheostomy (OST); PCT is faster to perform, easier to learn and can be performed at the point of care. In most adult ICU patients, a percutaneous tracheostomy (PCT) is the preferred technique unless contraindicated. Compared to surgical tracheostomy it leads to significantly lesser wound infections, but it is associated with a higher rate of accidental decannulation and obstruction. Use of real time ultrasonography while performing percutaneous tracheostomy has also helped in better identification of tracheal rings and hence in improving its safety for obese patients.
Tracheostomies are usually straightforward, but complications still occur, often due to improper technique. Complications may be due to structural damage to vital structures of the neck leading to hemorrhage, tracheal damage, esophageal damage, failure to proceed, air embolism, aspiration, hypoxemia, tube misplacement, pneumothorax, tracheal stenosis, trachea-arterial
and trachea-oesophageal fistula. This book encompasses many clinically relevant scenarios in which a tracheostomy may be needed. However, certain situations demand special expertise: tracheostomy in pregnancy is one such situation. The aim of this book is to apprise readers with all the practical aspects of tracheostomy from patient’s selection to tracheostomy in special situations.

RHEUMATOLOGY

Vasculitis: From Diagnosis to Treatment
Roger M. Brown
In series: Rheumatism and Musculoskeletal Disorders
Publication Date: 11/11/2021
274 pp.
Hardcover: 978-1-53619-853-9, $195.00
e-book: 978-1-68507-324-4, $195.00

Vasculitis refers to diseases that cause blood vessel walls to thicken and narrow, cutting off blood supply to tissues and organs. Vasculitis encapsulates several conditions, and the cause of vasculitis is often unknown. This book explores various forms of vasculitis and options for treatment. Chapter One includes a detailed description of giant cell arteritis, a form of vasculitis involving inflammation of the middle and large arteries, including the latest management strategies. Chapter Two concerns different types of vasculitis affecting the lungs, their signs and symptoms, treatment, and complications needed for diagnosis. Chapter Three deals with eosinophilic granulomatosis with polyangiitis, a multisystemic necrotizing vasculitis characterized by allergic rhinitis, asthma, and peripheral eosinophilia. Chapter Four describes the common pathophysiology and cardiovascular complications arising in different vasculitides. Chapter Five reviews the pathophysiology, epidemiology, diagnostic investigation, and treatment of infection etiologies of Herpesviridae associated with vasculitis. Chapter Six elucidates the impact of vasculitis on the gastrointestinal system. Chapter Seven explains hypocomplementemic urticarial vasculitis syndrome, defined as presence of greater than six months of urticaria along with hypocomplementemia and multi-system manifestations such as recurrent abdominal pain, uveitis, arthralgia and glomerulonephritis. Chapter Eight explicates the use of biologics in treating rheumatology disorders, with rituximab being recommended in organ-threatening, refractory systemic lupus erythematosus. Lastly, Chapter Nine discusses the pathophysiology and adverse effects of adenoviral vector vaccinations for SARS-CoV-2 and the importance of identifying the true epidemiology of adverse outcomes regarding promoting increased acceptance of COVID-19 vaccinations, while stressing that despite the possibility of adverse outcomes, the benefits of vaccination outweigh the risks of remaining unvaccinated.

SPECIAL TOPICS

Advances in Health and Disease. Volume 41
Lowell T. Duncan
In series: Advances in Health and Disease
Publication Date: 09/27/2021
254 pp.
Hardcover: 978-1-68507-103-5, $250.00
e-book: 978-1-68507-166-0, $250.00

In this edited volume, updates in the field of health and disease are presented. Chapter One studies the incidence of hearing loss in patients with congenital cytomegalovirus infections. Chapter Two reviews the current literature concerning the multifactorial theories and etiologies of glaucomatous optic disc change and visual field loss in patients with normal-tension glaucoma. Chapter Three discusses the effectiveness of endovascular treatment for peripheral arterial disease, which is common in dialysis patients. Chapter Four describes a new technique for severely calcified infrapopliteal artery lesions called “percutaneous intraluminal needle cracking.” Chapter Five aims to identify the occurrence of chronic kidney disease in the family members of chronic hemodialysis patients. Chapter Six describes methods for the outpatient management of oncologic patients with solid tumors and febrile neutropenia. Chapter Seven ascertains the suitability of peritoneal dialysis as a first choice for treatment of acute kidney injury patients. Chapter Eight reports on the application of a cathodically pretreated boron-doped diamond electrode for the determination of phenylbutazone using the differential pulse voltammetry, as a simple alternative method for quality control of this drug. Chapter Nine investigates the liaison between contaminated foods and the occurrence of illness in consumers to provide a clear picture of reports during the years 2010-2020. Lastly, Chapter Ten reviews the benefits and
limitations of sodium-glucose cotransporter 2 inhibitors and the evidence behind the recommendations to support their use in different patient populations.
thrombocytopenia in COVID-19 patients is a common finding, recent studies have reported an unusually high prevalence of thrombotic complications which was the reason for the measuring of aPL. The aPLs in COVID-19 patients are mainly directed against b2GPI but display an epitope specificity different from that of the antibodies in antiphospholipid syndrome. Coagulopathy and vasculopathy are initial stages in both COVID-19 infection and APS sharing three similar stages.

Advances in Health and Disease. Volume 47

Lowell T. Duncan

In series: Advances in Health and Disease
Publication Date: 11/05/2021
248 pp.
Hardcover: 978-1-68507-254-4. $250.00
e-book: 978-1-68507-300-8. $250.00

This compilation presents some of the latest research in health and disease. Chapter One provides insight into the ophthalmic manifestations of dyslipidemia and how they may be managed concomitantly, with particular reference to the statins and their efficacy. Chapter Two proposes the application of personalized medicine for the treatment of hereditary hemorrhagic telangiectasias. Chapter Three summarizes the main studies in the field of psychological interventions for bariatric surgery patients exploring the advances on new online therapeutic and management strategies, and personalized medicine including stepped care approaches. Chapter Four examines the relationship between interpersonal stressors, coping with interpersonal stress, and sleep disorders focused on gender. Finally, Chapter Five describes the impact of exercises using a foam roller to reduce back pain in scoliosis patients.

Advances in Health and Disease. Volume 48

Lowell T. Duncan

In series: Advances in Health and Disease
Publication Date: 11/23/2021
218 pp.
Hardcover: 978-1-68507-375-6. $250.00
e-book: 978-1-68507-400-5. $250.00

This volume presents some of the latest advancements in the field of health and disease research. Chapter One deals with aberrant regulation of mTOR in hematological malignancies and the use of mTOR inhibitors in their treatment. Chapter Two explores synthetic and natural mTOR inhibitors for the treatment of cancer and other diseases caused by over-activation of mTOR. Chapter Three discusses various types of cancer, neuroinflammatory and neurodegenerative diseases, and their causation along with their significant signaling and effects. Chapter Four describes the structure of mTOR and mTOR upstream and downstream signaling pathways. Chapter Five relates various types of prostaglandins with processes like ovulation, luteolysis, implantation, menstrual cycle, parturition, fallopian tube motility along with associated metabolic processes. Lastly, Chapter Five addresses the subjects of compliance, adjuvants, aspects of individuals’ systemic health, and quality of life in connection with periodontal maintenance therapy.

Advances in Health and Disease. Volume 49

Lowell T. Duncan

In series: Advances in Health and Disease
Publication Date: 12/17/2021
272 pp.
Hardcover: 978-1-68507-495-1. $250.00
e-book: 978-1-68507-504-0. $250.00

This volume contains ten chapters, each of which describes a recent advancement in health and disease. Chapter One aims to discuss various molecules proposed as potential disease biomarkers of biliary atresia in the recent past along with their strengths and weaknesses. Chapter Two provides an up-to-date review of the main metabolic pathways involved with the beneficial effects attributed to HIIT in the white adipose tissue, brown adipose tissue, liver, heart, and pancreas of rodent models. Chapter Three examines nine cases of motor neuron disease associated with frontotemporal dementia. Chapter Four explores the functional diversity of the endoplasmic reticulum, the largest endo-membrane organelle that exerts a central role in cellular functions. Chapter Five reviews the evolution of COVID-19, caused by the virus SARS-CoV2, as a threat to the health care system worldwide. Chapter Six deals with therapeutic apheresis and/or monoclonal antibodies in the treatment of hemolytic uremic syndrome in view of pathophysiologic aspects. Chapter Seven deals with the concept of health literacy in the digital era. Chapter Eight reviews the clinical and pathologic features of sarcoid myopathy. Chapter Nine examines the outbreaks of
yersiniosis during the years 2010-2020, the pathogenicity of *Y. enterocolitica* as well as the clinical symptoms of the infection in humans. Lastly, Chapter Ten provides a clinicopathologic review of focal myositis, a rare disorder first described in 1977 by Heffner and colleagues.

**Advances in Health and Disease. Volume 50**

*Lowell T. Duncan*

In series: *Advances in Health and Disease*

Publication Date: 02/17/2022

206 pp.

Hardcover: 978-1-68507-564-4. $250.00

e-book: 978-1-68507-642-9. $250.00

This ten-chapter volume presents some recent advancements in health and disease. Chapter One explains the increased mortality rate owing to atherothrombosis and cardiovascular diseases. Chapter Two reviews the evidence for all current management strategies for recurrent hypoglycaemia in diabetes. Chapter Three provides information on the relationship between obesity and circulating levels of C-reactive protein. Chapter Four describes high-sensitivity C-reactive protein as a biomarker of diabetes and hypertension. Chapter Five studies the combination of two self-associating biopolymers such as high-molar-mass hyaluronan and chitosan for treatment of skin wounds. Chapter Six outlines an integrated approach to address the issues of high levels of stress and burnout in the workplace. Chapter Seven examines pericoronary adipose tissue as a possible storage and supply site for lipoproteins and apolipoproteins in the human coronary artery. Chapter Eight deals with corneal collagen cross-linking protocols for the management of keratoconus. Chapter Nine discusses free radicals, their formation and catabolism, and their beneficial and adverse effects on cellular activities. Finally, Chapter Ten details various diagnostic tests for vasculitis.

**Advances in Health and Disease. Volume 51**

*Lowell T. Duncan*

In series: *Advances in Health and Disease*

Publication Date: 04/11/2022

200 pp.

Hardcover: 978-1-68507-657-3. $250.00

e-book: 978-1-68507-779-2. $250.00

This volume presents some of the latest research updates related to health and disease. Chapter One investigates how traditional Chinese medicine can be leveraged in service of assisted reproductive technology. Chapter Two includes details about several drugs used in the treatment of rheumatoid arthritis. Chapter Three reviews the changing perspective of infection prevention and control measures in maternal and child healthcare settings. Chapter Four examines the role that infection control nurses play in the infection prevention and control teams of healthcare centers. Chapter Five explores some psycholinguistic aspects of illness narratives in patients with pulmonary hypertension as a therapeutic means to lessen patients’ disease-related burden and promoting the sense-making of their illness experience. Finally, Chapter Six highlights the prognostic value of various microRNAs with reference to chronic kidney disease.

**Advances in Health and Disease. Volume 52**

*Lowell T. Duncan*

In series: *Advances in Health and Disease*

Publication Date: 02/17/2022

207 pp.

Hardcover: 978-1-68507-665-8. $250.00

e-book: 978-1-68507-673-3. $250.00

This volume includes eight chapters that provide updates on recent advances in health and disease research. Chapter One reviews the clinical uses of mitomycin C in the eye and its complications. Chapter Two reviews the current knowledge and understanding on the regulatory mechanisms and pathophysiology of urinary stone disease. Chapter Three discusses how the Association of Southeast Asian Nations deals with the COVID-19 pandemic and how it adapts its disaster management mechanisms with its existing bureaucracy. Chapter Four describes the applications of computed tomography scans in the assessment of craniofacial morphology. Chapter Five discusses the work done using scanning electron microscopy-energy dispersive X-ray spectroscopy to describe the structural and compositional investigations in kidney stones and its evolution over the decades. Chapter Six deals with the complex host-microbe interactions associated with the pathogenesis of post-COVID
mucormycosis and its management in the primary and revision scenario. Chapter Seven highlights the potential role of Vitamin D and Vitamin D receptor gene polymorphism in the prognosis of kidney stone formation through extensive secondary data. Finally, Chapter Eight examines the utility of village folklore medicines for management of stress and other applications.
saponins and their mode of actions. Lastly, Chapter Six assesses the pathophysiological impacts of Spironucleus salmonis infection on the seawater adaptability of juvenile chum salmon.

**Advances in Medicine and Biology. Volume 189**

**Leon V. Berhardt**

In series: *Advances in Medicine and Biology*

Publication Date: 11/05/2021

242 pp.

Hardcover: 978-1-68507-234-6. $250.00

e-book: 978-1-68507-268-1. $250.00

This edited monograph includes seven chapters, each discussing recent advancements in the fields of medicine and biology. Chapter One discusses the biomedical engineering must frequently develop a great variety of sensors by including information from performance of bio-samples (cell cultures or tissues), technical specifications of transducers, and constrains derived from electronic circuits. In this work it is described a methodology for real-time cell culture monitoring system design; analyzing, modelling, and integrating into the design flow the electrodes, cell culture and test circuit’s influences. Chapter Two contributes to a deeper understanding of the main pathways playing a role in the complex mechanisms triggered in Fe-treated organisms. Chapter Three describes one of the most important medical evolutions of the last decade is the development of personalized medicine. The success of personalized medicine depends on having accurate diagnostic tests that identify patients who can benefit from targeted treatment strategies. Over the last years, a large range of different omics have led to the development of valuable biomarkers, based on genomics, proteomics, transcriptomics, metabolomics etc. Only few attention has been paid to the study of glycomics, an attractive though not well known technology that can lead to the development of biomarkers in a variety of diseases. Chapter Four provides information that amoeboid protists are a taxonomically eclectic group encompassing ‘amoebae’ and ‘amoeboflagellates.’ They are single-celled organisms that move by a crawling-like motion, while extending pseudopodia (slender or finger-shaped protrusions) from the periphery of the cell. Their shape is highly variable; and the number and organization of the pseudopodia, in addition to cell shape, are important features used to categorize and taxonomically identify the amoebae. Chapter Five subject dealt with in this chapter may be useful for improving strategies to treat certain diseases as well as for the design of materials for tissue engineering, among other applications. Chapter Six indicates that abnormalities in physical properties of the cell membranes may be strongly linked to hypertension and other circulatory disorders. Finally, Chapter Seven review that Diphtheria, known to be an acute toxin mediated, contagious febrile illness is caused by the bacterium Corynebacterium diphtheriae.

**Advances in Medicine and Biology. Volume 190**

**Leon V. Berhardt**

In series: *Advances in Medicine and Biology*

Publication Date: 12/03/2021

287 pp.

Hardcover: 978-1-68507-402-9. $250.00

e-book: 978-1-68507-436-4. $250.00

This volume includes some of the latest research in the fields of medicine and biology. Chapter One discusses various technologies for the repair of skin tissue. Chapter Two reviews the pathophysiology, symptoms and treatment of diseases. Chapter Three illustrates how an understanding of colloidal behavior of proteins can enhance product development of biologics such as antibodies and antibody drug conjugates. Chapter Four deals with the characteristics and clinical significance of TP53 abberations in chronic lymphocytic leukemia. Chapter Five examines the effect of dietary histidine supplementation on growth, muscle cellularity and critical swimming of meagre Argyrosomus regius larvae, whereas Chapter Six deals with the combined effect of water temperature and dietary protein on this organism. Chapter Seven sheds light on the possible major and minor factors leading to exacerbation and induction of the different forms of urticaria.
This volume, comprised of six chapters, presents some of the latest advancements in medicine and biology research. Chapter One investigates six linear traits of three species of beetles in the Southern Siberian and North Caucasus mountains. Chapter Two analyzes the efficiency of surgical treatment of tuberculosis, which remained common in Russia despite the development of efficient and less invasive drug therapies. Chapter Three summarizes the literature on temporomandibular joint arthrocentesis. Chapter Four discusses the neuroprotective effects of some of the most used nutraceutical compounds and their possible future neurotherapeutic role. Chapter Five examines the neurological differences in emotional processing between males and females. Lastly, Chapter Six assesses sexual dimorphism using the NumPy library for the Python programming language by creating digital analog arrays of the histochemical activity of the acid phosphatase, alkaline phosphatase, adenosine triphosphatase and peroxidase using the example of sebaceous and eccrine glands of the skin of male and female Norway rats.

This volume includes five chapters dealing with some of the latest advances in medicine and biology. Chapter One pontificates on the impact of the sequencing of the human genome on the search for life in the universe. Chapter Two summarizes current understanding of how to assess endothelial dysfunction, main risk factors, mechanisms underlying its development, prognostic implications, and biomarkers. Chapter Three assesses the effects of the hormone irisin on glucose metabolism. Chapter Four highlights the common disorders that need to be considered as a differential diagnosis for neuromyelitis optica spectrum disorder and features that help in their differentiation. Finally, Chapter Five deals with tapered modular femoral components in revision total hip arthroplasty.

This volume includes eight chapters detailing recent advances in the fields of medicine and biology. Chapter One reviews in vitro animal and clinical findings on the antioxidant properties of Crocus sativus L. and its constituents. Chapter Two discusses advances in the possible role of non-selective channels in muscular denervation and dystrophies. Chapter Three presents a standardization of a testicular irradiation protocol in rats and an assessment of the histopathological and morphometric-stereological changes on the testes and epididymis, and vitality, concentration, and morphology of sperm according to a crescent curve of ionizing radiation dose, which is relevant for cancer treatments. Chapter Four describes the classical aspects of bovine mastitis and its underlying gene networks. Chapter Five reviews the etiologies, pathophysiology, and diagnostic work-up of acute aortic regurgitation and highlights key principles in its management. Chapter Six assesses the advantages and disadvantages of different surgical options for Charcot-Marie-Tooth disease. Chapter Seven provides an overview of molecular mechanisms responsible for the development of urticaria as well as molecular therapeutic agents under development for the treatment of urticaria. Finally, Chapter Eight describes recent guidelines for diagnosis and management of various types of urticaria.
This volume includes eight chapters which describe recent advances in medicine and biology. Chapter One summarizes new therapeutics for the treatment of optic neuritis, a condition involving primary inflammation, demyelination, and axonal injury of the optic nerve. Chapter Two uses animal models of viral myocarditis to study the natural history, genetics, pathogenesis, and clinical manifestation of viral myocarditis in humans. Chapter Three evaluates the functions of fibroblast growth factors in physiological mechanisms, their role in maintaining homeostatic balance, their role in signal transduction regulation, metabolism and interactions between organisms, and their relationship with diseases. Chapter Four investigates the potential of antibiotics to fight against the inherently nonspecific adaptation mechanisms of bacteria. Chapter Five deals with new methodologies for drug development to counter the evolution of mechanisms to resist antibiotics such as efflux pumps in bacteria that cause infectious disease. Chapter Six concerns the development of new therapeutic strategies regarding the involvement of brain neuropeptides in alcohol use disorder. Chapter Seven examines growth promotion and changes in functional constituents through arbuscular mycorrhizal fungi symbiosis in Asian ginseng. Finally, Chapter Eight explicates procedures for postoperative care in thoracic surgery.

This volume includes eight chapters describing recent advancements in medicine and biology. Chapter One describes molecular communication among legume and rhizobia in the early stages of symbiosis. Chapter Two gives a comprehensive review of the physiochemical, pharmacological and pharmacokinetic properties of diclofenac, a nonsteroidal anti-inflammatory drug. Chapter Three dissects the novel aspects of the glucocorticoid receptor mechanism of action covering the latest findings that reveal the roles of heat-shock protein 90-binding immunophilins managing the glucocorticoid action and how these proteins influence biological response. Chapter Four explains a technique for in vitro fertilization-embryo transfer in women with diminished oocyte reserve that pays strict attention to not down-regulating key follicle stimulating hormone receptors. Chapter Five describes the use of four-dimensional computed tomography for the detection of enlarged parathyroids in the management of primary hyperparathyroidism. Chapter Six reveals the changes in the blood concentration of cell-free DNA and a number of biochemical and hemocytological parameters in the early stages of radiation cystitis development after local irradiation of the female rat pelvic region. Chapter Seven includes an evaluation of the safety and efficacy of pediatric appendectomy as compared to antibiotic-only treatment. Finally, Chapter Eight discusses a novel four-dimensional computed tomography technique that consists of sixteen different contrast phases instead of three or four phases, enabling detection of structures with a very short enhancement pattern.

This volume includes six chapters detailing recent advances in medicine and biology. Chapter One provides an overview of protein changes that occur in patients on peritoneal dialysis treatment. Chapter Two evaluates the active production of superoxide anions by granulocyte colony-stimulating factor using Cypridina luciferin analog-dependent chemiluminescence. Chapter Three focuses on a combination of polymers for mimicking biological, chemical, and physico-mechanical properties of the extracellular matrix. Chapter Four examines visual interventions for children with developmental dyslexia. Chapter Five suggests that a comprehensive repertoire of signaling and metabolic remodeling
mechanisms may explain the evolutionary resilience of bacteria over geological eons. Lastly, Chapter Six analyzes measurements of the proton spin-lattice relaxation rate in malignant and nonmalignant ascites.

**An Introduction to Medicinal Herbs**

*Mila Emerald, Phd. Dr.Sc. (Founder & CEO, PHYTOCEUTICALS International ™ & NOVOTEK Global Solutions ™, Canada)*

In series: *Herbs and Herbalism*

Publication Date: 11/11/2021

365 pp.

Hardcover: 978-1-68507-147-9. $230.00

e-book: 978-1-68507-287-2. $230.00

Medicinal plants always plaid and important role in the maintenance of health, wellbeing, and everyday life of a population worldwide. During the centuries, plants leaves, stems, flowers, seeds, berries, and roots were used for healing and maintenance of a different pathological conditions, as well as in beauty formulas, massage applications, foods preparations and beverages. This book, which is based on a scientific findings and original research, represent a comprehensive and up to date introduction to medicinal plants from all over the world, describes their huge economic, and therapeutic potential, and analyzing different aspects of their genotoxicity, and importance for human health and homeostasis.

The first two chapters are focused on the importance of sustainable agriculture, and a new progressive plants cultivation approach, which is suggested to be used to enhance the farm’s economy at large. Both chapters are including an information on use agroecology in cultivation of sustainable agriculture, pointing to an integrated goal of intercropping herbs, as well as discusses some medicinal plants and spices traditionally used in biodynamic and organic agricultural production. A huge potential of medicinal plants in cosmetics and pharmaceuticals, as well as an overview of some plants and their families with their applications in drugs discovery, are highlighted in chapter three, which is also including an information on extraction techniques used for the development and creation of a natural products. Even if herbal formulations are generally expected to be safe because they are ‘natural’, it is crucial to understand that some medicinal plants demonstrate a specific toxicity, which must be considered during the formulation, development and manufacturing of the novel herbal pharmaceuticals, diet supplements, beauty care and other products as well. Chapter four, which is also including the individual case studies, provides valuable overview of bioassays for screening genotoxic potential, as well as description of specific testing examples of chosen medicinal plants. Due to an important role in human health, during the last decades gastrointestinal microbiota is constantly in the spotlight of the scientists and medical professionals. Disbalance in microbiota can lead to a serious pathological conditions’, and brain-gut axis is a crucial for human immune system and maintenance of good health and wellbeing. Importance of medicinal plants and its bioactive compounds and their implication on human microbiota, is perfectly highlighted in chapter five, which not only describes the beneficial effects of medicinal plants on human digestion and health in general, but also focused on the powerful role of different bioactive plant metabolites in the host health. Although there is lots of information available on the therapeutic properties of the selected plants and their secondary metabolites, chapters six, seven and eight are demonstrate an opportunity for medicinal plants and their compounds to be used for prevention and maintenance and in the future – an effective treatment of metabolic, neurological, and degenerative diseases. An antioxidant, detoxifying, nutritional, anti-inflammatory, antimicrobial, and other properties of medicinal plants compounds are highlighted, studied, and suggested to be considered as highly useful for prevention, maintenance, and development of the future treatments for affecting a huge population, metabolic, anxiety and degenerative diseases. Biotechnological interventions are an important pathway for future technological advances and plants conservation, but it could be limited towards assess the genetic diversity through molecular markers. Using medicinal plants in biotechnological applications is covered in chapter nine, which represents up to date available information on phytochemistry, diversity and biotechnological advances that have been made so far for medicinal plants. The text of the chapters illustrates plant bio-actives, their molecular constituents, such as flavonoids, alkaloids, tannins, coumarins, lignans, glycosides, and others, based in research and case studies, and describes its potential applications.

To summarise, this book is an important contribution to a science and research developments, which helps better understanding of a great potential of medicinal plants. It provides the reader with a great amount of useful and valuable information including research statements, great reading materials, figures, and data tables, as well as extensive lists of the references, which can be helpful for research and new natural products development.
Blockchain and Health: Transformation of Care and Impact of Digitalization
Jan Veuger, PhD, BBA, MRE, FRICS (Professor of Blockchain, Saxion University of Applied Sciences, School of Finance and Accounting, School of Creative Technology, School of Governance, Law and Urban Development, Hospitality Business School, School of Commerce and Entrepreneurship, School of People and Society, The Netherlands)

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Hardcover: 978-1-68507-232-2. $230.00
e-book: 978-1-68507-260-5. $230.00

The secure storage of medical records is vital to any healthcare system. Relying solely on centralized servers increases the likelihood of sensitive information going public. Transparency and increased security of Blockchain technology make it an ideal platform for storing medical records. Patients can safely store their privacy-sensitive information by securing their data on a Blockchain using cryptography. This enables them to share their medical information with any healthcare institution with their approval. The healthcare system is currently very fragmented, but if all users were to use a secure global database, the flow of information between them would be much faster.

A great advantage of a global database is that clients do not have to tell their story every time. A medical specialist, for example, can see exactly what a patient has been through and what treatments and examinations have taken place. The information is also available in real time to the healthcare professional the client has indicated to have access to his file.

A new revolution is taking place that is clearly different from the third industrial revolution (Internet, communication and globalization). This fourth industrial revolution involves a fusion of technologies such as biotechnology, nanotechnology, artificial intelligence, robotics, the Internet of Things, cloud computing and Blockchain. Our healthcare society is also changing fundamentally, also under the influence of COVID-19.

With this book in three chapters, we present the impact of Blockchain and digitization in healthcare with (1) a systematic literature review on implementing blockchain solutions in health care and organizational consequences, (2) Blockchain in health care and (3) transformation of elderly care and impact of digitalization.

Disability: Some Recent International Research
Joav Merrick MD, MMedSci, DMSc (Professor of Pediatrics at the Division of Pediatrics, Hadassah Hebrew University Medical Center, Mt Scopus Campus, Jerusalem, Israel, Kentucky Children’s Hospital, University of Kentucky, Lexington, United States and Professor of Public Health at the Center for Healthy Development, School of Public Health, Georgia State University, Atlanta, United States, the former Medical Director of the Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem and the Founder and Director of the National Institute of Child Health and Human Development in Israel) and Mohammed Morad, MD (Yaski Community Medical Center, Ben Gurion University of the Negev, Clalit Health Services, Beer-Sheva, Israel)

In series: Disability Studies
Publication Date: 12/16/2021
193 pp.
Hardcover: 978-1-68507-309-1. $160.00
e-book: 978-1-68507-426-5. $160.00

Wherever we live or whatever we do, disability will always be a part of us. With increasing age, we will all surely encounter disability. Disability can arise from age or outside forces, such as a traffic accident. It is estimated that more than a billion people, or about 15% of the world’s population, live with some form of disability. Disability research is therefore important not only for the individual and the family, but also for the society to adapt and facilitate a better quality of life for this segment of the population. For example, research from the United States found significant disparities in the prevalence of disability between urban and rural residents, with rural residents having the highest prevalence of disability. Such epidemiology and survey research can be important tools for public health and can guide policy makers to allocate budgets, service facilities
and expertise. In this book, we have gathered recent disability research from around the world that we hope will be of interest to the reader.

Evidence-Based Medicine: From the Clinician and Educator Perspective
Sowdhamini Wallace, DO, MS (Division of Pediatric Hospital Medicine, Department of Pediatrics, Baylor College of Medicine, Texas Children’s Hospital, Houston, TX, USA) and Ganga Gokulakrishnan, MD, MS (Division of Neonatology, Department of Pediatrics, Baylor College of Medicine, Texas Children’s Hospital, Houston, TX, USA)

In series: New Developments in Medical Research
Publication Date: 02/25/2022
363 pp.
Hardcover: 978-1-68507-546-0. $230.00
e-book: 978-1-68507-700-6. $230.00

This book, Evidence-Based Medicine: From the Clinician and Educator Perspective, is authored by experts in evidence-based medicine (EBM) from various medical specialties and healthcare disciplines across the United States and Europe. This book is geared toward any healthcare professional or trainee who wishes to learn more about critical appraisal of the scientific literature, how to teach EBM and other important facets of EBM. The book covers fundamental concepts in defining clinical questions, literature search strategies and basic biostatistics. Additionally, the book describes the process for critically appraising scientific studies across many different study designs including: observational studies, interventional studies, diagnostic test accuracy studies, systematic reviews and meta-analyses. In addition to these traditional appraisal concepts, readers will learn the principles to consider during appraisal of survey-based research, qualitative research and clinical practice guidelines. Readers will also attain knowledge to prepare them to be skilled in teaching evidence-based medicine in clinical settings, designing EBM curricula for trainees, and implementing strategies for faculty development in EBM. Last, the book covers other important facets of EBM including high value care, the nurse’s role in evidence-based practice, and the integration of technology to aid in evidence-based practice. Overall, this book will provide clinicians with the knowledge needed to provide high quality evidence-informed care for patients and to teach the next generation of trainees how to incorporate EBM into patient care.

India: Disability, Health and Slum Issues
Ariel Tenenbaum, MD (Director, Center for Children with Chronic Diseases and Down Syndrome Center Jerusalem, Division of Pediatrics, Hadassah Hebrew University Medical Center Mount Scopus Campus, Jerusalem, Israel), Ritu Kalgotra (Department of Education, University of Jammu, Jammu, India) and Joav Merrick MD, MMedSci, DMSc, (National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel, Division of Adolescent Medicine, KY Children’s Hospital, Department of Pediatrics, Lexington, Kentucky, USA; School of Public Health, Georgia State University, Atlanta, Georgia, USA)

In series: Health and Human Development
Publication Date: 10/12/2021
329 pp.
Hardcover: 978-1-53619-981-9. $230.00
e-book: 978-1-68507-201-8. $230.00

India, officially the Republic of India, is a country in South Asia. It is the seventh-largest country by area, the second-most populous country, and the most populous democracy in the world. In this book we have gathered research papers from India concerned with disability research and prevention issues, health issues, rural health care, childhood immunisation and studies carried out in the slum areas of Delhi. We hope this research will be of interest to the reader.
Mineral Water: From Basic Research to Clinical Applications

Maria João Martins, PhD (Department of Biomedicine, Biochemistry Unit, Faculty of Medicine, University of Porto, Porto, Portugal; i3S-Instituto de Investigação e Inovação em Saúde, University of Porto, Porto, Portugal)

In series: Biochemistry Research Trends
Publication Date: 02/25/2022
300 pp.
Hardcover: 978-1-68507-458-6. $195.00
e-book: 978-1-68507-541-5. $195.00

Mineral Water: From Basic Research to Clinical Applications, written by a multi-disciplinary group of educators, researchers and medical doctors, gathers a timely review on the effects of mineral waters upon several aspects of human biology and pathophysiology, as it gives an overview of how mineral waters may provide a positive impact on different settings, namely health promotion and disease prevention as well as rehabilitation and therapy. A major advantage of this book is the gathering of up-to-date information on the benefits, and associated mechanisms, of mineral waters through different routes of internal and external exposure.

Concepts and classifications of mineral waters are disclosed. The relevance of spa therapies in Chronic Obstructive Pulmonary Disease, otorhinolaryngology, rheumatic diseases and dermatology is addressed. The mitigation of diet-induced acid load by mineral waters consumption and its relevance for bone health is discussed. The importance of mineral waters consumption against metabolic dysfunction through gut microbiota modulation is argued. Modulation of membrane transporters by mineral water is reviewed.

Mineral Water: From Basic Research to Clinical Applications aims to target health professionals (medical doctors, nurses, physiotherapists, nutritionists and dietitians), educators and students (in the aforementioned subject areas) as well as health science researchers (biochemists, biologists and pharmacists), beverage companies and policy-makers.

Phenolic Compounds in Health and Disease

Robert C. Linn

In series: Food Science and Technology
Publication Date: 09/17/2021
223 pp.
Hardcover: 978-1-68507-108-0. $160.00
e-book: 978-1-68507-137-0. $160.00

Phenolic compounds are structures found in plant-based foods that play an important role in regulating health and disease. Accordingly, this book presents seven chapters that explore phenolic compounds from a variety of perspectives. Chapter One addresses the current knowledge about the presence of phenolic compounds in plants, their bioavailability and protective effects of interest for diabetes mellitus. Chapter Two describes the Bignoniaceae family and Handroanthus impetiginosus, as well as the main groups of phenolic compounds reported for this species and their main biological activities. Chapter Three highlights some scientific evidence corroborating the role of polyphenols in the prevention and treatment of cancer. Chapter Four presents the results of a study that indicate that L. leucocephala calli are promising biotechnological products for obtaining phenolic compounds in vitro. Chapter Five details a study that assessed the phenolic compound content and antioxidant and antibacterial activities of extracts and fractions of Bauhinia holophylla. Chapter Six evaluates the production of phenolic compounds in cell suspensions of B. variegate. Finally, Chapter Seven provides an insight on the anti-inflammatory activities of galangin through attenuation of allergic inflammation, regulation of PPARγ pathway, inhibition of ERK, NF-kappaB, PI3K/AKT and NLRP3 signaling, interplaying of MAPK signaling cascade, and through activation of Nrf2 signaling in animal models.
In series: Biochemistry Research Trends
Publication Date: 10/12/2021
335 pp.
Hardcover: 978-1-68507-113-4. $230.00
e-book: 978-1-68507-135-6. $230.00

The Ivane Beritashvili Center of Experimental Biomedicine was established in 2010 on the basis of the well-known Ivane Beritashvili Institute of Physiology, the most prominent research center of Georgia, where basic and applied research in different fields of neurophysiology has been conducted since its foundation.

Professor Ivane Beritashvili was a famous Georgian scientist who gained international recognition during his lifetime. He was one of the founders and members of the Georgian Academy of Sciences and a member of three academies of sciences of the former Soviet Union. He was an honorary member of the New York Academy of Sciences, the American Society of Electroencephalography, the Royal Society of England, the American Society of Biological Psychiatry, and an honorary member of the International Brain Research Organization. He was an honored scientist of Georgia, a laureate of the State Prize, and a recipient of many orders and medals.

Ivane Beritashvili is remembered in history as a person who founded the Department of Physiology at the newly opened Tbilisi State University. He developed physiological terminology in Georgian, wrote a textbook of physiology in Georgian for the students of the university, raised successful scientists from the first generation of his students, and founded the Georgian School of Physiology. In 1935, he founded the Institute of Physiology in Tbilisi, which soon gained recognition and became well-respected by a wide range of foreign scientists who often visited Georgia.

In 2010, three scientific institutions were merged with the Ivane Beritashvili Institute of Physiology – the Institute of Molecular Biology and Biophysics, the Center of Radiobiology and Radiation Ecology and the Center of Experimental Neurology, the first two of which, for many years, were the departments of the Institute of Physiology.

This edited book is the third such compilation containing chapters that represent the research priorities of the Ivane Beritashvili Center of Experimental Biomedicine, which covers the experimental study of fundamental issues in the functioning of physiological (mainly neurophysiological) mechanisms during normal and pathological conditions. The first and second books – “Systemic, Cellular and Molecular Mechanisms of Physiological Functions and Their Disorders” published by Nova Science Publishers Inc. in 2015 and 2018, were also devoted to the same general problems.

In the present edited book, particular attention is drawn to the study of extremely important processes underlying the basic mechanisms and disorders of various phenomenon of integrative activity of the brain: general behavior, learning and memory, the sleep-wakefulness cycle, regulation of adequate blood supply, hormesis, epilepsy, depression, sleep disorders, pain and analgesia. All of the mentioned processes are studied on the molecular, cellular and systemic levels of their organization. It has to be noted that each chapter, within the collection of works, represents the results of separate, independent studies implemented by different scientific departments of the center. Therefore, the chapters are not directly related to each other and have been arranged alphabetically based on the surname of the authors.

The authors would like to take this opportunity to present to the reader the scientific and institutional infrastructure of the center, which consists of departments and laboratories. Nowadays the center consists of seven departments: Neurophysiology, Membranology, Biochemistry, Blood Circulation and Metabolism, Neurotoxicology, Membranology, Biophysics and Radiobiology and nine laboratories: Neurobiology of Sleep-Wakefulness Cycle, Vision Physiology, Behavior and Cognitive Functions, Brain Ultra- and Nano-Architectonics, Experimental Neurology, Pain and Analgesia, Structure and Functions of Genomes, Bioinformatics, and the Problems of Radiation Safety.

In addition to the bilateral scientific cooperation with famous European and U.S. scientific institutions, the center is a member of the International Science Consortium “From Molecule to Cellular Events in Human Pathologies”, the annual meeting of which was held in Tbilisi in 2015.

The authors are confident that the readers are fully aware of the theoretical and practical importance of the research related to the problems of systemic, cellular and molecular mechanisms of physiological functions and their disorders. The presented collection of works contains the results of relevant research conducted over the last three years (2019-2021).

The authors will be grateful for feedback, recommendations and suggestions regarding their research, in the implementation of which they have invested a lot of effort, knowledge and experience.
Alternative Therapies

Medicinal Plants: Properties, Uses and Production
Deepak Kumar Semwal, PhD (Assistant Professor, Department of Phytochemistry, Faculty of Biomedical Sciences, Uttarakhand Ayurved University, Dehradun, India)

In series: Herbs and Herbalism
Publication Date: 11/05/2021
321 pp.
Hardcover: 978-1-68507-251-3. $230.00
e-book: 978-1-68507-290-2. $230.00

The present reference book entitled “Medicinal plants: properties, uses and production” is based on the recent developments in the medicinal and aromatic plants sector. The contents provided in the present title are written by field experts from different regions. All the chapters were reviewed by the external reviewers and based on their opinions, necessary modifications have been made. The present book contains eight well-descriptive manuscripts with comprehensive information about the topics.

The first chapter describes the medicinal uses, bioactive constituents and biological activities of the genus Limoniastrum. The chapter also deals with the ethnopharmacological properties and traditional uses of these plants. Phytochemical analysis of these plants revealed the presence of gallic acid, catechin, and epigallocatechin as major compounds whereas the pharmacological studies showed antioxidant, anti-inflammatory and anti-tumoral activities in different experimental models.

The second chapter covers the therapeutical potential, phytochemicals and natural status of endangered medicinal plants of the Ashtavarga group. These plants are used in the Ayurvedic system of medicine and popularly known as Kakoli, Kshirakakoli, Jeevak, Rishbhak, Meda, Mahameda, Riddhi and Vriddhi. These plants are grown in high-altitude regions and currently facing a problem of extinction in their natural habitat and hence considered as rare. Presently, efforts are being continued to cultivate them for their survival as well as to use them in medicine. The present chapter comprises the medicinal and chemical profile of ashtavarga plants together with their proper identification and traditional uses.

The third chapter describes the nutritional products derived from coneflower for athletes. This chapter covers the application of coneflower nutritional products for sportspersons published in the period 2000-2020. It has been noticed that the use of Echinacea supplements is most popular in United States, Canada and the United Kingdom. The use of these supplements is common among professional sportsmen, varsity athletes, as well as children practising different sport disciplines.

The fourth chapter is based on the phytochemical, pharmacological, toxicological and commercial aspects of the henna plant which is the most popular religious plant in Asian countries. The dye of this plant is extensively used for the decoration of skin in the form of temporary tattooing, and also used as hair dye. A chemical compound called lawsone is the major constituent of this plant which is responsible for the dyeing properties. However, the chemicals added with henna to impart its colour and improve other dyeing properties are dangerous to use and causing contact dermatitis. Although it is a reputed medicine and cosmetic, there is a problem of adulteration in its products available in the market. Many products selling in the market in the name of henna are free from the plant extract and only contain synthetic paraphenylenediamine which causing the allergy.

The fifth chapter deals with selected anticancer molecules found in traditional medicinal plants. Since the current treatments available for cancer are either chemotherapy or radiotherapy that causes serious side effects, thus plant-derived products can be used as an effective and safe treatment for cancers. Various constituents like Vinca alkaloids, podophyllotoxin derivatives, taxanes, camptothecin derivatives and homoharringtonine were found effective against cancers.

The sixth chapter describes molecular aspects of herbal medicine toxicity. Several studies have shown that certain medicinal herbs can be poisonous and may produce a variety of undesirable or adverse reactions that are life-threatening and even deadly. In industrialized countries, the craze for products of natural origin is a relatively recent phenomenon, developed, in particular, in favour of aggressive marketing campaigns inducing in the public mind notions as false as they are dangerous such as the assertion “what is natural is harmless”. Several intoxications, often deadly, after herbal treatments have been reported which draws attention to the dangers of excessive use and the no control on this therapeutic model.

The seventh chapter covers the role of novel drug delivery systems in improving the bioavailability of herbal medicines. The herbal world is the soul of the health care system since ancient times because every disease has been curing or managing by herbal medication from that time to today. However, the herbal system of medication suffered from a lack of the required developments, which were necessary demands of time. Today, people are very much conscious about their health and again starting to shift towards herbal medication due to the serious adverse effects of synthetic drugs. Researchers are trying to develop herbal medicines in the form of a novel drug delivery system to improve drug pharmacokinetics and pharmacodynamics along with stability as well as formulation related issues.

The eighth chapter is based on the mathematical modelling and optimization in solid-liquid extractions of bioactive constituents of medicinal plants. In herbal medicine, the most important step in the extraction process that ensures the maximum bioactive potential of a medicinal plant. The efficiency of the extraction process mainly relies upon the extraction conditions and therefore it is crucial to describe the optimal conditions for the selected extraction method. Mathematical modelling and optimisation techniques are extensively used for planning and optimisation of solid-liquid extraction processes.
of bioactives from medicinal plants. Mathematical models provide valuable insight into mechanisms of solid-liquid extraction of bioactives being the main objective optimisation of the extraction process parameters. Overall, the book is a collection of different research areas of medicinal plants. It covers general applications of a particular medicinal plant like henna, a compilation of pharmaceutical properties of a genus like Limoniastrum, a traditional combination like Ashvatarga, nutritional importance of a plant like coneflower, description of bioactive compounds like Vinca alkaloids, the toxicity associated with the herbal treatment, the use of novel drug delivery in improving the pharmacokinetics of a herbal drug and mathematical modelling of bioactives isolated via different extraction techniques. This book will be useful for academicians and researchers working in the areas of herbal medicine, traditional medicine and natural products. The book is also useful for Master and PhD students of various universities.

**SURGERY AND SURGICAL SPECIALTIES**

**Nosocomial Infection in Abdominal Surgery**

Jaime Ruiz-Tovar, MD, PhD (Professor of Surgery, Universidad Alfonso X, Virgen da la Oliva, Madrid, Spain) and Andrés García Marín, MD, PhD (Department of Surgery, Hospital de Hellín, Albacete, Spain; University Alfonso X, Virgen da la Oliva, Madrid, Spain)

In series: *Surgery - Procedures, Complications, and Results*

Publication Date: 02/15/2022
121 pp.
Softcover: 978-1-68507-603-0. $82.00
e-book: 978-1-68507-666-5. $82.00

Nosocomial infections are frequent complications after abdominal surgery. Most abdominal procedures are clean-contaminated, contaminated, or even dirty procedures, since plenty of microorganisms are able to enter the gastrointestinal and the genitourinary tracts. Nosocomial infections are associated with morbidity and mortality and reduce patients’ quality of life after surgery. Moreover, they prolong hospital stay and altogether represent an economic burden for health services. Despite different guidelines endorsed by scientific societies describing recommendations for preventing and treating nosocomial infections, they still represent a challenge for healthcare staff. The aim of this book is to revise the actual evidence on the different aspects of nosocomial infections after abdominal surgery.

**Total Hip Arthroplasty: Procedures and Potential Complications**

Nemandra Amir Sandiford, MRCS, MRCS Ed, MSc, MFSEM, FFSEM, FRCS (Consultant Orthopaedic Surgeon and Senior Clinical Lecturer, University of Otago, Joint Reconstruction Unit, Southland Hospital, Invercargill, New Zealand)

In series: *Orthopedic Research and Therapy*

Publication Date: 01/21/2022
403 pp.
Hardcover: 978-1-68507-146-2. $230.00
e-book: 978-1-68507-342-8. $230.00

This volume presents an up-to-date appraisal of the important issues which are encountered in the practice of modern total hip arthroplasty. The information presented is evidence-based but also contains valuable insights from the contributing authors who are all experts in their fields. This will be of value to practicing surgeons at all levels as well as those in medicolegal practice.
Transplantation

**Issues in Kidney Disease – Transplantation**

*Bhamidipati V. R. Murthy, MD, DM (Selzman Institute for Kidney Health, Section of Nephrology, and Division of Abdominal Transplantation, Department of Surgery, Baylor College of Medicine, Houston, TX, USA) and Stephen Z. Fadem, MD, FACP, FASN (Selzman Institute for Kidney Health, Section of Nephrology and Michael E. DeBakey Veterans Affairs Medical Center, Baylor College of Medicine, Houston, TX, USA)*

In series: *Issues in Kidney Disease*

Publication Date: 10/12/2021

348 pp.

Hardcover: 978-1-53619-960-4. $145.00

e-book: 978-1-68507-128-8. $145.00

Issues in Kidney Disease–Transplantation is a collection of seventeen independent chapters written by renowned authors, covering a wide range of topics, from the overview of transplantation, the complex process of paired organ donation, transplantation in highly sensitized recipients, recurrent disease following transplantation, controversies in multi-organ transplantation, the successes in short and long-term outcomes after kidney transplantation, and the complex issues of ethics in transplantation.

This book will appeal to renal fellows, nephrologists, and other physicians involved with kidney transplantation, transplant coordinators, social workers, and other allied health professionals. It brings timely and updated reviews, addresses important controversies in kidney transplantation, and outlines opportunities for future research.

WOMEN’S HEALTH

**A Closer Look at Women’s Health**

*Lakisha Roberts*

In series: *Women’s Issues*

Publication Date: 12/03/2021

223 pp.

Hardcover: 978-1-68507-408-1. $160.00

e-book: 978-1-68507-416-6. $160.00

This book includes six chapters that detail various aspects of women’s health. Chapter One uses a hermeneutic phenomenological method to explore hope in eating disordered women. Chapter Two considers the importance of hope as a mediating factor in the complicated relationships between body shame and eating disorder behavior as well as with substance use/abuse behavior via an Internet survey. Chapter Three examines the influence of six Indigenous Australian sportswomen and their role as sporting role models for women and girls. Chapter Four highlights the research that has been conducted regarding eating disorders in women of color and reviews the unique race and culture-related risk factors that may influence the presence of eating disorder symptoms. Chapter Five deals with the history and definition of food craving, the cognitive event of appetizing targeting, the associations with the diet mentality as a promoter of moral judgment concerning food, and the twelve primary triggers according to the latest data from studies in the field of eating disorders. Finally, Chapter Six focuses on the association between physical activity and menopausal transition from the viewpoint of evolutionary biology and evolutionary medicine.
SCIENCE AND TECHNOLOGY
Glyphosate: Agricultural Uses, Ecological Impacts and Potential Carcinogenic Effects  
Kassio Ferreira Mendes, PhD (Professor, Weed Scientist, Department of Agronomy, Federal University of Viçosa, Viçosa, MG, Brazil)

In series: Agriculture Issues and Policies  
Publication Date: 09/17/2021  
328 pp.  
Hardcover: 978-1-68507-076-2, $230.00  
e-book: 978-1-68507-110-3, $230.00  
Glyphosate is the most widely used herbicide in the world for post-emergence weed control. Given the wide spectrum of control and agronomic efficacy of this herbicide associated with the increase in the cultivation of genetically modified crops resistant to glyphosate, it is very important to understand the behavior and fate of this chemical product in the environment. Glyphosate should be used sustainably to reduce environmental impact, and this subject is covered in this book.

Internet of Things and Machine Learning in Agriculture  
Dr. Vishal Jain, PhD (Associate Professor, Department of Computer Science and Engineering, School of Engineering and Technology, Sharda University, Greater Noida, U. P., India) and Jyotir Moy Chatterjee (Assistant Professor, Department of IT, Lord Buddha Education Foundation, Asia Pacific University of Technology & Innovation, Kathmandu, Nepal)

In series: Internet of Things and Machine Learning  
Publication Date: 11/11/2021  
243 pp.  
Hardcover: 978-1-68507-192-9, $160.00  
e-book: 978-1-68507-216-2, $160.00  
Agriculture is one of the most fundamental human activities. It has kept humans happier and healthier and helped birth modern society as we know it. As farming has expanded, however, the usage of resources such as land, fertilizer, and water has grown exponentially. Environmental pressures from modern farming techniques have stressed our natural landscapes. Still, by some estimates, worldwide food production will need to increase 70% by 2050 to keep up with global demand. With global populations rising, it falls to technology to make farming processes more efficient and keep up with the growing demand. Fortunately, Machine Learning (ML) and the Internet of Things (IoT) can play a very promising role in the agricultural industry. Some examples include: an AI-powered drone to monitor the field, an IoT-designed automated crop watering system, sensors embedded in the field to monitor temperature and humidity, etc. The agriculture industry is the largest in the world, but when it comes to innovation there is a lot more to explore. IoT devices can be used to analyze the status of crops. For instance, with soil sensors, farmers can detect any irregular conditions such as high acidity and efficiently tackle these issues to improve their yield. In this book, we will point out the challenges facing the agro-industry that can be addressed by ML and IoT and explore the impacts of these technologies in the agriculture sector.
**Agronomy**

**Underutilized Crops and Their Value Addition**

Romesh Kumar Salgotra, *PhD (Professor and Coordinator, School of Biotechnology, Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu (SKUAST-Jammu), Chatha, India), Monika Sood, PhD (Assistant Professor, Division of Food Science, Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu, Chatha, India) and Surabhi Jasrotia, PhD (Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu, Chatha, India)**

In series: *Agricultural Research Updates*
Publication Date: 12/17/2021
366 pp.
Hardcover: 978-1-68507-443-2. $230.00
e-book: 978-1-68507-481-4. $230.00

This book, *Underutilized Crops and Their Value Addition*, is designed to provide in depth information of underutilized crops, their production, value addition and therapeutic uses in a balanced and comprehensive fashion to researchers, professionals and students. The book is well illustrated to help students, researchers and professionals to better understand the principles and concepts about the underutilized crops. The style of presentation throughout the book is easy to follow and comprehend. Professionals, researchers and students are constantly reminded of previous topics of relevance to current topics being discussed. This book is not only an excellent teaching tool, but it is also a suitable reference source for students and professionals.

**Crops**

**Cardamom [Elettaria Cardamomum (L.) Maton]: Production, Breeding, Management, Phytochemistry and Health Benefits**

Kaliyaperumal Ashokkumar, *PhD (Assistant Professor, Cardamom Research Station, Kerala Agricultural University, Pampadumpara, Idukki, Kerala, India), Muthusamy Murugan, PhD (Professor and Head, Cardamom Research Station, Kerala Agricultural University, Pampadumpara, Idukki, Kerala, India) and M.K. Dhanya, PhD (Assistant Professor, Cardamom Research Station, Kerala Agricultural University, Pampadumpara, Idukki, Kerala, India)**

In series: *Agriculture Issues and Policies*
Publication Date: 09/17/2021
345 pp.
Hardcover: 978-1-68507-097-7. $230.00
e-book: 978-1-68507-132-5. $230.00

This book, entitled *Cardamom [Elettaria cardamomum (L.) Maton]: Production, Breeding, Management, Phytochemistry and Health Benefits*, contains valuable information about the cardamom. The cultivation, botany, plant breeding, biotechnology, phytochemical analysis, pest and disease management and pesticide residues of cardamom [Elettaria cardamomum (L.) Maton] are well described. This book also analyzes the phytochemistry and pharmacological properties of cardamom that are used to design novel drugs and to increase its value to the food and pharmaceutical industries. The book is aimed at researchers, academicians, pharmacologists, nutritionists, chemists, biotechnologists, and post-graduate and doctoral students involved in related research activities as well as cardamom planters.
Solanum melongena: Production, Cultivation and Nutrition
Abdul Majid Ansari, PhD (Zonal Research Station (Birsa Agricultural University, Ranchi), Chainki, Palamau, Jharkhand, India), Wajid Hasan, PhD (Krishi Vigyan Kendra (Bihar Agricultural University, Sahour), Jehanabad, Bihar, India) and M. Prakash, PhD (Department of Genetics and Plant Breeding, Faculty of Agriculture, Annamalai University, Annamalai Nagar, Tamil Nadu, India)
In series: Agriculture Issues and Policies
Publication Date: 11/11/2021
490 pp.
Hardcover: 978-1-68507-311-4. $310.00
e-book: 978-1-68507-323-7. $310.00
Solanum melongena, commonly known as eggplant or brinjal, is a popular vegetable that is high in fiber and rich in vitamins and minerals. It is an essential source of income for small and marginal farmers in India and around the world. Eggplant is a good source of fiber, copper, manganese, B-6 and thiamine, and can help to lower one’s risk of heart disease and control blood sugar. This book covers various aspects of eggplant, ranging from management of its production and cultivation, including details about the threat of diseases and parasites to this crop, to its economic, nutritional and medicinal impact.

The Potato Crop: Management, Production, and Food Security
Pedro Manuel Villa, PhD(Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil)
In series: Agriculture Issues and Policies
Publication Date: 10/12/2021
347 pp.
Hardcover: 978-1-68507-096-0. $230.00
e-book: 978-1-68507-203-2. $230.00
Currently, climate change due to global warming induced mainly by land use changes (i.e. intensified agriculture and deforestation) is one of the biggest problems that humanity must urgently address. Thus, promoting models of sustainable agricultural production that ensure food security, environmental conservation and livelihoods for local populations is needed. In this context, humanity has the great challenge of integrating agriculture, ecosystems, environment and people in the sustainable development scheme, especially with the focus on food systems that maintain a sustainable management of biodiversity and ecosystem services. Fortunately, there are currently important advances in knowledge and technologies for the management of agrobiodiversity and agricultural crops of great economic and social relevance (i.e. wheat, corn, potatoes, cassava), which will be essential for future scenarios of environmental change.

The potato (Solanum tuberosum) is the third most consumed crop that contributes to global food security. The potato continues to be recommended as a key food for human consumption, especially in the face of current population growth, related to problems with food supply, nutrition and food security, and also climate change challenges globally. Understanding how abiotic (i.e., climate, nutrients) and biotic (i.e., pests and diseases) factors and management (i.e., genetic resources, planting) determine production and crop growth patterns has been an important issue in potato crop research. Researchers on potato crops aim to improve agricultural resources management, breeding and seed potato production, post-harvest practices, storage, supply chain, and food security. There are also significant knowledge and technological advances in sustainable potato production systems that have remarkably improved potato yields.

This book aims to publish an overview about the current state of the art for sustainable potato production systems and achieving global nutrition and food security targets. The chapters of the book deal mainly with theoretical and practical fundamentals on seed potato production, crop growth and production, postharvest and storage of potato tubers. This integrative and comprehensive review is an important contribution to the knowledge of potato crop management and conservation of potato cultivars in the current context of global climate change, hunger and poverty.
**Horticulture**

**Vitis Products: Composition, Health Benefits and Economic Valorization**

Renato Vasconcelos Botelho, PhD (Professor of Fruit Crops and Viticulture, State University of Mid-Western of Paraná, Department of Agronomy -Research Group in Fruit Crops and Post-Harvest, Brazil) and António Manuel Jordão, MSc, PhD (Professor of Oenology, Polytechnic Institute of Viseu, School of Agriculture, Portugal; Researcher of Chemistry Research Centre of Vila Real, Portugal)

In series: *Plant Science Research and Practices*

Publication Date: 09/09/2021

422 pp.

Hardcover: 978-1-53619-982-6. $230.00

e-book: 978-1-68507-041-0. $230.00

Grapevines and their clusters are very rich in components with different and interesting healthy effects, which also extend to grape derivatives such as must, wines and all other products (extracts, flour, leaves, seeds, pomace, etc.). Bioactive constituents present in grapes and vines, mainly polyphenols, are attracting increasing interest from consumers demanding polyphenol-rich foods as a result of epidemiological evidence suggesting the protective potential of polyphenols against chronic diseases directly associated with oxidative damage, such as Alzheimer’s, cancers, diabetes, and hypertension, amongst others. In this regard, besides the traditional products from grapes, such as wine and juice, grape Vitis by-products are increasingly being re-utilized and transformed into high-value products for the food, cosmetics, and pharmaceutical industries. In this context, the book *Vitis Products: Composition, Health Benefits and Economic Valorization* intends to deeply discuss many aspects of the products derived from grapevines, including the diversity and potential of a wide range of economical possibilities, factors involved in their composition, varietal differences, and industrial process, showing a wide range of possibilities.

**Soil**

**Ecosystem Services: Types, Management and Benefits**

Dr. Hanuman Singh Jatav (Soil Science & Agricultural Chemistry, S.K.N. Agriculture University-Johner, Jaipur, India) and Dr. Vishnu D. Rajput (Academy of Biology and Biotechnology, Southern Federal University, Rostov, Russia)

In series: *Agriculture Issues and Policies*

Publication Date: 04/14/2022

422 pp.

Hardcover: 978-1-68507-614-6. $270.00

e-book: 978-1-68507-747-1. $270.00

The book *Ecosystem Services: Types, Management and Benefits* is mainly focused on issues related to soil and ecosystem management. At present, management of soil from an ecosystem perspective is a prime concern for biodiversity conservation and can only be achieved after proper scientific management of the rhizosphere. The ecosystem services are varied with benefits to humans given by the nature-based environment. These ecosystems include crop ecosystems, forest ecosystems, agro ecosystems, grassland ecosystems, and aquatic ecosystems. According to Food and Agriculture Organization of the United Nations (FAOUN) in the section Ecosystem Services & Biodiversity (ESB), the ecosystem services are the multitude of benefits that nature provides to society. Biodiversity is diversity among living organisms, which is essential to ecosystem function and services delivery. According to FAOUN, ecosystem could be understood as living elements which interact with each other and their non-living environments, providing benefits, or services, to the world. Meanwhile, ecosystem services make human life possible by, for example, providing nutritious food and clean water, regulating disease and climate, supporting the pollination of crops and soil formation, and providing recreational, cultural and spiritual benefits. Despite an estimated value of $125 trillion, these assets are not adequately accounted for in political and economic policy, which means there is insufficient investment in their protection and management. Biodiversity includes diversity within and among species and ecosystems. Changes in biodiversity can influence the supply of ecosystem services. Biodiversity, as with ecosystem services, must be protected and sustainably managed. The present book focuses on soil and ecosystem management with a possible solution to manage the soil ecosystem.
This edited volume presents five chapters, each detailing recent updates in agricultural research. Chapter One studies acaricidal neuronal activity from the perspective of molecular level interactions with receptor-proteins. Chapter Two deals with the use of omics technologies for developing soybean cultivars with improved seed longevity and permeability. Chapter Three summarizes the results of two investigations of various nutritional properties of the aerial parts of soybean cultivar Eiko at seven stages classified as vegetative stages and reproductive stages during the 2014 growing season. Chapter Four describes the production of crocin and its potential as a biocolorant in polymer products. Lastly, Chapter Five discusses the relationships between aphids and plants as well as strategies for following and controlling aphid behavior.

This volume includes some of the latest advancements in agricultural research. Chapter One deals with some of the antioxidant and antimicrobial activity of Rosmarinus officinalis L. Chapter Two presents an overview of the different genetic resources available for breeders of rosemary. Chapter Three explores different methods of controlling root rot in avocados. Chapter Four describes the main sources of histamine in food and the analytical methods for its detection. Chapter Five evaluates the influence of inoculating native Colombian arbuscular mycorrhizal fungi spores isolated from an avocado crop on the growth, physical and anatomical characteristics of corn seedlings. Chapter Six aims to determine in vitro the antifungal potential of the essential oils (EO) of Lippia alba and Lippia origanoides on the mycelial growth of Fusarium sp., Pythium sp., and Phytophthora sp. Chapter Seven isolates and evaluates the growth-promoting capacity of rhizospheric bacteria associated with avocado plantations. Chapter Eight explains the development of solid-liquid extraction, flocculation and adsorption for obtaining steviol glycosides from the leaves of Stevia rebaudiana. Chapter Nine focuses on flocculation for the clarification of Stevia rebaudiana aqueous extract.

This volume includes seven chapters that present recent updates in the field of agricultural research. Chapter One discusses the role of stress-responsive genes and protein kinases in Arabidopsis thaliana to overcome abiotic stress. Chapter Two provides an overview of the cultivation and production of almonds, as well as the characteristics and composition of the seed. Chapter Three describes the botanical and chemical properties as well as usage areas and health effects of the Stevia rebaudiana plant. Chapter Four argues that GMO-free RNAi crops can contribute immensely towards sustainable agriculture and global food security in the near future. Chapter Five analyzes the agricultural conditions of Kalapara Upazila’s five unions and eight mouzas. Chapter Six discusses eco-friendly management strategies of diseases and insect pests of mushrooms. Lastly, Chapter Seven studies fungi of the genus Fusarium and their impact as a pathogen on cereals in Russia.
Trace Metals: Sources, Applications and Environmental Implications
Oscar M. Thygesen
In series: Analytical Chemistry and Microchemistry
Publication Date: 04/12/2022
177 pp.
Softcover: 978-1-68507-797-6. $79.00
e-book: 978-1-68507-827-0. $79.00

Trace metals are necessary for the proper functioning of living organisms and are absorbed by the body through diet or environmental exposure. However, excessive intake of trace metals can cause health problems. As such, the study of the presence of trace metals in the environment and their effects on health is important. This volume includes four chapters that provide details about trace metals in various contexts. Chapter One explains the nutritional zinc requirements of humans and discusses the usefulness of different supplements in various applications. Chapter Two addresses the different aspects of metal-microbial interactions, focusing on soil and sediment ecosystems. Chapter Three addresses pollution of heavy metals, emission sources, health implications, and commonly used methods for assessment of pollution. Lastly, Chapter Four assesses possible changes in the geochemical behavior of chromium caused by sediment resuspension in a hypereutrophic estuary that receives domestic and industrial effluents daily.

An Introduction to Drug Carriers
Muhammad Ashrafuzzaman, D.Sc. (Biophysicist and Condensed Matter Scientist, King Saud University's Biochemistry Department of College of Science, Riyadh, Saudi Arabia)
In series: Biochemistry Research Trends
Publication Date: 09/27/2021
213 pp.
Hardcover: 978-1-68507-148-6. $160.00
e-book: 978-1-68507-157-8. $160.00

The book An Introduction to Drug Carriers provides a broad overview of drug carriers. Drug carriers play medically important roles in delivering drugs to pinpointed regions in biological systems. The cell hosts most of the disorders related to diseases. Therefore, the cell is also considered the main target region for most drugs. Some of the cellular compartments, especially cell-based membranes, which are geometrically constructed with both hydrophobic and hydrophilic layers/boundaries, often appear as barriers against vital candidate drugs’ journey to the target regions. Besides, there are off-target structures that need to be avoided for drugs to get adsorbed. Otherwise, drugs may cause unbearable off-target binding originated toxicity, which would reduce the efficacy of the drugs. Appropriate choice of drug carriers may help specific drugs to get conjugated and be delivered to their optimal target structures. Biophysical and biochemical characterization of drug carriers concerning their role as vehicles to carry certain drugs may be obtained using engineering techniques. Manipulation in the cellular sites that cause disturbances in drug delivery is another biomedical option utilized to ensure smooth drug delivery. Various theoretical and experimental techniques are utilized to address all these issues related to drug carriers. The collected chapters written by experts in the field will help the subject matter be understood thoroughly.
Circadian Rhythms and Their Importance
Rajeshwar P. Sinha, PhD (Laboratory of Photobiology and Molecular Microbiology, Centre of Advanced Study in Botany, Institute of Science, Banaras Hindu University, Varanasi, Uttar Pradesh, India)
In series: Biochemistry Research Trends
Publication Date: 01/21/2022
355 pp.
Hardcover: 978-1-68507-547-7. $230.00
Circadian rhythm is the mechanism for measuring time by organisms in units of around 24 hours. Almost every organism has the ability to predict daily events such as sunrise and sunset, which is essential for their optimal survival strategies. Circadian rhythms persist even in the absence of time cues and ensure that behavioral, physiological and metabolic processes align with changing environmental conditions. Most organisms, irrespective of whether they are prokaryotic or eukaryotic, have evolved certain mechanisms to sense their external environment in order to prepare a biological response. Often, these biological responses result in changes in physiology and biochemistry of organisms for the optimization of their survival. There is no unified mechanism among organisms by which sensory environment can be applied to control their lifespan. In humans, disruptions of the circadian rhythm may have an increased risk of age-related neurodegenerative diseases such as cancer, diabetes, etc. This book encompasses the most recent knowledge and modern trends in the field of circadian rhythms research. It is also expected to provide a must-read guide for beginners as well as advanced researchers in this field of study. Undergraduate, post-graduate and research scholars of several disciplines such as chemistry, botany, microbiology, biochemistry, biotechnology, bioinformatics, life sciences and biomanufacturing will benefit from this book.

Terpenes and Terpenoids: Sources, Applications and Biological Significance
Charles A. Davies
In series: Biochemistry Research Trends
Publication Date: 02/02/2022
221 pp.
Hardcover: 978-1-68507-559-0. $195.00
e-book: 978-1-68507-595-8. $195.00
Terpenoids are the secondary metabolites of plant derivatives, mainly found in essential oils derived from higher plant sources. Terpenes are simple hydrocarbons, whereas terpenoids are modified terpenes containing different functional groups and oxidized methyl groups. This volume includes seven chapters examining topics related to terpenes and terpenoids. Chapter One describes mono- and sesquiterpenoids isolated from plants of the Inula L. genus and discusses biological activity of extracts and individual sesquiterpene lactones. Chapter Two covers the nature of terpenoids together with their biological activities and their isolation from endemic species from the Asteraceae family growing in Algerian Sahara and heteropolyacid salts and hydrogen peroxide to epoxidize terpenic alcohols. Chapter Four examines the phyto-active components of terpenoids as sources of insecticide. Chapter Five describes how organic compounds containing functional groups like ketone, alcohol, and epoxide undergo rearrangement with sulfuric acid, yielding unexpected results. Chapter Six focuses on alkoxylation of terpenes over heterogenous catalysts. Lastly, Chapter Seven presents a discussion about the importance of Brazilian flora for herbal medicine.

Volatile Oils: Production, Composition and Uses
Sunita Singh, PhD (Assistant Professor, Department of Chemistry, Navyug Kanya Mahavidyalaya, University of Lucknow, Lucknow, Uttar Pradesh, India)
In series: Biochemistry Research Trends
Publication Date: 10/22/2021
393 pp.
Hardcover: 978-1-68507-186-8. $230.00
e-book: 978-1-68507-241-4. $230.00
“Volatile Oils: Production, Composition and Uses” provides a comprehensive perspective on the pertinent aspects of volatile oils, their chemistry, and their different nutraceutical properties such as antimicrobial, antioxidant and anticarcinogenic, which can be beneficial for biochemists, chemical engineers, physicians, food and agro-technologists.
for the development of various products. Readers will find a deep and complete perspective regarding spices and their chemical composition. The book comprises 11 chapters which cover the various aspects of volatile oils including their historical background, their extraction methods, their chemical composition and various applications in pharmaceutical and health industries. The importance of the study of volatile oil components as “green” corrosion regulators for applications in human health with additional antimicrobial properties is also documented in the book. The use of volatile oils in dental applications is mainly linked to their antimicrobial properties, useful for preventing the infections associated with dental implants and for their ability to form polymeric nanofilms on dental implants with proven antibacterial properties. Nutraceutical and life sciences companies and R&D labs will be able to utilize the information given in this book for research and development activities related to the application of spices and proactively explore and leverage the healing, nutritive and health benefits of volatile oils. The beneficial physiological properties discussed in this book will help the pharmaceutical sector also in developing preventive measures against pathologies.

Chemical Elements

Boron: Advances in Research and Applications
Lynn McConnell
In series: Chemistry Research and Applications
Publication Date: 11/16/2021
184 pp.
Softcover: 978-1-68507-231-5. $95.00
e-book: 978-1-68507-259-9. $95.00
This five chapter book reviews boron properties and its applications: Presents various aspects of physiological role of boron in plants. Explore the importance of boron for living organisms, boron toxicity in these organisms, the microbial diversity in environments containing boron, and the applications of boron and boron-containing compounds. Boron is an essential nutrient element for plants. This study reviews the bioremediation of boron contaminated sites by bacteria related with the accumulation of boron. This work addresses the reactive features of boron and the formation of special structures before examining the fundamental chemistry behind Boron-organosilicone oxide polymers along with the effects of additives during synthesis. Finally, boron-silica compounds with and without magnetic content are characterized using various methods. Based on the resulting properties, interesting potential applications are discussed.

Chemical Engineering

The Applications of Hydrogels
Mario Daniel Ninago, PhD(Universidad Nacional de Cuyo, Facultad de Ciencias Aplicadas a la Industria (FCAI-UNCUYO), San Rafael, Mendoza, Argentina; Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Buenos Aires, Argentina), Olivia Valeria López, PhD(Departamento de Química, Universidad Nacional del Sur (UNS), Bahía Blanca, Buenos Aires, Argentina; Planta Piloto de Ingeniería Química (PLAPQUI) Bahía Blanca, Buenos Aires Argentina) and María Fernanda Horst, PhD(Universidad Nacional del Sur (UNS) of Bahía Blanca, Argentina)
In series: Chemistry Research and Applications
Publication Date: 11/05/2021
288 pp.
Hardcover: 978-1-68507-219-3. $195.00
e-book: 978-1-68507-256-8. $195.00
The present book summarizes the basic and fundamental aspects of hydrogel use in different industries, such as biotechnological, pharmaceutical, pollutant removal, circular economy, and food applications, among others. This book provides a useful resource for professionals and researchers actively involved in the development of synthetic and natural hydrogels, as well as postgraduate students and postdoctoral research fellows in materials sciences. The book is divided into six chapters contributed by experts in their research fields in order to provide a clear overview of each topic that describes “The application of hydrogels”.
Environmental Chemistry

Deep Eutectic Solvents: Properties, Applications and Toxicity
Everaldo Silvino dos Santos, PhD (Professor, Chemical Engineering Department, Federal University do Rio Grande do Norte-UFRN, Natal/RN, Brazil), Carlos Eduardo de Araújo Padilha, PhD (Fellow, Chemical Engineering Department, Federal University do Rio Grande do Norte-UFRN, Natal/RN, Brazil), Francisco Canindé de Sousa Júnior, PhD (Professor, Pharmacy Department, Federal University do Rio Grande do Norte-UFRN, Natal/RN, Brazil) and Nathália Saraiva Rios, PhD (Professor, Chemical Engineering Department, Federal University do Rio Grande do Norte-UFRN, Natal/RN, Brazil)

In series: Chemistry Research and Applications
Publication Date: 04/11/2022

287 pp.
Hardcover: 978-1-68507-719-8. $230.00
e-book: 978-1-68507-799-0. $230.00

This book contributes as a rich source of information on the synthesis, main properties, toxicity and applications of Deep Eutectic Solvents (DESs). It covers the viable and sustainable use of these special solvents that due to the versatility of the preparation can be tuned for specific applications. Both hydrophilic and hydrophobic DESs are covered over the chapters. The book covers, in addition to the fundamentals of DESs, their use in extraction processes, in the pre-treatment of biomass, as solvents for catalytic processes and in processes for carbon dioxide capture, among others. The purpose of the book is it can reach a wide audience, so it can serve both as a reference for experienced professionals and to students interested in the field. In this sense, the book contributes to the state of the art in the application of DESs and addresses the challenges that must be faced for the industrial application of these special solvents.

Food Science and Technology

A Closer Look at Polyphenolics
Peter Bertollini

In series: Food Science and Technology
Publication Date: 12/28/2021

237 pp.
Hardcover: 978-1-68507-434-0. $160.00
e-book: 978-1-68507-480-7. $160.00

Polyphenolics are compounds found in plants, such as phenolic acid and flavonoids, that have positive effects on human health and help fight disease. As such, studies of these compounds are valuable for those looking to improve their own health or the health of others. Chapter One addresses the role that polyphenolics plays in the assessment of food integrity and authenticity. Chapter Two studies the potential of regular long-term consumption of various fruit species for reducing diabetes mellitus. Chapter Three provides a platform for the selection of solvent for extraction, column and mobile phase for better separation of polyphenol compounds. Chapter Four presents extraction with subcritical water as a technique for polyphenol isolation. Lastly, Chapter Five attempts to bridge the gap between the different ethnomedical and folklore claims of utilization of Amaranth germplasms against degenerative diseases with matching polyphenol-based chemical data having antioxidant and anti-inflammatory properties.
Bioactive Compounds and their Importance
Gulcin Yildiz, PhD (Associate Professor, Faculty of Engineering, Department of Food Engineering, Iğdır University, Iğdır, Turkey) and Gökçen İzli, PhD (Associate Professor, Faculty of Engineering and Natural Sciences, Department of Food Engineering, Bursa Technical University, Bursa, Turkey)
In series: Food Science and Technology
Publication Date: 12/16/2021
332 pp.
Hardcover: 978-1-68507-361-9. $230.00
e-book: 978-1-68507-397-8. $230.00
Bioactive compounds are found in the natural environment and in food, and can act in the body to promote good health. As such, research on these compounds is valuable for optimizing human well-being. This book includes eleven chapters that explore various aspects of bioactive compounds.

Chapter One provides an overview of recent findings on the effects of different drying techniques on major bioactive compounds of fruits and vegetables. Chapter Two evaluates the effects of different drying temperatures and cutting types on the total phenolic content and antioxidant capacity of red capia pepper during storage. Chapter Three gives an overview on the principal applications related to encapsulation of bioactive compounds from herbal extracts with special attention on the choice of encapsulation agent on the quality of final dry extract. Chapter Four focuses on the role of bioactive compounds present in agro-industrial byproducts, innovative feeds and biotechnologically processed derivatives on animal performance, the quality of the derived animal products, the livestock health status, and the associated environmental benefits. Chapter Five disseminates knowledge of traditional flora using discrete formulations treated for wound healing. Chapter Six highlights the biodiversity of plant sesquiterpenoids as well as their health effects, focusing mainly on modern health problems. Chapter Seven links the importance of phytochemicals in plants to bioactive compounds in the human diet. Chapter Eight describes the most relevant information on bioactive polysaccharides reported in tropical fruits and their relationship with potential beneficial health effects. Chapter Nine collects the significance of marine organisms in natural product research and the application of emerging drugs to this field. Chapter Ten examines the enrichment of eggs and meat with bioactive compounds. Finally, Chapter Eleven reviews the role of lycopene in improving health and highlights the most valuable natural sources of this molecule.

Domestic and Global Food Insecurity
Voski Leone
In series: Hunger and Poverty: Causes, Impacts and Eradication
Publication Date: 11/11/2021
300 pp.
Hardcover: 978-1-68507-318-3. $230.00
e-book: 978-1-68507-349-7. $230.00
Food insecurity—the condition of having inadequate food due to a lack of resources—affected roughly 1 in 10 Americans in 2019, and this number increased during the COVID-19 pandemic. Chapter 1 looks at the food insecurity in America. Although housing assistance programs are designed to free financial resources associated with housing cost burden, household food insecurity is still prominent among low-income, HUD-assisted adults as reported in Chapter 2. Chapters 3 and 4 summarize research on the extent and effects of food insecurity among college students and recent efforts by students, institutions, and governments to reduce food insecurity among this population. Global food security assistance from the United States and other countries and organizations is discussed in Chapter 5. Chapter 6 summarizes how the Coronavirus Disease 2019 (COVID-19) pandemic may affect global food security needs.

Food Processing: Advances in Research and Applications
Myriam Huijs
In series: Food Science and Technology
Publication Date: 02/11/2022
186 pp.
Hardcover: 978-1-68507-570-5. $160.00
e-book: 978-1-68507-581-1. $160.00
This volume includes seven chapters, each of which detail recent advances in research and applications of food processing. Chapter One describes symbiotic foods and their effects on consumer health, mainly on obesity and gastrointestinal diseases, covering their mechanisms of action, types, application, and legislation, as well as the impact that
probiotics and prebiotics have on diseases. Chapter Two analyzes current data on different polyphenol nanoformulations as alternative chemotherapeutic and chemopreventive treatments of cancer. Chapter Three identifies the phytochemicals present in purslane, its health benefits, and its applications in the food industry. Chapter Four explores the potential of amaranthus spp. as a high nutritional value food alternative. Chapter Five describes the fundamentals of refrigeration, its types, recent developments and multi-dimensional applications in food industries. Chapter Six synthesizes some fundamental aspects of the relationship between bee pollen’s constituents and its bioactivity, in light of recent publications which reveal its potential as a healthy product. Finally, Chapter Seven explores the potential of aguamiel as a healthy option in the food industry.

Nutraceuticals: Food Applications and Health Benefits
Anita Kumari, PhD (Assistant Professor, Department of Nutrition Biology, School of Interdisciplinary and Applied Life Sciences, Central University of Haryana, Mahendergarh, Haryana, India) and Gulab Singh, PhD (Assistant Professor, Department of Biotechnology, Maharaja Agrasen University, Solan, Himachal Pradesh, India)
In series: Food Science and Technology
Publication Date: 01/14/2022
394 pp.
Hardcover: 978-1-68507-488-3. $230.00
e-book: 978-1-68507-512-5. $230.00

Nutraceutical and functional foods are in trend nowadays. Consumers are showing great interest in adapting nutraceutical/functional foods in their regular diet because they not only provide good nutrition but also have therapeutic properties. Various nutraceuticals have different mechanisms of action and are hence used as alternative pharmaceuticals for mitigating health problems. Research in the field of health-promoting foods has been escalating since the last decade. In recent years, a growing interest related to nutraceuticals has arisen among different vulnerable groups of the society because they act as an alternative to modern medicine.

This book will provide the latest scientific information on different aspects of nutraceuticals and functional foods. From production to processing, and marketing of nutraceuticals, one must have knowledge of national regulations on nutraceuticals. The contents of this book have been formulated by considering the syllabus of UG and PG level in various central, state and other deemed and private universities and the book is a valuable resource for students, researchers, academicians, food technologists, food scientists, nutritionists, health professionals and for those who are involved in the agriculture, pharmaceutical and food processing sectors.

Students and leading researchers can find information related to nutraceuticals, functional foods, strategies for formulation of functional foods, the role of nanotechnology in the food industry, extraction of nutraceuticals, role of probiotics, prebiotics, synbiotics for health benefits, bioactive proteins and peptides, role of nutraceuticals in disease management, role of omega 3 fatty acid and herbs in health and diseases as well as role of nutraceuticals in food packaging in a single book. The book will prove to be a valuable reference book for graduate as well as post-graduate students in the fields of Food Science and Nutrition, Clinical Nutrition and Dietetics, Applied Nutrition, Nutrition Biology, Food Science and Nutrition Food Technology/Food Engineering, Food Biotechnology, Food Microbiology, Post-Harvest Technology, Biochemical Engineering and Life Sciences.

Tables and schematic figures have also been given in the book chapters for better understanding and to simplify the complex matter. References including textbooks, journals, and relevant websites are given. Teachers, students and researchers can have direct access to the references used. This book is a complete package for students, researchers and industry personnel working in this field.

The Book of Flavonoids
Chao-Hui Feng, PhD (Assistant Professor, School of Regional Innovation and Social Design Engineering, Faculty of Engineering, Kitami Institute of Technology, Japan; Visiting Researcher, RIKEN Centre for Advanced Photonics, Japan) and Juan Francisco García Martín, PhD. (Associate Professor, Department of Chemical Engineering, University of Seville, Seville, Spain)
In series: Plant Science Research and Practices
Publication Date: 12/28/2021
362 pp.
Hardcover: 978-1-68507-376-3. $230.00
e-book: 978-1-68507-446-3. $230.00

In this book, two of the primary sources of flavonoids, i.e. plants and fruits (oranges to be specific) are comprehensively reviewed, along with their flavonoid content and
antioxidant activity (including action against COVID-19) and toxicity. Besides, a general overview of the analytical techniques for flavonoids determination in their natural sources is provided. Finally, a detailed description of flow techniques and their evolution, together with their role in the automation of the sample pretreatment and its combination with separation techniques, is also included.

General Chemistry

Advances in Chemistry Research. Volume 70
James C. Taylor
In series: Advances in Chemistry Research
Publication Date: 10/12/2021
286 pp.
Hardcover: 978-1-68507-183-7, $250.00
e-book: 978-1-68507-209-4, $250.00
This edited volume comprises five chapters, each detailing recent updates in chemistry research. Chapter One describes different types of polymer electrolytes and their preparation methods as well as ion transport mechanisms, methods of improving properties, and techniques for evaluating their structure and properties. Chapter Two analyzes the scopes and limitations of chromatography, NMR spectroscopy, and UV spectroscopy for assigning fullerene C60 regioisomeric multiadducts. Chapter Three focuses on electrochemical techniques used for developing insulin sensors of high specificity and sensitivity. Chapter Four presents selected contemporary achievements of different computational methods in modeling of natural and newly synthesized compounds with determined antibacterial, antifungal and antiviral activities. Lastly, Chapter Five reviews some metal porphyrins of manganese, cobalt, vanadium, and chromium and their catalytic applications.

Advances in Chemistry Research. Volume 71
James C. Taylor
In series: Advances in Chemistry Research
Publication Date: 02/25/2022
198 pp.
Hardcover: 978-1-68507-616-0, $250.00
e-book: 978-1-68507-702-0, $250.00
This volume includes eight chapters describing recent advancements in chemistry research. Chapter One compares commercially available equipment with a novel aerosol detection and measurement method. Chapter Two is a review of preparation methods and biological activity of amino acid Schiff base compounds and their metal complexes. Chapter Three provides an insight into the antioxidant activity of eugenol, studied from its various sources and through different methods, as well as its applications in the food industry for the purpose of extending shelf life of various products. Chapter Four discusses the synthesis, luminescence and biological activities of imidazole and bicyclic imidazole derivatives. Chapter Five analyzes the current and emerging applications of various encapsulation techniques such as spray-drying, fluidized bed coating, spray-chilling, coacervation, extrusion, emulsification and freeze-drying for delivery of eugenol. Chapter Six investigates the mechanism, kinetics and thermochemistry of the gas phase reactions of methyl fluorooacetate. Chapter Seven examines in detail the health effects and sources of caffeine. Finally, Chapter Eight evaluates the cytotoxic, genotoxic, and oxidative effects of octodrine when consumed alone or with caffeine.

Advances in Chemistry Research. Volume 72
James C. Taylor
In series: Advances in Chemistry Research
Publication Date: 04/11/2022
291 pp.
Hardcover: 978-1-68507-795-2, $250.00
e-book: 978-1-68507-802-7, $250.00
This volume includes six chapters describing recent advancements in chemistry research. Chapter One reviews the recent progress and future prospects of blue emitters in view of efficiency and stability. Chapter Two examines the composition of cottonseed, cottonseed oil as a fuel, transesterification of cottonseed oil, and fuel properties of cottonseed oil methyl ester. Chapter Three examines the existing body of literature on the removal of various toxic cations by organobentonites in static and dynamic conditions. Chapter Four discusses the role of superoxide dismutase in oxygen elimination systems and the utility
of superoxide dismutase in future therapeutics. Chapter Five reviews recent theoretical attempts to address strong electron correlation effects within the quantum emitter coupled to plasmonic metal nanoparticles. Finally, Chapter Six investigates the effect of cottonseed oil biodiesel addition in diesel fuel on the combustion, performance, and exhaust emissions of a single-cylinder diesel engine.

Polypropylene: Advances in Research and Applications
Théodore Marleau
In series: Chemistry Research and Applications
Publication Date: 12/03/2021
215 pp.
Hardcover: 978-1-68507-378-7. $160.00
e-book: 978-1-68507-401-2. $160.00
Polypropylene is a thermoplastic polymer with a wide variety of applications. Researchers are continually finding new opportunities for the use of polypropylene, as discussed in the five chapters of this book. Chapter One aims to show the feasibility of post-consumer polypropylene recycling to obtain 3D printer filaments and presents some necessary characteristics of the materials used in FDM technology to ensure final parts with good properties. Chapter Two provides an overview of polypropylene nanocomposites, types of nanofiller, and their applications in the industry. Chapter Three explores the potential of polypropylene-based composites as an alternative to conventional radiation shielding materials. Chapter Four reviews polymer monoliths’ recent environmental and bioanalytical application in several polypropylene tubes, such as pipette tips, syringe barrels, spin columns, and ink-pen tubes. Lastly, Chapter Five investigates the effects of calcium, aluminum and zinc stearates as pro-oxidant agents on the degradation of polypropylene bags under natural weathering.

Industrial Chemistry

Corrosion Inhibitors: An Overview
Raymond Wilkerson
In series: Chemistry Research and Applications
Publication Date: 09/27/2021
208 pp.
Hardcover: 978-1-68507-012-0. $160.00
Corrosion, which refers to the gradual destruction of materials by chemical and electrochemical reactions with their environment, presents a costly problem for a wide variety of industries. As such, several methods have been developed to inhibit the progression of corrosion. This monograph contains four chapters that explain these corrosion inhibitors in detail. Chapter One overviews fundamental aspects of corrosion inhibitors such as phenomenology, mechanism of corrosion inhibition, and the development of environmentally friendly and sustainable corrosion inhibitors. Chapter Two explains the factors that affect the efficiency of corrosion inhibitors and summarizes the different types of corrosion and their inhibition processes. Chapter Three showcases the various approaches for preventing tin corrosion. Finally, Chapter Four presents most of the aza-heterocycles derivatives which are mentioned in literature for their properties of corrosion inhibitors for steels, metals and alloys, their synthesis, as well as experimental results that have highlighted these materials used for corrosion tests, the proposed mechanisms, acidic or basic media used, and the quantum chemical parameters that are correlated with their properties.

Inorganic Chemistry

A Closer Look at Coordination Complexes
Sandeep Kaur-Ghumaan, PhD (Associate Professor, University of Delhi, India)
In series: Chemistry Research and Applications
Publication Date: 11/05/2021
438 pp.
Hardcover: 978-1-68507-094-6. $230.00
Coordination chemistry plays an important role in the designing of inorganic metal complexes, materials, organo-synthesis, biological systems and catalysis. In A Closer
Look at Coordination Complexes, novel and evolving developments in the field have been described. The book includes chapters on the synthesis of coordination compounds using different ligand combinations (Schiff base ligands, phosphines, thiolates, ligands with N- and S-donors and so on), biological relevance and catalytic applications of the reported metal complexes. Different aspects of metal complexes, viz. structural and coordination properties of the ligands and complexes and applications viz., asymmetric organic transformations, potential anticancer agents, antibacterial-antioxidant-antifungal properties, alkenes epoxidation, olefins polymerization, nitrogen reduction, hydrogen evolution and oxidation and mercury poisoning treatment reviewed by the authors have been delineated in the eight chapters of the book.

**Applications of Layered Double Hydroxides**

*Rajib Lochan Goswamee, PhD (Senior Principal Scientist, Materials Science and Technology Division, CSIR-NEIST, Jorhat, India) and Pinky Saikia, PhD (Assistant Professor, Department of Chemistry, Joya Gogoi College, Khumtai, India)*

In series: *Chemistry Research and Applications*

Publication Date: 12/16/2021

395 pp.

Hardcover: 978-1-68507-355-8. $230.00

e-book: 978-1-68507-381-7. $230.00

Currently, Layered Double Hydroxides (LDH) is a hot area of research on inorganic layered materials. The present book, Applications of Layered Double Hydroxides, edited by Dr. Rjib Lochan Goswamee and Dr. Pinky Saikia, is a collection of articles from various researchers from different parts of the world mainly on structure and property relationships of various types of LDH and their related application prospects. How these application prospects can be related to the most pressing problems of humanity like drug delivery, global warming, green catalysis, electrochemical energy storage and generation etc. are clearly discussed in the articles inside. The book provides a thorough up-to-date review of recent literature on applications of LDH available in the global scientific and technical media. For example, the book lucidly describes the behaviour of LDH nanocarriers in biological fluids, their low cytotoxicity and high levels of cellular internalization, and high drug loading capacity. Similarly, the book examines why hybrid nanocomposites of LDH-MOF are considered promising materials due to their diverse functionality, flexible properties and tailored end-use properties. Likewise, application of LDH in secondary batteries and electro-chemical supercapacitors with a thorough up-to-date review is included in the book. Also, basic research articles on structural properties and measurements of a special class of unique LDH Li-Al-LDHs are included. Editors also have written their own articles on their findings on the prospective application of dispersions of LDH nanocomposites on structured catalysts for green-house gas emission. Overall, the book gives a short glimpse of wonderful opportunities that LDH can provide in solving many global socio-economic problems of today.

**Organic Chemistry**

**A Closer Look at Carvacrol**

*Zak A. Cunningham*

In series: *Chemistry Research and Applications*

Publication Date: 02/08/2022

185 pp.

Softcover: 978-1-68507-627-6. $95.00

e-book: 978-1-68507-634-4. $95.00

Carvacrol is a monoterpenic phenol found in essential oils of aromatic plants such as thyme and oregano. It is used as a food additive and as a fragrance in cosmetic products. As explored in the five chapters of this book, carvacrol also has applications in health due to its antibacterial and antifungal effects. Chapter One includes an overview of the biological and therapeutic properties of carvacrol. Chapter Two discusses carvacrol’s potential as part of a barrier technology in the thermal processing of meat products to limit and control the growth of pathogenic microorganisms. Chapter Three deals with the antibiofilm properties of carvacrol and its potential to control biofilm formation in meat, dairy, and fresh produce industries. Chapter Four provides an in-depth review of the emulsification of essential oils that contain carvacrol, addressing various preparation methodologies and types of stabilizers. Lastly, Chapter Five details strategies, preparation methods, and trends in connection with carvacrol encapsulation.
Polycyclic Aromatic Hydrocarbons: Sources, Exposure and Health Effects

Warren L. Gregoire

In series: Chemistry Research and Applications
Publication Date: 03/04/2022
126 pp.
Softcover: 978-1-68507-626-9. $82.00
e-book: 978-1-68507-685-6. $82.00

Polycyclic Aromatic Hydrocarbons (PAHs) are chemicals that occur naturally in coal, oil, and gasoline, and are also produced when wood, tobacco, and other materials are burned. Exposure to PAHs can lead to negative health consequences, so remediating their presence in the environment is significant. Chapter One uses machine learning and artificial intelligence to explain the behavior of PAHs in indoor and outdoor environments of a university building. Chapter Two discusses PAH exposure and associated effects in elasmobranchs. Chapter Three focuses on the potential effects of plants on the phytoremediation of agricultural soils and freshwater resources contaminated with PAHs. Chapter Four includes a case study of PAHs levels in samples from the fishery industry. Lastly, Chapter Five evaluates potential associations between biliary PAHs, biomorphometric indices and biliverdin applied as a feeding status proxy in mullet (Mugil liza) from a chronically contaminated estuary in Southeastern Brazil.

Special Topics

Cyanide: Occurrence, Applications and Toxicity

Bill M. Torres

In series: Chemistry Research and Applications
Publication Date: 02/15/2022
141 pp.
Softcover: 978-1-68507-619-1. $95.00
e-book: 978-1-68507-670-2. $95.00

While cyanide finds application in myriad industries, its presence in the environment as a pollutant warrants special attention, as exposure to cyanide is harmful or even lethal to humans and animals. This volume includes five chapters that examine cyanide’s industrial applications and methods for reducing its environmental impact. Chapter One introduces electrochemical sensors based on silver and silver sulfide nanoparticles supported on multi-walled carbon nanotubes and hierarchical porous carbon for the detection of low concentrations of free cyanide in water. Chapter Two reviews theoretically predicted cyanide compounds having strong bonding units which can be synthesized under roughly ambient conditions. Chapter Three proposes a parsimonious global cyanide cycle to minimize its presence in the environment. Chapter Four describes commercially available methods for cyanide removal including reverse osmosis, chemical oxidation and biological treatment, focusing on Moving Bed Biofilm Reactor technology. Lastly, Chapter Five examines the efficacy of Fusarium oxysporum for microbial degradation of cyanide to treat wastewater by measuring the heat capacity of its lyophilized biomass using a modulated differential scanning calorimeter.

Fundamentals of Photocatalysis

Orva Auger

In series: Chemistry Research and Applications
Publication Date: 12/06/2021
200 pp.
Softcover: 978-1-68507-374-9. $95.00
e-book: 978-1-68507-417-3. $95.00

In chemistry, photocatalysis refers to the acceleration of a photoreaction in the presence of a catalyst. Various aspects and applications of this process are described in the six chapters of this book. Chapter One addresses the reduction and oxidation of heavy metals by the photocatalytic process to produce less toxic forms, thus reducing pollution. Chapter Two reviews some issues of photocatalytic reactions which may have been overlooked in other reports. Chapter Three deals with the utilization of ZnO-CdO nanoblocks as adsorbent and efficient solar photocatalysts towards efficient cresol blue degradation. Chapter Four explains heterogeneous photocatalysis through the use of titanium and tungsten oxide nanostructures. Chapter Five reports the fabrication and evaluation of TiO2 nanowires supported on graphene and sensitized with Ag in a unique hierarchical three-
dimensional sandwich structure. Lastly, Chapter Six provides an overview of recent achievements in C-N bond formation reactions triggered by visible light-induced DDQ-photoredox catalysis.
Deep Learning and its Applications
Arvind Kumar Tiwari, PhD (Associate Professor, Department of Computer Science and Engineering, Kamla Nehru Institute of Technology Sultanpur, Sultanpur, Uttar Pradesh, India)
In series: Computer Science, Technology and Applications
Publication Date: 11/05/2021
205 pp.
Hardcover: 978-1-68507-185-1. $160.00
e-book: 978-1-68507-246-9. $160.00
In just the past five years, deep learning has taken the world by surprise, driving rapid progress in fields as diverse as computer vision, natural language processing, automatic speech recognition, etc. This book presents an introduction to deep learning and various applications of deep learning such as recommendation systems, text recognition, diabetic retinopathy prediction of breast cancer, prediction of epilepsy, sentiment, fake news detection, software defect prediction and protein function prediction.

Industry 4.0 and Intelligent Business Analytics for Healthcare
Soumi Dutta, PhD (Associate Professor, Institute of Engineering & Management, Ashram Building, Salt Lake Electronics Complex, Kolkata, West Bengal, India), Vinod Kumar Shukla, PhD (Associate Professor, Information Technology Department of Engineering and Architecture Amity University, Dubai, UAE), Shruti Nagpal (Assistant Professor, Computer Science, Worcester State University, MA, USA) and Niranjanamurthy M, PhD (Assistant Professor, Dept. of Computer Applications, M S Ramaiah Institute of Technology, Bangalore India)
In series: Advances in Distributed Computing and Intelligent Data Analytics
Publication Date: 02/25/2022
350 pp.
Hardcover: 978-1-68507-602-3. $230.00
e-book: 978-1-68507-718-1. $230.00
In today’s world, there is nothing permanent except change. We have seen the advent of the Fourth Industrial Revolution or Industry 4.0 over the last couple of years. Now is a perfect time to think about Industry 4.0 technology and leverage its advantages for the benefit of mankind. It cannot prevent the onset of pandemics; however, it can help and has helped prevent spread, educate, warn, and empower those on the ground to be aware of the situation, and noticeably lessen the impact. Industry 4.0 can fulfill the requirements of customized facemasks, gloves, and collect information for healthcare systems for proper controlling and treating of COVID-19 patients. Major technologies of Industry 4.0 are required to solve the problems of this virus. It is useful to provide day-to-day updates of an infected patient, area-wise, age-wise and state-wise with proper surveillance systems. We also believe that the proper implementation of these technologies would help to enhance education and communication regarding public health. These Industry 4.0 technologies could provide a lot of innovative ideas and solutions for fighting local and global medical emergencies.
Today, we need to focus on technologies like mobile, cloud, analytics, robotics, AI/ML, 4G/5G, and high-speed internet; it has become possible to test several innovative approaches to pandemic response. The objective of this book is to bring together leading academic scientists, research scholars and professionals to exchange and share their experiences and research results in Industry 4.0 and Intelligent Business Analytics. This research-oriented book will provide a common platform to all researchers in this domain. It covers different verticals of industry and academics, which is an added advantage of this book.
Common Visual Art in a Social Digital Age
Shalin Hai-Jew (Kansas State University, Manhattan, KS, USA)
In series: Computer Science, Technology and Applications
Publication Date: 03/04/2022
389 pp.
Hardcover: 978-1-68507-664-1. $230.00
e-book: 978-1-68507-748-8. $230.00
“Common visual art” is created by people as a form of self-expression and engagement with others and the broader aesthetic world. Many have no or little formal training in the creation of art. But they draw from a shared humanity even as they express themselves based on a singular and individual vision. Common Visual Art in a Social Digital Age (2022) explores this phenomenon of “common art” from various angles. This collection—in exploring art challenges, online art communities, digital doodling, pseudo-algorithmic art (with humans in the loop), fanart, data art, line art, “survival” alcohol ink paintings in a time of a pandemic, adult coloring books, visual journaling, the monetizing of common art, self-branding strategies of common artists online, common food art, world creating, event-based common art, mass-scale senses of art on the Social Web, 3D art, and 4D art—lays some light initial groundwork to explore this space.

Advanced Decision Sciences Based on Deep Learning and Ensemble Learning Algorithms: A Practical Approach Using Python
S. Sumathi, PhD (Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore, Tamilnadu, India), Suresh Rajappa, PhD (Sr. Director, Enterprise Solutions. KPMG LLP, Dallas TX, USA & Department of Electrical & Electronics Engineering, PSG College of Technology, Coimbatore, Tamilnadu, India), L. Ashok Kumar, PhD (Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore, Tamilnadu, India) and Surekha Paneerselvam, PhD (Department of Electrical and Electronics Engineering, Amrita School of Engineering, Bengaluru, Amrita Vishwa Vidyapeetham, India)
In series: Computer Science, Technology and Applications
Publication Date: 10/12/2021
357 pp.
Hardcover: 978-1-68507-061-8. $230.00
e-book: 978-1-68507-207-0. $230.00
Advanced Decision Sciences Based on Deep Learning and Ensemble Learning Algorithms: A Practical Approach Using Python describes the deep learning models and ensemble approaches applied to decision-making problems. The authors have addressed the concepts of deep learning, convolutional neural networks, recurrent neural networks, and ensemble learning in a practical sense providing complete code and implementation for several real-world examples. The authors of this book teach the concepts of machine learning for undergraduate and graduate-level classes and have worked with Fortune 500 clients to formulate data analytics strategies and operationalize these strategies. The book will benefit information professionals, programmers, consultants, professors, students, and industry experts who seek a variety of real-world illustrations with an implementation based on machine learning algorithms.
Blockchain Technology and Applications III

Jan Veuger, PhD, MRE, BBA, FRICS (Professor Blockchain I, Leading Professor Saxion Blockchain Institute, Saxion University of Applied Sciences; Schools of Finance and Accounting, School of Creative Technology, School of Governance, Law and Urban Development; Hospitality Business School, School of Commerce and Entrepreneurship, School of People and Society Enschede-Deventer-Apeldoorn, The Netherlands)

In series: Computer Science, Technology and Applications

Publication Date: 03/30/2022

338 pp.
Hardcover: 978-1-68507-629-0. $230.00
e-book: 978-1-68507-774-7. $230.00

This book is a result of international collaboration on blockchain technology and application possibilities. In 2021, the Research Group Blockchain of Saxion University in the Netherlands conducted several webinars, conferences, masterclasses, and research projects, many of which are detailed in this volume.

Whereas the first two volumes of Blockchain Applications and Technology dealt with the technology of blockchain and applications for real estate, this volume provides insights on the impact of blockchain on the financial world, new application possibilities, and an extensive study of blockchain and European higher education systems.

This book will contribute to the knowledge of students, researchers, and the work field on an international level to help them enter the next phase of blockchain development. In the coming years, a further acceleration of the development of applications of blockchain and other emerging technologies is expected.

Cloud Computing Infrastructure for Enabling Future Technology Advancement

Sitendra Tamrakar, PhD (Associate Professor, Department of Computer Science and Engineering, Nalla Malla Reddy Engineering College, Hyderabad, Telangana, India), Ritesh Dash, PhD (School of Electrical & Electronics Engineering, REVA University, Bangalore, Karnataka, India) and Suraj Sharma, PhD (Assistant Professor, International Institute of Information Technology, Bhubaneswar, Odisha, India)

In series: Computer Science, Technology and Applications

Publication Date: 04/14/2022

244 pp.
Hardcover: 978-1-68507-615-3. $195.00
e-book: 978-1-68507-800-3. $195.00

Cloud computing solutions have been gaining traction in the commercial world due to their capacity to provide on-demand access to resources, govern the software environment, and augment existing systems. As a result, universities around the world have included cloud computing and related technologies in their curricula, and information technology organizations are speeding up their skill-set evolution in order to better prepare for emerging cloud technologies and public expectations, such as new services.

The primary goal of this book is to present the most up-to-date information about cloud computing technologies and applications. This book provides a detailed introduction of the research fields, recent work, and open research questions in the emerging field of cloud computing. Also, the present book will look for potential research areas and technologies that will make it easier to build a global market for cloud computing services that support scientific, industrial, business, and consumer applications. The benefits associated with cloud computing are enormous, and for rapid development, there is a massive requirement of research and development in this field. Cloud Computing Infrastructure for Enabling Future Technology Advancement aims to make readers and researchers understand the internals of cloud computing and how cloud technology can be used for enabling future technology development.
Green Computing and Its Applications
Sanjay Kumar, PhD (Professor, Head of the Department and Dean of Computer Science and IT, Pt. Ravishankar Shukla University, Raipur, India), Rohit Raja, PhD (Associate Professor, IT Department, Guru Ghasidas Vishwavidyalaya (A Central University), Bilaspur (CG), India), Alok Kumar Singh Kushwaha, PhD (Associate Professor, Department of Computer Science and Engineering, Guru Ghasidas University (A Central University), Bilaspur (CG), India), Saurabh Kumar, PhD (Consultant/Nodal Officer (Academic & Institutional Development), Educational Consultants India Limited (EdCIL), Noida, India) and Raj Kumar Patra, PhD (Professor, Department of Computer Science and Engineering, CMR Technical Campus, Hyderabad, India)

In series: Computer Science, Technology and Applications
Publication Date: 12/16/2021
372 pp.
Hardcover: 978-1-68507-357-2, $230.00
e-book: 978-1-68507-363-3, $230.00

Green computing is the emerging practice of using computing and information technology resources more efficiently while maintaining or improving overall performance. The most common technologies include classification and clustering which are very much in use to predict data. These algorithms also pave the way for overcoming the challenges we face in daily life. Huge data sets are classified and clustered to find out the accurate result. The accuracy and error rate are also calculated for regression, classification and clustering to find out the actual result. The applications include fraud detection, image processing, medical diagnosis, predicting weather etc. Going further, the applications have been increasing in different areas and fields. This book is intended for industrial and academic researchers, scientists and engineers in information technology, green computing, data science, and machine and deep learning.

Programming and Software Development
Requirements of E-Records Integrity
Orlando López (E-Records Quality SME, Lowell, MA, USA)
In series: Research Methodology and Data Analysis
Publication Date: 03/04/2022
327 pp.
Hardcover: 978-1-68507-553-8, $230.00
e-book: 978-1-68507-726-6, $230.00

The worldwide medicines' manufacturing practices regulations depend heavily on reliable data and records. The information properly recorded is the basis for manufacturers to assure the regulatory authorities of product identity, strengths, purity, and safety. The collected electronic records (e-records) also demonstrate that the manufacturing process adheres to the CGMP, including instructions.

An element of reliable records is the integrity of such records. For the relevant stakeholders, such unauthorized alterations will be catalogued that the system is without the proper data integrity (DI) controls and would be deemed a noticeable deficiency. As a state or condition, e-records integrity is a measure of the validity and fidelity of related data.

Based on the Universal Electronic Records Management (ERM) Requirements, Version 2.03 published by the National Archives and Records Administration (NARA), this book covers the requirements applicable to DI in the medicines’ manufacturing practices regulations, pharmaceutical and biotechnological.

This book presents the bounded characterization of e-records handling systems. The reader will have a reference of over fifty-three requirements that need to be agreed upon between the relevant stakeholders.
Special Topics

Horizons in Computer Science Research. Volume 21
Thomas S. Clary
In series: Horizons in Computer Science
Publication Date: 02/25/2022
227 pp.
Hardcover: 978-1-68507-677-1. $250.00
e-book: 978-1-68507-684-9. $250.00

This volume includes six chapters presenting some of the latest updates in computer science research. Chapter One considers possible future directions as to the role of law in relation to cloud computing and related services and how this could offer additional protection for service users. Chapter Two presents an overview of mechanisms for malware detection and response. Chapter Three presents some of the most common cybersecurity problems connected to the COVID-19 pandemic. Chapter Four describes a consistent and suitable plan for IT disaster recovery. Chapter Five provides a comprehensive survey of resource and power management schemes for in-band device-to-device communications. Lastly, Chapter Six presents technologies and approaches developed for digitization of old Romanian documents.

EARTH SCIENCES

Mineralogy

Magnetite: Properties, Occurrence and Applications
Manuel J. Wolcott
In series: Geology and Mineralogy Research Developments
Publication Date: 10/22/2021
133 pp.
Softcover: 978-1-68507-194-3. $82.00
e-book: 978-1-68507-245-2. $82.00

Magnetite is a naturally occurring iron-oxide mineral with applications in several industries. This monograph includes five chapters that detail various aspects of magnetite. Chapter One focuses on understanding magnetite and its modifications in the context of the cancer treatment modality magnetic hyperthermia. Chapter Two examines various aspects of synthesis and characterizations of magnetic nanoparticles, surface functionalization and enzyme immobilization with improved catalysis, stability, and reusability. Chapter Three presents data on the effect of magnetoacoustic emission and its relation to the behavior of the domain structure of magnetites formed under various conditions. Chapter Four highlights the detection of trace levels of pesticides and drugs in different environmental samples by using magnetite-molecularly imprinted polymers. Lastly, Chapter Five discusses the methods of synthesis and typical characteristics of magnetite-based nanocomposites that can be used for different applications.

Special Topics

Horizons in Earth Science Research. Volume 22
Benjamin Veress and Jozsi Szigethy
In series: Horizons in Earth Science Research
Publication Date: 09/27/2021
270 pp.
Hardcover: 978-1-68507-102-8. $250.00
e-book: 978-1-68507-167-7. $250.00

This edited volume includes five chapters, each detailing recent advancements in earth science research. Chapter One explores the role of artificial intelligence in issuing more accurate and timely forecasts of summer monsoon rainfall. Chapter Two describes the process of recycling magnets to obtain rare earth elements as well as the potential economic, environmental, and strategic advantages of doing so. Chapter Three highlights
the necessity of moving from a conventional linear economy to a circular economy in which the value of electronic waste is maximized through reusing, recycling, remanufacturing, and refurbishing. Chapter Four reviews and discusses the recent trends, developments, and future perspectives of direct and chemical recycling techniques of nonmetal fractions from electronic waste. Lastly, Chapter Five overviews the application of remote sensing and geographic information systems in agriculture and natural resource management.

**ENVIRONMENTAL SCIENCES**

**Air Pollution and Industrial Hygiene**

*An In-Depth Look at Carbon Emissions*

**K. J. Sreekanth, PhD (Research Scientist, Energy and Building Research Center (EBRC), Kuwait Institute for Scientific Research (KISR), Kuwait)**

In series: *Pollution Science, Technology and Abatement*

Publication Date: 11/05/2021

207 pp.

Hardcover: 978-1-68507-190-5. $160.00

While sustainable growth confronts a progressively decisive role, and governments embrace measures to authorize reduced carbon emissions, understanding pioneering methods to provide supply chains in an environmental context epitomizes a significant purpose in diverse sectors. This book, *An In-depth Look at Carbon Emissions*, concentrates on carbon emissions in different sectors owing to energy use and associated features. It gives an overview of recently established systems, practices, methods, and strategies accompanied by exploiting sufficient source examination of carbon emissions that are released from fossil fuel/hydrocarbon reservoirs, automobiles, transportation, agricultural terrains, farms, buildings, and so forth. In recent years, global carbon emissions have reached an all-time high and are increasing. It is high time that we pay specific consideration to carbon emissions and comprehend potential solutions, especially to meet the Paris climate agreement objective. This book will offer established approaches to cut carbon, with studies on transportation, home energy use, energy consumption, as well as how best to inspire the workplace and community by behavior. This book aims at empowering readers to meet the possibility of low carbon living to challenge our society’s utmost threats. This book will surely provide state-of-the-art materials in abundance for implementing energy conservation measures and carbon emission reduction.

*Organophosphates: Detection, Exposure and Occurrence. Volume 1: Impact on Health and the Natural Environment*

**Tamara Lazarević-Pašti, PhD (University of Belgrade, VINČA Institute of Nuclear Sciences – National Institute of the Republic of Serbia, Department of Physical Chemistry, Belgrade, Serbia)**

In series: *Environmental Remediation Technologies, Regulations and Safety*

Publication Date: 02/25/2022

376 pp.

Hardcover: 978-1-68507-652-8. $230.00
e-book: 978-1-68507-724-2. $230.00

Organophosphates are widely used nowadays. They have applications as pesticides, drugs, plasticizers, flame retardants or chemical warfare agents. Their acute toxicity is ascribed to the inhibition of acetylcholinesterase, a key enzyme in the transmission of nerve impulses in animals. Their toxic effects are manifested by the accumulation of acetylcholine and can lead to paralysis or death. Organophosphates also inhibit the other enzymes playing important roles in various biochemical processes. Organophosphate poisoning therapy is based on the application of specific antidotes as well as non-specific and symptomatic procedures.

In this contribution, the authors overview the organophosphates’ impact on human health and the environment, their various applications, acute exposure and possible treatments. In Volume 1, special attention was given to the connection of organophosphate exposure to cancer, synaptic vulnerability and depression development. The current state of knowledge and the future perspectives regarding their use, regulations, fate in the environment, biomonitoring, routes of exposure and legislation are reviewed. The detection and remediation of organophosphates in the environment using ionic liquids,
Organophosphates are widely used nowadays. They have applications as pesticides, drugs, plasticizers, flame retardants or chemical warfare agents. Their acute toxicity is ascribed to the inhibition of acetylcholinesterase, a key enzyme in the transmission of nerve impulses in animals. Their toxic effects are manifested by the accumulation of acetylcholine and can lead to paralysis or death. Organophosphates also inhibit the other enzymes playing important roles in various biochemical processes. Organophosphate poisoning therapy is based on the application of specific antidotes as well as non-specific and symptomatic procedures.

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Urban Air Pollution and Avenue Trees: Benefits, Interactions and Future Prospects
Abhijit Sarkar, PhD (Assistant Professor, Laboratory of Applied Stress Biology, Department of Botany, University of Gour Banga, Malda, West Bengal, India) and Sujit Das, M.Phil. (Research Student, Laboratory of Applied Stress Biology, Department of Botany, University of Gour Banga, Malda, West Bengal, India)

In series: Air, Water and Soil Pollution Science and Technology
Publication Date: 12/17/2021
304 pp.
Hardcover: 978-1-68507-175-2. $230.00
e-book: 978-1-68507-474-6. $230.00

Around the world, cities provide plenty of opportunities such as better education, advanced health treatment facilities, better employment, commerce and trade as compared to rural areas. Therefore, more than half the world’s people live and work together in urban communities and it is projected that by the year 2030, three out of five people will stay in cities. The unrestrained and rapid growth of cities has also brought environmental degradation and causes many serious problems such as worsening of air quality, loss of natural habitat and species diversity, and increased human health risks associated with heat waves, noise and crowding. In most urban areas of developing countries, a variety of harmful air pollutants such as particulate matter, carbon monoxide, nitrogen and sulfur oxides, and polycyclic aromatic hydrocarbons are emitted from a variety of sources, mainly the burning of wood, fossil fuels and vehicular emissions, which adversely affects the health of human beings, animals and other living creatures. In the urban environment, trees provide many economic, social and environmental benefits to people, such as aesthetic beauty, improvement of property values, erosion prevention, storm water management, noise reduction, mental health development and crime reduction. In addition, trees help cool the air by shading surfaces that otherwise would absorb the sun’s energy and then reradiate it out as heat. Trees also cool the ambient air. Urban trees on average reduce air temperatures on summer days by 2-4°F, although in some circumstances the cooling effect can be even larger. Trees also sequester carbon, helping to mitigate climate change.
The efficiency of atmospheric cleansing by trees in congested cities could be improved by planting more trees other than shrubs or herbs. Generally, avenue trees act as living filters to decrease pollution through absorption, accumulation and detoxification. Trees remove gaseous air pollutants such as ozone, sulphur dioxide, and nitrogen dioxide mainly by uptake via leaf stomata, although some gases are removed by the plant surface. Once inside the leaf, gaseous air pollutants diffuse into intercellular spaces and may be absorbed by water films to form acids or react with inner leaf surfaces. Though some particles can be absorbed into the tree, most particles settle on the branches, leaves and twigs of plants and are washed out by the rain. Throughout the world, different advanced technologies such as smog-free towers in the Netherlands and adhesive roads for particulate matter in London have been applied. However, these technologies are extremely costly and unaffordable for countries like India and therefore the most eco-friendly and cost-effective way is plantation of tolerant tree species alongside highways, city streets, in parks, and in residential yards.

Environmental Conservation

Ecological Reciprocity: A Treatise on Kindness
Michael Charles Tobias, PhD (President, Dancing Star Foundation, Tesuque, New Mexico, USA) and Jane Gray Morrison (Senior Vice President, Dancing Star Foundation, Tesuque, New Mexico, USA)
In series: Conservation Biology and Biodiversity
Publication Date: 10/12/2021
328 pp.
Hardcover: 978-1-53619-957-4. $110.00
e-book: 978-1-68507-064-9. $110.00
This elegant treatise examines the nature of kindness through the fascinating lenses and contexts of ancient, medieval and contemporary philosophy, natural history, theories of mind, of natural selection, eco-psychology and sociobiology. It challenges the reader to consider the myriad potential consequences of human behavior, examining various iconicographic moments from the history of art and science as a precursor to the concept and vital potentials for ecological conversion.

Focusing on the fundamental mechanisms of reciprocity among humans, other species, communities and nations, Tobias and Morrison lead readers on a remarkable journey whose itinerary, and the provocative questions explored, seek to affirm a pattern in evolution and in human thought that is emphatically oriented towards benevolence, not tyranny.

Prosociality in all species – making others happy, kind gestures at any and every juncture of life – has, as a discipline of enquiry, enjoyed a social scientific renaissance during the last decade. Can natural selection move rapidly enough to meet that ultimate challenge? Can our species re-evolve in real time, moving from the ideas, to the ideals, to their applied engineering in a real world that is ecologically hemorrhaging? Which all the critical moral and cognitive changes in social communion such new human nature, as the Authors suggest, clearly requires?

This groundbreaking work of ecological philosophy, with its roots in ancient Greek thought, represents a radical break with nearly every traditional scientific paradigm, in exploring the intuitive geography and dramatic questions of ourselves – each and every one of us – that will prove crucial to the survival of our species, and all those we co-habit this miraculous planet with.

The Quantum Biosemiosphere
Michael Charles Tobias, PhD (President, Dancing Star Foundation, Tesuque, New Mexico, USA) and Jane Gray Morrison (Senior Vice President, Dancing Star Foundation, Tesuque, New Mexico, USA)
In series: Environmental Research Advances
Publication Date: 01/07/2022
230 pp.
Hardcover: 978-1-68507-366-4. $160.00
e-book: 978-1-68507-483-8. $160.00
Increasingly, we are finding that the web of communication between different species of animals and plants is quite complex, and can be described as spheres having much broader influences than we had previously supposed. For generations, people looked at forests and saw individual trees. But what they didn’t see was that the trees were connected below the ground by fungal mycelia that allowed nutrients to flow from one tree to another, as well as other chemical messages. In effect, the fungal mycelia are like the internet connecting trees within a forest, allowing the trees to “talk” to one another.

Ecological communities, or biosemiospheres, are made up of many different species of plants and animals that depend on each other for the flow of energy. There are herbivores, carnivores, detritivores, predators and prey, primary producers such as plants and trees, and the interactions of all of the members of an ecological community can be modeled by the flow of energy within that community. While we look at all of the component species of an ecological community and see solid
objects in the form of plants and animals, quantum theory tells us that these are really bundles of energy within a broader energetic field, currently hypothesized as the Higgs Field that connects everything. From the perspective of quantum theory, we can look at all of the species as bundles of energy that they exchange as they communicate, eat each other, die, and decompose. In that sense, a biosemiosphere is really a quantum biosemiosphere.

This book will provide you with a lot of delights. First, there is the genius of taking such a breathtaking large view of the biotic world and placing it into semiotic and quantum terms. Then there is a rigorous philosophic discussion of why this is important and why we must take it seriously. Finally, there is a sprinkling of allusions throughout, that are a delight to chase down and savor, the way that you would savor a fine wine over an intellectual conversation with friends who think outside the box.

Special Topics

**Advances in Environmental Research. Volume 83**  
*Justin A. Daniels*  
In series: *Advances in Environmental Research*  
Publication Date: 09/17/2021  
260 pp.  
Hardcover: 978-1-68507-078-6. $250.00  
e-book: 978-1-68507-112-7. $250.00

This edited volume consists of seven chapters, each describing a recent advancement in the field of environmental research. Chapter One reviews the ecologically beneficial, alternative technique of phycoremediation that involves the use of algal species for remediating the inorganic and organic effluents produced and released from shrimp aquaculture ponds. Chapter Two reviews the role of liquid chromatography techniques in the analysis of fullerenes and analyzes the occurrence of this family of compounds in the environment. Chapter Three argues that medical consequences of low-dose exposure to ionizing radiation are overestimated, which contributes to the under-utilization of nuclear power. Chapter Four deals with the current research activities related to different synthetic methods of g-C3N4 based nanocomposite materials and their application as an effective photocatalyst towards removing toxic organic pollutants such as dyes and phenols. Chapter Five presents a carbon sequestration design model system that can monitor, calculate and predict how much carbon can be absorbed by proposed plant species at a certain period. Chapter Six uses computational fluid dynamics to present recommendations for the most effective plantation strategies for urban vegetation to reduce pollution. Finally, Chapter Seven applies an importance-performance analysis to evaluate the condition of urban parks in Hong Kong.

**Advances in Environmental Research. Volume 84**  
*Justin A. Daniels*  
In series: *Advances in Environmental Research*  
Publication Date: 11/05/2021  
248 pp.  
Hardcover: 978-1-68507-176-9. $250.00  

In this volume, various scientific advancements concerning environmental research are presented. Chapter One outlines the connections between modern slavery and deforestation, highlighting issues faced by communities within and close to the natural resources protected by the forest, and solutions for the protection of both people and nature. Chapter Two emphasizes recent understanding on the role of various environmental factors in control of reproductive and associated behaviors in songbirds. Chapter Three investigates the impact of black carbon, released by the incomplete combustion of fossil fuels and consisting of aggregates of nanospheres, on climate. Chapter Four considers the behavior of the submerged macrophyte Elodea canadensis, one of the most widely spread species of aquatic plants in the Yenisei River, in connection with radioactive contamination. Lastly, Chapter Five advocates for the restructuring of the forest sector’s governance in Madagascar to reduce deforestation and preserve species richness.
This edited volume consists of seven chapters, each describing a recent advancement in the field of environmental research. Chapter One reviews the Brazilian Program for Production and Use of Biodiesel (PNPB) in the 2001-2013 period, considering its effects on social inclusion, its potential direct and indirect influence on deforestation, and associated violence in the definition of land property rights. Chapter Two analyzes the advances and setbacks of Brazilian climate policy. This analysis is fundamental to understanding the turning point in the conduct of this policy, from which some of the setbacks have emerged in fulfilling commitments to reduce greenhouse gas (GHG) emissions. Chapter Three in this context, various techniques based on electrochemical principles have been widely used for the detection process using metal and metal oxides as electrode materials. Thus, the current article focuses on the compilation of recent developments in As (III) electrochemical detection and their limit of detections and future scopes. Chapter Four summarizes NO biosynthesis, functions, NO-signaling pathway and final formation of defense response under drought stress in plants. Lastly, Chapter Five discusses the Saharan Morocco comprises two major floristic divisions conventionally indicated under Saharan Atlas (As) and Saharan Morocco (Ms) in key Moroccan botanical references. Knowledge is essential not only for a better understanding of Saharan ecosystems but is vital for the preservation of current plant diversity.

This edited volume consists of seven chapters and presents some of the latest advancements in environmental research. Chapter One describes the ecological resources of forests and their ability to absorb greenhouse gases and mitigate climate change. Chapter Two highlights the procedure of using eutectic solvents in the extraction of bioactive compounds from medicinal plants. Chapter Three suggests a holistic framework for assessing the environmental sustainability of Bulgarian agriculture. Chapter Four investigates the accountability profile for environmental sustainability of maritime protected areas. Chapter Five discusses the main urban parameters existing in regional models developed at the beginning of the 21st century: The Single-Layer Urban Canopy Model (UCM), the Town Energy Balance (TEB), and the Building Effect Parameterization (BEP). Chapter Six aims to provide information about phytoestrogens and their beneficial and adverse effects. Finally, Chapter Seven proposes two new indexes for measuring particular aspects of environmental stability and sustainable development: the available resource sustainability index and the natural green surface replacement index.

This volume presents some of the latest advancements in environmental research. Chapter One considers key drivers that influence the seasonal rainfall regime and its variability in the Organization of Eastern Caribbean States, the sub-region’s exposure and vulnerability to hydro-meteorological hazards, including drought, and their sub-region’s drought history and associated consequences. Chapter Two provides insight about the relationship between the process variables involved in activated carbons preparation and their CO2 removal performance to find the key features associated with efficient CO2 adsorption. Chapter Three systematically assesses the role of groundwater in enhancing urban water supply security and identifies the pre-requisites in terms of its assessment and management for this resource to play a sustainable role. Chapter Four reviews strategies for management of dwindling biodiversity as a consequence of climate change-driven natural disasters, with a specific focus
on bushfires in Australia. Finally, Chapter Five compares data obtained from models that simulate the transport of radionuclides released into the Pacific Ocean after the Fukushima Dai-ichi nuclear power plant accident with actual measurements of water, sediment and biota.

**Advances in Environmental Research. Volume 88**

*Justin A. Daniels*

In series: *Advances in Environmental Research*

Publication Date: 01/28/2022

210 pp.

Hardcover: 978-1-68507-563-7, $250.00

e-book: 978-1-68507-589-7, $250.00

This volume includes five chapters that detail recent advances in environmental research. Chapter One explores the potential of agroforestry to provide an environmentally friendly alternative to traditional agriculture, which produces climatologically negative effects. Chapter Two provides a general overview of optical biosensors and their applications in clinical diagnosis, food safety and security, and environmental biomonitoring. Chapter Three offers an overview of air quality monitoring. Chapter Four proposes pertinent information related to the prevailing state of the art on the importance of soybean lignocellulosic residues as raw materials of high potential for biorefineries and biofuels production. Lastly, Chapter Five presents case studies from France and Brazil concerning agroforestry in connection with international environmental law goals and sustainable development goals.

**Ecological Footprints: Management, Reduction and Environmental Impacts**

*Armano den Hartogh*

In series: *Environmental Science, Engineering and Technology*

Publication Date: 02/08/2022

140 pp.

Softcover: 978-1-68507-548-4, $95.00

e-book: 978-1-68507-606-1, $95.00

In the present scenario of global climate change, ecological footprint analysis is necessary for the development of more sustainable and environmentally friendly ways of living. This book includes five chapters that explore various aspects of ecological footprint analysis. Chapter One provides a platform that relates and compares principles oriented towards reducing environmental urban impacts through the analysis of urban form and empirical knowledge about the applicability of ecological footprint as a tool for urban planning and design. Chapter Two focuses on the societal need to keep cities livable and sustainable through appropriate waste management. Chapter Three illustrates how city authorities and residents can better understand their rate of dependence upon and impact on the environment at various scales, realize their vulnerability to overseas environmental changes, and suggest local action or policy guidelines that may increase their urban sustainability. Chapter Four explores means for reducing the lifecycle ecological footprint of residential buildings. Finally, Chapter Five includes an ecological footprint analysis of jatropha biodiesel production at low scale.

**Horizons in Earth Science Research. Volume 23**

*Benjamin Veress and Jozsi Szigethy*

In series: *Horizons in Earth Science Research*

Publication Date: 01/28/2022

239 pp.

Hardcover: 978-1-68507-569-9, $250.00

e-book: 978-1-68507-607-8, $250.00

This volume contains five chapters describing recent advances in earth science research. Chapter One describes the way of allowance for rheologic properties of layered Earth stratum in the study of seismic waves. Chapter Two defines the importance of petrological and geochemical characterization of Tisza River sediments, noting the importance of determining the origin of metals in terms of environmental protection. Chapter Three includes a deterministic seismic hazard analysis for Chhattisgarh, India. Chapter Four describes a detailed study on the lithostratigraphic units and determination of their biostratigraphic limits by detecting biofacies, particularly macrofossils, recognizing the Pleistocene and Quaternary boundary and incorporating the identification of its intervals from a lithostratigraphic point of view. Finally, Chapter Five covers the step-by-step
Understanding Abiotic Stresses
Dr. Vishnu D. Rajput (Associate Professor (Leading Researcher), Academy of Biology and Biotechnology, Southern Federal University, Rostov-on-Don, Russia), Dr. Krishan K. Verma (Key Laboratory of Sugarcane Biotechnology and Genetic Improvement (Guangxi), Ministry of Agriculture and Rural Affairs/ Guangxi Key Laboratory of Sugarcane Genetic Improvement/Sugarcane Research Institute, Guangxi Academy of Agricultural Sciences, Nanning, Guangxi, China) and Tatiana Minkina, PhD (Professor, Head of Department of Soil Science and Land Evaluation, Academy of Biology and Biotechnology Southern Federal University, Rostov-on-Don, Russia)

In series: Environmental Science, Engineering and Technology

Publication Date: 01/14/2022
357 pp.
Hardcover: 978-1-68507-508-8. $230.00
e-book: 978-1-68507-552-1. $230.00

In the current scenario, frequently changing environmental variables such as salinity, excess or insufficient water availability, cold or high-temperature extremes, heavy metal toxicity, and nutrient imbalance have become an unpredictable and severe menace to the worldwide agricultural output. The abiotic stress factors restrict crop plants from reaching their full genetic potential and cause significant loss to agricultural productivity across the globe. In general, the stress factors are complex and multigenic features, affecting plant performance by severely reducing plant growth, development, and ultimately the produce. Plants have evolved efficient defense mechanisms in response to the onset of unfavorable environmental conditions to tolerate stresses through physical adaptation and/or integrated molecular and cellular responses. The detection of stress signals and their transmission is a critical stage in triggering adaptive responses and ensuring plant life. According to transcriptomic and genomic research, abiotic stresses induce many genes with varied functions, and various transcription factors are involved in regulating stress-inducible genes. Abiotic stressors are predicted to exacerbate the severity of plant problems in the coming years.

In this book, “Understanding Abiotic Stresses,” the editors compiled nine chapters written by subject experts in the field of abiotic stress and plant resistance. This book provides an up-to-date summary of current research on plant abiotic stress signaling. The various chapters in the book provide a state-of-the-art account of the information available. This book also explores how the resulting increase in abiotic stress factors can be dealt with. The result is a must-have hands-on handbook for agricultural biotechnology, abiotic stress tolerance/resistance, academia, and researchers.

For the convenience of readers, the whole book is divided into ten chapters. Chapter 1 deals with an overview of the understanding of abiotic stresses responses in plants. Chapter 2 focuses on the new insights on plants against salt resistance strategies. Chapter 3 covers physiological and molecular adaptation strategies on plants during salinity stress. Chapter 4 discusses the role of temperature on physiological responses and adaptation mechanisms in plants. Chapter 5 summarizes the impact of abiotic stress on the nutritional quality of germinated cereal grains. Chapter 6 covers the function of agronomic interventions to combat abiotic stresses in field crops. Chapter 7 mainly covers the role of hydrophilins (boiling-soluble proteins) in abiotic stress resistance capacity in plants. Chapter 8 deals with the influence of waterlogging on the physiology and molecular biology of plants. Chapter 9 discusses the adaptive mechanisms of plants during water-deficit conditions, and Chapter 10 summarizes the impact of plant growth hormones on plants during environmental stresses.

Bacterial Community Structure of Activated Sludge Processes
Maulin P. Shah, PhD (Senior Researcher, Environmental Microbiology Lab, Bharuch, India)

In series: Waste and Waste Management
Publication Date: 04/11/2022
196 pp.
Hardcover: 978-1-68507-676-4. $160.00
e-book: 978-1-68507-773-0. $160.00

This book highlights the importance of molecular genomics and molecular biology techniques used to sort out the problems faced by industrialists who operate wastewater
treatment plants with the ever-increasing number of environmental pollutants, through an approach of microbial community analysis. Current knowledge of the microbial communities within biological wastewater treatment reactors is incomplete due to limitations of traditional culture-based techniques and despite the emergence of recently applied physico-chemical and biological techniques. This book will give a complete overview about an advanced molecular technology for microbial community analysis of a wastewater treatment reactor to understand and gain proper knowledge, which may help to ultimately sort out the issue of environmental pollutants. It will give an insight about an application of various molecular tools to investigate microbial community composition or structure in activated sludge processes.

**Waste Management**

An Innovative Approach of Advanced Oxidation Processes in Wastewater Treatment

Maulin P. Shah, PhD (Scientist, Environmental Microbiology Lab, India)

In series: Environmental Science, Engineering and Technology

Publication Date: 12/03/2021

319 pp.

Hardcover: 978-1-68507-235-3, $230.00

e-book: 978-1-68507-343-5, $230.00

In recent decades, scientific insight into the chemistry of water has increased enormously, leading to the development of advanced wastewater and water purification technologies. However, the quality of freshwater resources has continually deteriorated worldwide, both in industrialized countries and in developing countries. Although traditional wastewater technologies are focused on the removal of suspended solids, nutrients and bacteria, hundreds of organic pollutants occur in wastewater and affected urban surface waters. These new pollutants are synthetic or naturally occurring chemicals that are not often monitored in the environment but have the potential to penetrate the environment and cause known or suspected adverse ecological and/or human health effects. These contaminants are collectively referred to as the "Emerging Contaminants" and are mostly derived from domestic use and occur in trace concentrations ranging from pico to micrograms per litre. Environmental contaminants are recalcitrant for conventional wastewater treatment processes and most of them remain unaffected, leading to the contamination of receiving water. This scenario leads to the need for an advanced wastewater treatment process that can remove environmental contaminants to safely monitor fresh water sources. This book explains the technologies of biological and chemical wastewater treatment processes. The biological wastewater treatment processes presented include: (1) bioremediation of wastewater that includes aerobic treatment (oxidation ponds, aerating lagoons, aerobic bioreactors, active sludge, percolation or drip filters, biological filters, biological contactors, biological removal of nutrients) and anaerobic treatment (anaerobic bioreactors), anaerobic lagoons); (2) phytoremediation of waste water consisting of engineered wetlands, rhizofiltration, rhizodegradation, phytoextraction, Phyto transformation and hyperaccumulators; and (3) mycoremediation of wastewater. The chemical wastewater treatment processes discussed include chemical precipitation (coagulation, flocculation), ion exchange, neutralization, adsorption, and disinfection (chlorination / dechlorination, ozone, UV light). In addition, this chapter explains the wastewater treatment plants and illustrates them in terms of plant size, plant layout, and plant design and installation location.

Construction and Demolition Waste Management in Australia

Salman Shooshtarian (Research Fellow, School of Property, Construction and Project Management, RMIT University, Melbourne, Victoria, Australia) and Tayyab Maqsood (Associate Professor, School of Property, Construction and Project Management, RMIT University, Melbourne, Victoria, Australia)

In series: Waste and Waste Management

Publication Date: 12/17/2021

434 pp.

Hardcover: 978-1-68507-237-7, $270.00

e-book: 978-1-68507-445-6, $270.00

Due to the increase in construction activities worldwide and in Australia, the generation rate of construction and demolition (C&D) waste has significantly grown in recent years. In Australia, construction projects (i.e. housing, buildings and transport infrastructure) are being delivered at an unprecedented rate. Between 2009 and 2019, the annual average growth rate in this industry was 3.33%. The industry is identified as the fourth largest contributor to Australia’s growth domestic product (GDP). Unsurprisingly, this quantity of construction brings about a considerable quantity of waste. In 2019, the construction industry generated 27 million tons (or megatonnes) of waste from construction and demolition activities in
Science and Technology

Australia. Given the size of the construction market and waste generated in this industry, any change will create huge impacts. The adequate management of such a quantity has now become a priority for policymakers around the world. A holistic national approach is required to handle the growing issue of C&D waste management in Australia. Therefore, this book identifies discrepancies and inconsistencies related to C&D waste management in different Australian jurisdictions. The included chapters discuss regulations governing the C&D waste stream, discrepancies in defining waste, Australia’s place in the worldwide C&D waste market, opportunities for reducing C&D waste, and the perception among C&D waste stakeholders on relevant issues and proposed reforms, among other topics. Overall, the book contributes to the Australian understanding of effective management of C&D waste by providing a clear picture of C&D waste state of play. The book can benefit policymakers and whoever is interested in C&D waste to better plan for innovative and efficient C&D waste resulting in the further diversion of C&D waste from landfills.

Waste Management: Strategies, Challenges and Future Directions
Nanda Gopal Sahoo, PhD (FRSC, Professor, Department of Chemistry, Nanoscience and Nanotechnology Centre, D.S.B. Campus, Kumaun University, Nainital, Uttarakhand, India)

In series: Waste and Waste Management
Publication Date: 12/16/2021
538 pp.
Hardcover: 978-1-68507-369-5, $310.00
e-book: 978-1-68507-394-7, $310.00

The management of waste is a sensitive issue which affects everyone all over the globe. With the advent of globalization and urbanization, the amount of waste generated has increased to an extent never seen before. Such an increase has come with threatening consequences. To make human life easier, several innovations have been introduced in recent years, such as the development of plastic goods and electronic items, which have led to an exponential growth in waste. Most waste is untreated and unutilized, and as such it is burned, mismanaged and dumped in landfills. This has endangered our ecosystem, polluted water bodies and caused ecological imbalance in the biosphere. Overall, this waste is spoiling the beauty of our planet and polluting the environment. To overcome this situation, many efforts have been made by the scientific community and municipal bodies to no avail. Thus, there is a great need for efficient scientific waste management approaches as well as advanced technology that can convert waste into value-added products. There are many ways to tackle this, but more research and development in this area is required to achieve desired results.

This book explores a new aspect of managing waste and developing efficient technology to convert this waste into value-added products. It reviews challenges and advancements in waste management technologies and gives direction for future planning. It also provides cutting-edge knowledge on classification and management of waste, recycling and upcycling of waste into value-added products or carbon nanomaterials, utilization of waste towards enhancing the global economy, the role of microorganisms for the treatment of waste, the role of nanotechnology in waste treatment and water purification, and management of e-waste and biomedical waste. This book will emerge as a reference guide that overviews up-to-date literature in the field of waste and its management, challenges, converting technology and future possibilities.

Water Supply

Water Purification: Processes, Applications and Health Effects
Paul LeBlanc

In series: Water Resource Planning, Development and Management
Publication Date: 02/02/2022
243 pp.
Hardcover: 978-1-68507-622-1, $195.00
e-book: 978-1-68507-633-7, $195.00

The overall wellbeing of a society depends on access to uncontaminated drinking water. However, the treatment of the water supply is made more complex by the presence of difficult-to-remove contaminants, such as perfluoroalkyl and polyfluoroalkyl substances, which pose threats to human health. This volume includes five chapters that discuss water purification from several perspectives, including strategies for improving drinking water infrastructure and point-of-use water treatment applications. Chapter One provides a review of current knowledge of copper and silver ions, free chlorine, and N-chloramines in point-of-use drinking water treatment applications, including kinetics and mechanisms of inactivation of pathogens, toxicity, and synergistic effects produced by combinations of these chemical disinfectants. Chapter Two addresses the adsorptive removal of water pollutants such as organic dyes, heavy metal ions, oil, and pharmaceutical products by carbonaceous adsorbents such as activated carbon, carbon nanotubes, graphene, carbon aerogels, and biochars in detail. Chapter Three includes information on recent advancements in bio-based polymer membranes for water purification, as well as various modification techniques,
limitations, and future remarks. Chapter Four deals with the emerging green technology of solar-driven water purification, reviewing current challenges and future perspectives of commercializing such technologies. Finally, Chapter Five covers the processes and units involved in the dairy industry, characteristics and composition of the dairy effluent and its effect on health, the environment, and the water supply if discharged without treatment.

**LIFE SCIENCES**

**Biology**

**Bacteriology**

Biofilms: Advances in Research and Applications

*Shane Rowland*

In series: *Bacteriology Research Developments*

Publication Date: 09/17/2021

228 pp.

Hardcover: 978-1-68507-062-5. $160.00

e-book: 978-1-68507-089-2. $160.00

Biofilms are naturally occurring clusters of microorganisms that stick to non-biological surfaces, like rocks in a stream. This book contains eight chapters that examine biofilms from a variety of perspectives, including the latest research in this field. Chapter One comprehensively studies the role of endophytic microbes as a potential and alternative source of antimicrobial and antibiofilm bioactive components. Chapter Two discusses how to manage oral microbial biofilm using chemical and herbal medicine. Chapter Three highlights the importance of marine biofouling and the role of coccolid cyanobacteria in this process. Chapter Four focuses on biofilm development, its impact on human health and the problems that are associated with biofilm control. Chapter Five examines microbial biofilms and their role in the environment including agriculture and bioremediation. Chapter Six reviews natural terpenoids and provides descriptions of their structural origin, biological roles and multifunctional properties, such as promoting activity on health-beneficial bacteria. Chapter Seven explains the concepts of biofilm development and the importance of honey and its implications in human health and disease control. Chapter Eight thoroughly studies the potential of honey as antibiofilm, anti-quorum sensing and dispersal agent.

**Biochemistry**

A Biochemical View of Antioxidants

*Dorota Bartusik-Aebisher (Professor, Medical College of The University of Rzeszow, Poland) and David Aebisher (Professor, Medical College of The University of Rzeszow, Poland)*

In series: *Biochemistry Research Trends*

Publication Date: 11/11/2021

377 pp.

Hardcover: 978-1-68507-151-6. $230.00

e-book: 978-1-68507-295-7. $230.00

The Biochemical View of Antioxidants presents research on medicinal plants and organic chemistry and relates to pharmacological applications. This book discusses antioxidants, derived from fruits and vegetables, that play a vital role in maintaining health. It forms a bridge between biology and chemistry of fruits and vegetables by studying the complex nature of antioxidants. The Biochemical View of Antioxidants consists of 45 chapters. The chapters show that food constitutes a source of many biologically active antioxidants important for health and disease prevention. The antioxidant properties of fruits and vegetables have to do with the presence of tissues with natural antioxidant compounds that protect plants from free radical damage caused by oxygen in the environment or exposure to ultraviolet radiation. According to nutritionists, the most valuable source of antioxidants are fresh fruit and vegetables and natural preparations made from them, such as juices, preserves, marmalades, jams and silage.
Exploring the Biotechnological Potential of C2 Alternative Substrates in Biocatalysis and Metabolic Engineering
Wenfa Ng (Master of Engineering, National University of Singapore, Singapore)

In series: Recent Trends in Biotechnology
Publication Date: 01/28/2022
256 pp.
Hardcover: 978-1-68507-555-2. $195.00
e-book: 978-1-68507-601-6. $195.00

Metabolic engineering and biocatalysis aim to produce new value-added products from biological routes through careful and deliberate genetic engineering in different microbial chassis with suitable metabolic repertoire. Hitherto, the endeavor has largely been confined to the production of new products from glucose and a few other well characterized substrates. But, as the bioeconomy gains in importance and the world seeks to explore new sources of carbon as feedstocks, a possibility exists in developing alternative C2 compounds as feedstocks in contrast to the current reliance on C6 (glucose and fructose), C5 (xylose) and C3 (glycerol) substrates. Two potential C2 alternative substrates explored in this work are ethanol and ethylene glycol. Ethanol is a biofuel whose biotechnological potential has not been fully explored. In the first part of the book, the potential of using the NADH generated from a reconstructed ethanol utilization pathway to power a biotransformation reaction is explored in Escherichia coli. Experimental results indicate that ethanol utilization delivers higher biotransformation efficiency compared to state-of-the-art glucose dehydrogenase system, which confirmed theoretical predictions of relative efficiency of the two systems. Next, the book switches attention to ethylene glycol which could be derived as breakdown products of lignocellulosic waste or from plastic waste. Here, the proposal is to demonstrate the potential of an NADH generating ethylene glycol utilization pathway that terminates at glycylate to support biocatalytic reactions in E. coli. Subsequently, the two-step ethylene glycol utilization pathway would be extended to malate and 2-phosphoglycerate to help another biotechnology workhorse, Bacillus subtilis, to grow on ethylene glycol as the sole carbon source. Different connection points to central carbon metabolism would provide a natural experiment to decipher the relative efficiencies of activating tricarboxylic acid cycle and glycolysis in supporting cell growth, and illuminate insights into the relative efficiency and evolutionary importance of different branches of metabolism in B. subtilis. Finally, ethylene glycol utilization would be combined with product formation to help B. subtilis to synthesize green fluorescent protein using flux from the C2 alternative substrate. This system would provide a platform for examining the efficacy of different ethylene glycol utilization pathways and entry points in central carbon metabolism in synthesizing amino acids and proteins. Overall, this book hopes to explore the biotechnological potential of two alternative C2 substrates (ethanol and ethylene glycol) in biocatalysis and metabolic engineering from the substrate utilization perspective.

The Future of Metabolic Engineering
Abhishek Sharma, PhD (Assistant Professor and Principal Investigator, C. G. Bhakta Institute of Biotechnology, Uka Tarsadia University, Gujarat, India) and Dhruti Amin, PhD (Assistant Professor, C. G. Bhakta Institute of Biotechnology, Uka Tarsadia University, Gujarat, India)

In series: Biochemistry and Molecular Biology in the Post Genomic Era
Publication Date: 12/28/2021
389 pp.
Hardcover: 978-1-68507-362-6. $230.00
e-book: 978-1-68507-464-7. $230.00

The last two decades of scientific research have progressed to the point where metabolic engineering, which involves the modifying of metabolic pathways of animals, plants, and bacterial cells at biochemical and molecular levels, is feasible. Conceptually, metabolic engineering takes into account the identification of major blocks or control points in a metabolic pathway at the molecular level followed by removal of these limitations with the help of various cellular engineering interventions. Understanding the metabolic pathways requires appropriate experiment setup, molecular biology and biochemistry methods, computational modelling, data analysis, and interpretation to allow the researchers to manipulate them as per their needs.

This book comprises a total of 12 chapters from multiple contributors of different countries around the world, including Brazil, Egypt, India, Saudi Arabia, and Turkey. This book provides deep insight into the past, present, and future of metabolic engineering in the animal, microbial, and plant system, communicating interdisciplinary research and relevant results in biochemistry, molecular biology, applied microbiology, cellular physiology, cellular nutrition in health and disease, and biochemical engineering.
Botany

Orchidaceae: Characteristics, Distribution and Taxonomy
Vladan Djordjević, PhD (Research Associate, Faculty of Biology, Institute of Botany and Botanical Garden, University of Belgrade, Serbia)

In series: Plant Science Research and Practices
Publication Date: 10/20/2021
327 pp.
Hardcover: 978-1-68507-189-9. $230.00
e-book: 978-1-68507-202-5. $230.00

This book is a journey through our knowledge about orchids, starting with orchid fossils, age issues, and study of extinction rates of orchids, moving on to an overview of the national orchid flora of less explored regions, chorological contributions, and ecological studies, and finally covering developments in orchid breeding through genetic engineering. The main objective of the book is to familiarize the reader with the basic features of the family Orchidaceae from various aspects. Eight chapters by expert authors cover the characteristics, distribution, ecology, and taxonomy of orchids.

Cell Biology

TRiPs Across Epithelial and Endothelial Barriers in Health and Disease
Alexander V. Zholos, PhD, DSc (Head of Department of Biophysics and Medical Informatics Educational and Scientific Centre, “Institute of Biology & Medicine,” Taras Shevchenko National University of Kyiv, Kyiv, Ukraine) and Ganna M. Tolstanova, PhD, DSc (Head of Research Department, and Professor of the Institute of High Technologies, Taras Shevchenko National University of Kyiv)

In series: Cell Biology Research Progress
Publication Date: 09/17/2021
257 pp.
Hardcover: 978-1-68507-020-5. $195.00
e-book: 978-1-68507-139-4. $195.00

Life on Earth began some 4 billion years ago when the first primitive prokaryotes managed to isolate themselves from the rather hostile environment. The immediate challenge that these first life forms faced was to ensure an optimal balance between two apparently mutually exclusive tasks – protection and separation from the extracellular milieu on the one hand and an efficient exchange of ions, energy sources and metabolites with the very same milieu on the other hand.

The commencing evolutionary progress had to address even more challenging problems, such as how to delegate specific cell functions to discrete structures inside of the cell, called organelles (such as the nucleus), and, at the level of multi-cellular organisms, to ensure proper separation of different cell types (e.g. those found in different tissues and organs) while ensuring efficient communication between them. In fact, the human body is highly compartmentalized, from the cell level where local signals are generated and propagated in a highly ordered manner, to the whole body level.

This book aims to introduce the interested reader to the universe of these complex segregated compartments in mammals. It discusses how the integrity of different types of barriers – endothelial, epithelial – is normally maintained and what could go wrong when these barriers’ permeability becomes abnormally low or high in different disease states. We will focus on several such barriers, which are well studied and which are pivotal for a healthy well-being. In particular, we will focus on the skin, airways, the gut barrier, the endometrium, and cardiovascular and urinary systems.

Special reference throughout the book will be made to several most novel groups of potential molecular candidates for the correction of barrier-related dysfunctions, in particular Transient Receptor Potential channels. Hence the title of the book has a triple meaning – a trip in its common sense, TRP channels (as in TRIP database) and Translating Research Into Practice (TRIP).

Our team of authors is comprised of physiologists, pharmacologists, biophysicists and medics, including the national representative of Ukraine in the European Crohn's and Colitis organization (ECCO) and a member of the Scientific Committee of the European Association of Urologists. We include clinical cases and discuss molecular and cellular mechanisms underlying such real-life problems in-depth.
Evolution

Exploring Speciation
David D. Clark

In series: Chemistry Research and Applications
Publication Date: 09/27/2021
234 pp.
Hardcover: 978-1-68507-119-6, $160.00
e-book: 978-1-68507-138-7, $160.00

In chemistry, speciation refers to the distribution of an element amongst chemical species in a system. The five chapters of this book each bring a unique perspective on this type of speciation as it pertains to marine biota, x-ray fluorescence spectroscopy, and other areas of interest. Chapter One investigates the bioaccumulation of cadmium, a toxic heavy metal, in marine biota in the Egyptian coastal zones. Chapter Two scrutinizes the applications of energy and wavelength dispersive spectroscopic techniques in various materials. Chapter Three explains the phenomenon of thermoluminescence and the effect of varying readout heating rates on the dosimetric properties of TLD-100 (LiF: Mg, Ti) irradiated with 6 MV X-ray. Chapter Four focuses on the applications of different X-ray spectroscopy techniques and their use in the elemental analysis of water, coal, fly ash, and fertilizer samples. Finally, Chapter Five describes how to select the best speciation model from studies based on potentiometric measurements.

Genetics and Genomics

Advances in Genetics Research. Volume 21
Kevin V. Urbano

In series: Advances in Genetics Research
Publication Date: 01/28/2022
159 pp.
Hardcover: 978-1-68507-562-0, $250.00
e-book: 978-1-68507-579-8, $250.00

This volume includes five chapters, each detailing recent advances in genetics research. Chapter One discusses the possible evolutionary processes involved in the differentiation of sex chromosomes and the current theories that explain the mechanisms involved in their evolution. Chapter Two describes the identified genes and risk loci that may be involved in the pathogenesis of syndromic and nonsyndromic cleft lip and/or palate. Chapter Three compares the public image of the Human Genome Project in Greece to that of the US and North-Central Europe. Chapter Four uses genotyping to identify a subset of the Irish population expected to maximally benefit from the biological effects of broccoli consumption. Finally, Chapter Five focuses on recent advances in understanding of the genetics of Brugada syndrome.

Microbiology

Biopharmacological Activities of Medicinal Plants and Bioactive Compounds
Ajeet Singh, PhD (Research Fellow, Indian Institute of Wheat and Barley Research, Karnal, Haryana, India) and Navneet Bithel, PhD (Department of Botany and Microbiology, Gurukula Kangri University, Haridwar, Uttarakhand, India)

In series: Microbiology Research Advances
Publication Date: 09/09/2021
411 pp.
Hardcover: 978-1-53619-959-8, $230.00
e-book: 978-1-68507-456-4, $230.00

Biopharmacological Uses of Medicinal Plants and Bioactive Compounds presents comprehensive coverage and recent advances surrounding phytopharmaceuticals, traditional and alternative systems of medicines and uses of nanotechnology in biopharmaceutical products. Sections cover the role of medicinal plants, bioactive and biophytopharmaceuticals in the management of cancer, hepatitis, HIV, analgesics,
inflammation, antibacterial, viral infections, fungal infections, neurological disorders, diabetes, ENT infections, dental decay, cardiovascular disorders, skin diseases, antiproliferative etc. This volume also includes biogenic synthesis of various type of nanoparticles using medical plant extracts, seaweeds, algae, and fungi for the new drug discovery. This volume sheds new light on the immense potential of medicinal plants for human health from different technological aspects. It presents new research on bioactive compounds in medicinal plants that provide health benefits, including those that have proven especially effective in treating and managing diabetes mellitus and hypertension. It looks at the medicinal properties, antioxidant capacity, and antimicrobial activity of plants and provides scientific evidence on the use of medicinal plants in the treatment of certain diseases. Many of the plants described in the chapters are easily accessible and are believed to be effective with fewer side effects in comparison to modern drugs in the treatment of different diseases.

The body of the book comprises thought-provoking and diverse chapters on the potential for utilization of plants in treating diseases of the skin and use of traditional medicine as anticancer, anti-HIV, and antibacterial agents. Each topic is introduced by providing a background on the disease, which contains updated statistics on the prevalence thereof, followed by the associated pathology, pharmacologically approved drugs currently on the market used for treatment of the disease, an array of medicinal plants used for treatment accompanied with a list of their active phytoconstituents and chemical structures thereof, as well as scientific evidence for use.

This book provides key information for everyone interested in drug discovery, including medicinal chemists, nutritionists, microbiologists, biochemists, toxicologists, drug developers and health care professionals. Students, professors and researchers working in the area of pharmaceutical sciences, botany, pharmaceutical microbiology, medical microbiology and beyond will also find the book useful.

Endophytic Fungi: Biodiversity, Antimicrobial Activity and Ecological Implications

Qiang-Sheng Wu, PhD (Professor, College of Horticulture and Gardening, Yangtze University, Jingzhou, China), Ying-Ning Zou (Associate Professor, Yangtze University, Jingzhou, China) and Yong-Jie Xu, PhD (Associate Researcher, Hubei Academy of Forestry Science, China)

In series: Microbiology Research Advances
Publication Date: 12/16/2021
144 pp.
Softcover: 978-1-68507-354-1. $82.00
e-book: 978-1-68507-442-5. $82.00

Endophytes are a group of microorganisms that do not cause obvious disease symptoms to the host plants and include endophytic bacteria, endophytic fungi and endophytic actinomycetes. Among them, endophytic fungi belong to ascomycetes and are widely distributed in mosses, ferns, shrubs, algae, herbs, angiosperms and gymnosperms. Endophytic fungi establish a good mutualistic relationship with their hosts, which is reflected in accelerating plant growth, promoting nutrient uptake, and enhancing resistance to stress. On the other hand, many endophytic fungi produce some secondary metabolites such as alkaloids, terpenoids, polysaccharides, phenols, etc., and thus have some pharmacological interventions and therapeutic effects with significant efficacy.

The present book revolves around the introduction and potential functions of endophytic fungi in the field. The book presents four important sections, including (i) the introduction of endophytic fungi, (ii) diversity and antimicrobial activity of endophytic fungi from mangrove forests, (iii) positive effects of arbuscular mycorrhizal fungi on ornamental plants, and (iv) potential application and assessment of arbuscular mycorrhizal fungi on fruit trees, vegetable crops, and ornamental crops. This book can provide important support for graduate students and researchers in the study of endophytic fungi. On the other hand, the book also summarizes some new advances, especially in pharmacological interventions of endophytic fungi.

Zoology

Advances in Animal Science and Zoology. Volume 18
Owen P. Jenkins

In series: Advances in Animal Science and Zoology
Publication Date: 10/20/2021
214 pp.
Hardcover: 978-1-68507-255-1. $250.00
e-book: 978-1-68507-298-8. $250.00

This monograph contains six chapters, each describing a recent advancement in animal science and zoology. Chapter One discusses the Food and Agriculture Organization of the United Nations registered 36.6 Mio Old World camels (dromedaries and Bactrian camels) worldwide of which 1.42 Mio are in countries of the Arabian Peninsula. Chapter Two explores the piggery sector is one of the prime occupations for the poor and marginal
farmers of developing countries. Most of the pig husbandry in the developing countries is mainly dependent on a backyard system where the use of indiscriminate antibiotics cannot be obsoleted. Chapter Three authors' discussed about musculature of the Drosophila and then about the various behavioural traits which are studied by related behavioural assays and are utilized to assess and isolate the muscle mutants wherein the proper formation and functioning of the muscles have been hampered during the biphasic muscle development. Chapter Four studied hemiptera is the most speciose order of the hemimetabolous insects with four suborders. One of them is the Auchenorrhyncha, which comprises of two infraorders, the Fulgoromorpha and Cicadomorpha, with the latter as the subject of the current study. Chapter Five studied that aphids can be severe pests of crop plants. Aphids have such high reproductive potential and a short development time, which can quickly lead to the development of resistance to a wide assortment of insecticides. Chapter Six demonstrate an interplay between phylogenetic conservatism, behavioral flexibility, and ecological opportunity in shaping species richness and functional diversity from regional avifaunas to local communities. Chapter Seven studies carried out in the world and in our country have revealed that Aphids (Aphidoidea) belonging to suborder of the Sternorrhynca (Hemiptera) are among the most common and harmful insect groups in cultivated and uncultivated plants. Finally, Chapter Eight reviews matching to sample (MTS) is an experimental task for assessing the ability of nonverbal organisms to categorize stimuli. Successful performance indicates the ability to perceive relations between a sample and comparison stimuli.

Advances in Animal Science and Zoology. Volume 19
Owen P. Jenkins
In series: Advances in Animal Science and Zoology
Publication Date: 01/07/2022
241 pp.
Hardcover: 978-1-68507-522-4, $250.00
e-book: 978-1-68507-534-7, $250.00
This volume includes seven chapters, each of which detail recent advancements in animal science and zoology. Chapter One reviews the available literature on the behavioral aspects of the pest Bemisia tabaci. Chapter Two describes the similarities between canine and human lymphoma. Chapter Three discusses the diversity, threats, and behavior of freshwater fish with particular reference to Indonesia. Chapter Four studies endocrine and enzymatic functions on complex behavior of freshwater fishes. Chapter Five deals with the behavior of fish reproduction and examines the effects of exposure to endocrine disruptors on fish behavior. Chapter Six focuses on lower urinary tract disease in guinea pigs. Finally, Chapter Seven includes a study of helminth fauna found in 26 specimens of Callithrix jacchus and Callithrix penicillate.

Burrow Pattern in Rodents
Chanchal Kumar Manna, PhD (Professor (Retired), Department of Zoology, University of Kalyani, Kalyani, Nadia, West Bengal, India) and D. Chattopadhyay, PhD (Endocrinology Laboratory, Department of Zoology, University of Kalyani, Kalyani, Nadia, West Bengal, India)
In series: Animal Science, Issues and Research
Publication Date: 12/16/2021
357 pp.
Hardcover: 978-1-68507-017-5, $270.00
e-book: 978-1-68507-347-3, $270.00
Burrow Pattern in Rodents is a well-thought-out and organized collection of research. This particular field of study needs patience and acute interest. Scholars in this field throughout the globe have tried to focus on the morphology, ecology, physiology, behaviour and biodiversity of rodents. Studying the rodents of India or outside India is very difficult and requires a multidisciplinary approach. Rodents are defined as gnawing mammals of an order that includes rats, mice, squirrel, hamsters, porcupines, and their area excepts, distinguished by strong, constantly growing incisors and no canine teeth. Rodents are the largest group of mammals, constituting almost half the class Mammalia’s approximately 4,660 species. They are indigenous to every land area except Antarctica, New Zealand, and a few Arctic and other oceanic islands, although some species have been introduced to those places through their association with humans. The impact of these species upon human populations ranges from inconvenient to deadly. Burrowing (fossorial) mammals (especially rodents) construct or visit existing burrow systems regularly or temporarily for shelter but search for their food mainly above ground. The shelter function of the underground ecotope has two components: protection from predators and protection from environmental fluctuation or extremes predominating above the ground. Protection is particularly important in periods of enhanced vulnerability: during resting and sleeping, hibernation, aestivation, or breeding. Burrow inhabitants are deprived of most sensory cues available above ground, and face low food supply, high energetic costs of digging and some stressful micro-environmental conditions as high humidity, low gas ventilation, hypoxic and hypercapnic conditions.
A number of books on the topic of rodents have been published, such as The Mouse in Science, Biomethodology of the Rat, Biomethodology of the Guineapig, Hamsters in Research Institutions, and Infectious Diseases of Mice and Rats. However, these books are mainly focused on laboratory animals. This work, on the other hand, focuses on rodents in natural conditions, which is a fascinating aspect of rodent biology.

Agriculture, being biological in nature, is vulnerable to several external factors. Agricultural fields serve as a highly productive rodent habitat and crops such as sugarcane, rice, wheat, groundnut and fodder serve as an ideal habitat for rodent pests. Similarly, threshing yards located near crop fields also act as an excellent source of food and shelter for rodents.

Burrow systems vary greatly among rodent species and even within a species, depending on soil type, compaction, and depth; water table levels; aspect and slope; vegetation type and density; latitude, etc. In the Indian scenario, there is considerable variation in various types of burrow patterns due to the different types of soil, food structure and climatic situations. The authors have also tried to accumulate information on burrow systems in other developing and developed countries. So, this work will help the reader to understand species-specific burrow structures and their physiological conditions. The discussion on this particular topic will help the reader understand the life of various types of rodents not only in India but in other developing and developed countries also.

Earthworm Engineering and Applications

Dr. Adarsh Pal Vig (Professor, Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, Punjab, India), Dr. Jaswinder Singh (Associate Professor, Department of Zoology, Khalsa College Amritsar, Punjab, India) and Dr. Surendra Singh Suthar (Associate Professor, School of Environment & Natural Resources, Doon University, Dehradun, India)

In series: Life Sciences Research and Development
Publication Date: 02/17/2022
270 pp.
Hardcover: 978-1-68507-566-8. $195.00
e-book: 978-1-68507-641-2. $195.00

The importance of earthworms in the ecosystem was documented very early by Aristotle, the Greek philosopher who called them “intestines of the earth” and then in 1881 Charles Darwin highlighted their role in the breakdown of dead plants as well as animal matter. In 1994, Jones designated earthworms as ecosystem engineers, due to their important role in the development and maintenance of the physico-chemical properties of soil by converting biodegradable materials and organic wastes into nutrient-rich vermicast.

Earthworms enhance the incorporation of plant residue into soil aggregates, create soil porosity and stable aggregate through their burrowing, humus formation, and casting activities. The castings egested by earthworms have generally been assumed to be more stable than the parent soil aggregates and contain certain hormones, enzymes, microorganisms, inorganic and organic materials which it acquires during the passage of soil through the earthworm gut. A large number of plant hormones such as gibberellins, auxins and cytokinins are also present in vermicompost which promotes the growth of plants. Vermiwash is a clear, transparent, pale-yellow liquid obtained from the passage of water during vermiculture. Vermiwash provides nutrients to plants in easily available forms. In addition to vermicompost and vermiwash, the earthworm biomass can further be processed into earthworm meals having an important dietary and pharmaceutical application. The proteins from earthworms are rich in essential amino acids and the enzymes have been known to have anti-coagulating and fibrinolytic properties. Thus, worldwide scientists are working on earthworm biodiversity assessment and evaluation of their ecosystem services and value addition in other environmental management sectors.

Efforts have been made in this edited volume to compile the recent application of earthworms in different fields of environmental management and resource conservations. The book contains three sub-sections: earthworms’ role in agroecosystem and soil fertility management; vermiﬁltration; and industrial application of earthworm biomass. A total of 15 chapters are included in this edited volume. The first section compiles a total of nine chapters which mainly describe the role of earthworms in soil fertility maintenance, monitoring soil health and quality, pest management, and the response of agro-management practices on earthworm behaviour in soils. The second section is composed of the application of earthworm-based bioﬁlter systems for wastewater treatment and use of vermi-wash as liquid fertilizer for plant growth promotions and suppression of soil-plant diseases and promoting stress tolerance in plants. The last section mainly describes the pharmaceutical importance of earthworm in disease management and producing some antimicrobial substances from it.

In the end, we acknowledge the people and family members who are directly or indirectly associated with the compilation of books and editing. Without their moral and technical support, this book would not see the light of day.
Earthworms and their Ecological Significance
Dr. Adarsh Pal Vig (Professor, Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, Punjab, India), Dr. Surendra Singh Suthar (Associate Professor, School of Environment & Natural Resources, Doon University, Dehradun, India) and Jaswinder Singh (Associate Professor, Department of Zoology, Khalsa College Amritsar, Punjab, India)
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379 pp.
Hardcover: 978-1-68507-567-5. $230.00
e-book: 978-1-68507-632-0. $230.00

The earthworm has been known since ancient times for its valuable services to soil fertility management and litter nutrient cycling. The Greek philosopher Aristotle named earthworm “the guts of the soil” because of its direct role in soil formation through gut fragmentation of large soil particles, forming fine soil aggregates rich in organic matter. The famous natural scientist Charles Darwin also described the importance of earthworms in the natural world and he wrote the document entitled “The Formation of Vegetable Mould Through the Action of Worms with Observation on Their Habits” in 1881, observing that “worms have played a more important part in the history of the world than most persons would at first suppose”. During the last 30-40 years, earthworms have been studied intensively in the various disciplines of animal ecology, pedology, waste recycling, agriculture science, soil biology and chemistry, ecotoxicology, and pharmaceutical sciences. Because of their importance in soil and below-ground ecology, earthworms have been designated as “ecosystem engineers”. Soil fertility maintenance, soil litter decomposition, soil microbial communities and other detritus community structures and their function are directly or indirectly affected by earthworms’ presence in soils. Apart from that, earthworms have appeared as a promising tool to recycle nutrients from various kinds of organic waste substances and stabilization of industrial sludges. Vermicomposting could be a valuable and low-cost technique for farmers for onsite waste management and nutrient-rich manure production. Scientists are always looking for new species for solid waste management. Thus, scientists around the world are working on earthworm biodiversity assessment and evaluation of their ecosystem services and value addition in other environmental management sectors.

Efforts have been made in this edited volume to compile recent advancements in earthworm biology and their promising services in different fields of environmental management and resource conservations. This book contains three sub-sections: earthworm ecology, vermicomposting, and earthworm ecotoxicology. A total of 17 chapters are included in this edited volume. In the first section two chapters cover phylogeny and distribution of earthworm, and distribution of earthworm in Canadian ecozones; in the second section a total of seven chapters are included describing the role of vermitechnology in bioremediation of agriculture waste, pharmaceutical waste substances, industrial sludge stabilizations, and soil nutrient supply; and the third section includes eight chapters describing the effect of various hazardous substances like pesticides, microplastics, heavy metals, and neonicotinoids on earthworm growth, survival, reproduction and toxicity.

In the end, we acknowledge the people and family members who are directly or indirectly associated with the compilation of this book. Without their moral and technical support, this book would not see the light of day.

Nonhuman Primate Models in Preclinical Research. Volume 2: Disease Models
Huifang Chen, M.D., Ph.D. (Professor of Surgery Department of Surgery, University of Montreal, Montreal, Quebec, Canada) and Jan Langermans, PhD (Professor, Animal Science Department, Biomedical Primate Research Centre, Rijswijk, the Netherlands; Department Population Health Sciences, Division Animals in Science and Society, Faculty of Veterinary Medicine, Utrecht University, Utrecht, the Netherlands)
In series: Animal Science, Issues and Research
Publication Date: 09/09/2021
368 pp.
Hardcover: 978-1-53619-914-7. $230.00
e-book: 978-1-53619-931-4. $230.00

Despite many encouraging developments in the field of animal-free technologies, well-defined animal models are still needed to study fundamental properties of human diseases and to develop new prophylactic and therapeutic treatments against human diseases. Non-human primates (NHP) make up only a small, but important, part of the total number of animals used in biomedical and preclinical research. Due to their close phylogenetic relationship and the shared susceptibility to many human diseases, NHP can provide important research models to study these diseases and, as such, play a critical role in the advancement of various areas in the medical field. Studies in NHP have contributed to our understanding of various diseases
and fundamental biological phenomena and they continue to be important in the development of new therapies, treatments, drugs and vaccines. Moreover, NHP models also contribute to our general knowledge of the processes that underlie non-disease and disease conditions. Important areas where NHP can provide important information include emerging infectious diseases, organ transplantation, neurological and aging-related disorders. Although not covered in this book due to time constraints, the need for, and benefits of, NHP models has been demonstrated most recently in the SARS-CoV-2 pandemic. The present book is the second of two volumes and covers important disease areas where NHP are used as model species. This volume includes different chapters on NHP models in infectious diseases, aging, neurodegenerative disorders, organ transplantation and cancer.

**Studies of Fruit Flies and their Behaviors**
Flávio Roberto Mello Garcia (Universidade Federal de Pelotas, Instituto de Biologia, Depto. de Ecologia, Zoologia e Genética, Lab. de Ecologia de Insetos, Pelotas, RS-Brasil)

In series: Insects and Other Terrestrial Arthropods: Biology, Chemistry and Behavior
Publication Date: 04/11/2022
228 pp.
Hardcover: 978-1-68507-694-8. $195.00
e-book: 978-1-68507-825-6. $195.00

Studies on fruit flies and their behaviors are fundamental to the more adequate and effective management of populations that reach high densities in agroecosystems and become pests worldwide. The book addresses basic aspects of the biology and behavior of fruit flies of economic importance and applied aspects such as monitoring, biological control, semiochemicals, SIT, and the use of botanical insecticides.

**MATHEMATICS AND STATISTICS**

**Applied Mathematics**

**Advanced Engineering Mathematics and Analysis. Volume 1**
Rami A. Maher, PhD (Professor in Engineering Project Management, MSc Program, Isra University Amman, Jordan)

In series: Mathematics Research Developments
Publication Date: 12/03/2021
378 pp.
Hardcover: 978-1-53619-869-0. $230.00

The book "Advanced Engineering Mathematics and Analysis-Volume 1" offers a straightforward approach to understanding the theory of several engineering tools that are used to compute, evaluate, and analyze practical problems. It is a mathematics textbook that can be used by students, instructors, and technical carriers. Throughout the five chapters of the book, besides the pure mathematical examples, several practical issues from different fields are modeled and solved to illustrate the relation between the theory and its applications. The book elucidates the subjects in a self-contained style. This volume contains the basics and advanced topics of linear algebra and matrix theory, two-chapter ordinary differential equations to elaborate many classes, Laplace transforms with fundamental applications, and a complete engineering course of numerical methods. Each chapter ends with exercises that are arranged according to the chapter sections. The readers will find the answers at the end of the book.
The book Advanced Engineering Mathematics and Analysis. Volume 2 offers a straightforward approach to understanding the theory of several engineering tools used to compute, evaluate, and analyze practical problems. It is a mathematic textbook that can be used by students, instructors, and technical carriers; partially, the book also covers signal processing in the related course syllabus. Throughout the four chapters of the book, besides the pure mathematical examples, several practical issues from different fields are modeled and solved to illustrate the relation between the theory and its applications. The book elucidates the subjects in a self-contained style. The reader can select what he wants to read without following a particular sequence of reading. Volume 2 contains four chapters that consist of two units. The first two chapters deal with the continuous and discrete function (signal) analysis that is based on Fourier’s series and transforms, and on the z-transform for the discrete functions. The considered functions are periodic as well as aperiodic. The second unit consists of special multivariable functions, specifically, the space vector and the complex functions. Each chapter is ended with exercises that are arranged according to the chapter sections. The readers will find the answers at the end of the book.

Calculus

Foundations of Iso-Differential Calculus, Volume I, Second Revised and Updated Edition
Svetlin G. Georgiev (Professor, Sorbonne University, Paris, France)
In series: Mathematics Research Developments
Publication Date: 02/11/2022
361 pp.
Hardcover: 978-1-68507-477-7, $230.00
e-book: 978-1-68507-687-0. $230.00
This is the second edition of Foundations of Iso-Differential Calculus, Volume 1, which gives an overview of the development of iso-differential calculus. The second edition introduces a new class of iso-functions, named iso-functions of the fifth kind. Also, further examples, exercises and problems have been added. Chapter 1 reviews Ruggero Maria Santilli’s scientific journey, identifying its most important references. Chapter 2 introduces iso-real numbers, some basic functions and their properties. Chapter 3 defines sequences of iso-real numbers and deduces their properties. Chapter 4 gives definitions for five kinds of iso-functions and outlines their properties. Chapter 5 introduces the limits of iso-functions and continuous iso-functions. Chapter 6 presents the first comprehensive study of iso-differential calculus for the specific intent of showing its non-triviality. Chapter 7 reflects integral calculus in the language of iso-mathematics. Lastly, Chapter 8 outlines the isodual iso-mathematics and presents the first comprehensive study of isodual iso-differential calculus.

Navier-Stokes Equations and their Applications
Peter J. Johnson
In series: Mathematics Research Developments
Publication Date: 10/01/2021
106 pp.
Softcover: 978-1-53619-967-3. $82.00
e-book: 978-1-68507-162-2. $82.00
In physics, Navier-Stokes equations are the partial differential equations that describe the motion of viscous fluid substances. In this book, these equations and their applications are described in detail. Chapter One analyzes the differences between kinetic monism and all-unity in Russian cosmism and Newtonian dualism of separated energies. Chapter Two presents a model for the numerical study of unsteady gas dynamic effects accompanying local heat release in the subsonic part of a nozzle for a given distribution of power of energy. Chapter Three describes a study of relationships between integrals and areas of their applicability. Lastly, Chapter Four defines the exact solutions of the Navier-Stokes equations characterizing movement in deep water and near the surface.
Numerical Solutions of Boundary Value Problems with So-Called Shooting Method
Sujaul Chowdhury, PhD (Department of Physics, Shahjalal University of Science and Technology, Sylhet, Bangladesh), Mubin Md. Al Furkan (Shahjalal University of Science and Technology (SUST), Sylhet, Bangladesh) and Nazmus Sayadat Ifat (Shahjalal University of Science and Technology (SUST), Sylhet, Bangladesh)
In series: Mathematics Research Developments
Publication Date: 09/27/2021
261 pp.
Hardcover: 978-1-68507-039-7, $195.00
e-book: 978-1-68507-143-1, $195.00
This book presents in comprehensive detail numerical solutions to boundary value problems of a number of differential equations using the so-called Shooting Method. 4th order Runge-Kutta method, Newton’s forward difference interpolation method and bisection method for root finding have been employed in this regard. Programs in Mathematica 6.0 were written to obtain the numerical solutions. This monograph on Shooting Method is the only available detailed resource of the topic.

Partial Differential Equations: Theory, Numerical Methods and Ill-Posed Problems
Michael V. Klibanov (Department of Mathematics and Statistics, University of North Carolina at Charlotte, Charlotte, NC, USA) and Jingzhi Li (Department of Mathematics, Southern University of Science and Technology, Shenzhen, P. R. China)
In series: Mathematics Research Developments
Publication Date: 02/25/2022
347 pp.
Hardcover: 978-1-68507-592-7, $230.00
e-book: 978-1-68507-727-3, $230.00
The laws of nature are written in the language of partial differential equations. Therefore, these equations arise as models in virtually all branches of science and technology. Our goal in this book is to help you to understand what this vast subject is about. The book is an introduction to the field suitable for senior undergraduate and junior graduate students.
Introductory courses in partial differential equations (PDEs) are given all over the world in various forms. The traditional approach to the subject is to introduce a number of analytical techniques, enabling the student to derive exact solutions of some simplified problems. Students who learn about computational techniques in other courses subsequently realize the scope of partial differential equations beyond paper and pencil.
Our book is significantly different from the existing ones. We introduce both analytical theory, including the theory of classical solutions and that of weak solutions, and introductory techniques of ill-posed problems with reference to weak solutions. Besides, since computational techniques are commonly available and are currently used in all practical applications of partial differential equations, we incorporate classical finite difference methods and finite element methods in our book.

Counting and Numeration
Combinatorics: First Steps
Mykola Perestyuk, PhD (Head of the Integral and Differential Equations Department, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine) and Volodymyr Vyshefsky, PhD (Taras Shevchenko National University of Kyiv, Ukraine)
In series: Computational Mathematics and Analysis
Publication Date: 11/05/2021
338 pp.
Hardcover: 978-1-68507-152-3, $270.00
e-book: 978-1-68507-297-1, $270.00
The main goal of our book is to provide easy access to the basic principles and methods that combinatorial calculations are based upon. The rule of product, the identity principle, recurrence relations and inclusion-exclusion principle are the most important of the above. Significant parts of the book are devoted to classical combinatorial structures, such as:
ordering (permutations), tuples, and subsets (combinations). A great deal of attention is paid to the properties of binomial coefficients, and in particular, to model proofs of combinatorial identities. Problems concerning some exact combinatorial configurations such as paths in a square, polygonal chains constructed with chords of a circle, trees (undirected graphs with no cycles) etc. are included too. All chapters contain a considerable number of exercises of various complexity, from easy training tasks to complex problems which require decent persistence and skill from the one who dares to solve them. If one aims to passively familiarize oneself with the subject, methods and the most necessary facts of combinatorics, then it may suffice to limit one's study to the main text omitting the exercise part of the book. However, for those who want to immerse themselves in combinatorial problems and to gain skills of active research in that field, the exercise section is rather important.

The authors hope that the book will be helpful for several categories of readers. University teachers and professors of mathematics may find somewhat unusual coverage of certain matters and exercises which can be readily applied in their professional work. We believe that certain series of problems may serve as a base for serious creative works and essays. This especially refers to students at pedagogical universities and colleges who need to prepare themselves to the teaching of the basics of combinatorics, mainly building on arithmetic and geometry. Most of the exercises of the book are of this very origin.

Data Analysis

Predictive Analytics for Data Driven Decision Making - Tools and Techniques for Solving Real World Problems
L. Ashok Kumar, PhD (Professor, PSG College of Technology, Tamil Nadu, India), R. Sujatha, PhD (Associate Professor, PSG Institute of Management, Tamil Nadu, India) and B. Uma Maheswari, PhD (Associate Professor, PSG Institute of Management, Tamil Nadu, India)
In series: Research Methodology and Data Analysis
Publication Date: 03/30/2022
417 pp.
Hardcover: 978-1-68507-650-4. $230.00
Predictive analytics is an evolving field and has applications across all domains and sectors. This book will introduce to the reader the concept of predictive analytics and cover in detail the predictive analytic models, tools and techniques involved. The book will also cover the applications of predictive analytics in various domains including health care, banking, agriculture, retailing, sports and industries using smart grid and industrial drivers with real world scenarios. This book covers performance improvement and enhancement techniques with the aid of intelligent predictive analytical algorithms to predict future patterns. This would be a handy guide covering all steps from identification of the problem, preparing the data, model building and recommending solutions. Hence, the readers can experience the various types of performance improvement techniques and implement them in their specific domain.

Special Topics

Advances in Mathematics Research. Volume 30
Albert R. Baswell
In series: Advances in Mathematics Research
Publication Date: 02/17/2022
250 pp.
Hardcover: 978-1-68507-453-1. $250.00
e-book: 978-1-68507-536-1. $250.00
This volume includes some of the latest advancements in mathematics research. Chapter One aims to increase the certainty and reliability of G index through different examples and show that G index can be reached by two different paths. Chapter Two focuses on deriving exact trigonometric ratios using equations. Chapter Three presents a review of rough set theory-based feature selection approaches for small to large scale machine learning tasks. Chapter Four delivers an analytic approach to the Riemann hypothesis. Chapter Five aims to present a comparative analysis of mathematical models of transmission lines applied to two short lines of medium voltage. Finally, Chapter Six focuses on the numerical investigation of the one and two dimensional semi-linear scale-invariant wave equation with damping, mass and power non-linearity.
Emerging Advancements in Mathematical Sciences

Bhagwati Prasad Chamola, PhD (Professor, Jaypee Institute of Information Technology, Noida, India), Pato Kumari, PhD (Associate Professor, Jaypee Institute of Information Technology, Noida, India) and Lakhveer Kaur, PhD (Assistant Professor (Senior Grade), Jaypee Institute of Information Technology, Noida, India)

In series: Mathematics Research Developments

Publication Date: 04/06/2022

205 pp.

Hardcover: 978-1-68507-711-2. $160.00
e-book: 978-1-68507-829-4. $160.00

The present book of proceedings includes chapters related to the areas of pure, applied and inter-disciplinary mathematics reflecting the potential applications in the domains of sciences and engineering. The main areas include algebra and its applications, analysis and approximation theory, cryptography, computational fluid dynamics, continuum mechanics and vibrations, differential equations and applications, graph theory, fuzzy mathematics and logic, numerical analysis, optimization and its applications, wave propagation, etc. The scientists, engineers, academicians and researchers working in the proposed areas of coding and information theory, computational fluid dynamics, differential equations, fuzzy sets and systems, numerical analysis, optimization, vibrations, etc. looking for new insight and ideas in these areas will be benefitted by the contents of this book. In fact, it will be useful to a large class of readers interested in recent findings related to mathematical sciences and their applications to the diverse domains of knowledge. The book will be a fruitful contribution to all knowledge seekers and researchers in the concerned areas who are looking for new insight and ideas. As it consists of updated research articles on emerging areas of mathematical sciences and their applications, it will be a valued addition to the learning resource centres of various universities, industries, and research and development organizations across the globe.

Generalized Inverses: Algorithms and Applications

Ivan Kyrchei, PhD (Pidstryhach Institute for Applied Problems of Mechanics and Mathematics, NAS of Ukraine, Lviv, Ukraine)

In series: Mathematics Research Developments

Publication Date: 12/28/2021

288 pp.

Hardcover: 978-1-68507-356-5. $195.00
e-book: 978-1-68507-513-2. $195.00

Generalized Inverses: Algorithms and Applications demonstrates some of the latest hot topics on generalized inverse matrices and their applications. Each article has been carefully selected to present substantial research results. Topics discussed herein include recent advances in exploring of generalizations of the core inverse, particularly in composing appropriate outer inverses and the Moore-Penrose inverse such as OMP, MPO and MPOMP inverses; in analyzing of properties of the BT inverse and the BT-order; in perturbation estimations for the Drazin inverse; in using generalized inverses to solve systems of quaternion matrix equations and Sylvester-type tensor equations under t-product; in computing and approximating the matrix generalized inverses by hyperpower family of iterative methods of arbitrary convergence order; and in studying of the weighted pseudoinverse matrices with singular indefinite weights.

Outliers: Detection and Analysis

Apra Lipi, MSc (Probationary Officer, State Bank of India, Mumbai, Maharashtra, India), Kishan Kumar, MSc (Business Analyst, Deloitte LLP, Bangalore, Karnataka, India) and Soubhik Chakraborty, PhD (Professor, Head of the Department of Mathematics, Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India)

In series: Mathematics Research Developments

Publication Date: 01/28/2022

141 pp.

Softcover: 978-1-68507-554-5. $95.00
e-book: 978-1-68507-587-3. $95.00

This brief monograph, in the broadest terms, reviews some of the techniques for outlier detection and analysis. In addition, the effect of the presence of outliers on the statistical parameters such as higher-order moments, quartiles, deciles, percentiles, skewness, and
kurtosis, etc. of the distribution are studied. It also discusses the masking and swamping effect of outliers and some primitive methods of detecting these behaviors. Furthermore, some methods of detecting outliers in multivariate data using the clustering algorithm approach are also discussed.

**PHYSICS AND ASTRONOMY**

**Astronomy and Astrophysics**

**Advances in Dark Matter Research**  
George M. Drake  
In series: Advances in Astronomy and Astrophysics  
Publication Date: 09/03/2021  
97 pp.  
Softcover: 978-1-53619-897-3, $82.00  
e-book: 978-1-68507-058-8, $82.00  
This monograph includes four chapters that present recent scientific advancements in dark matter research. Chapter One argues that hydrogen atoms provide the most natural explanation of dark matter. Chapter Two presents possible candidates for dark matter in the context of string theory. Chapter Three proposes simple solutions to the problems of dark energy and dark matter using the theory of general inconstancy and the Bodmer-Terazawa-Witten hypothesis. Chapter Four reviews dark matter as sterile neutrinos and fermions, dark photons, and dark energy, as well as the measurement of the fraction of dark energy density in the universe.

**Condensed Matter**

**A Closer Look at Plasmonics**  
Christian Bosch  
In series: Physics Research and Technology  
Publication Date: 03/16/2022  
375 pp.  
Hardcover: 978-1-68507-709-9, $230.00  
e-book: 978-1-68507-725-9, $230.00  
Plasmonics refers to the generation, detection, and manipulation of signals at optical frequencies along metal-dielectric interfaces at the nanometer scale. The four chapters of this book analyze plasmonics and its applications. Chapter One discusses the plasmonic sensor and its use in the detection of brain enzymes. Chapter Two examines the optical constants of plasmonic nanostructures and demonstrates that optical absorption can be used to estimate dielectric constants of noble metal nanostructures. Chapter Three theoretically investigates the magnetoplasmonics of noble metal nanostructures and shows that plasmonic nanostructures have increased magnetic response in visible range at low magnetic fields. Lastly, Chapter Four studies some aspects of classical and quantum optical effects in surface plasmonics.

**An Introduction to Charge Carriers**  
Jai Singh, PhD (Emeritus Professor of Physics, Energy and Resources Institute, College of Engineering, IT and Environment, Charles Darwin University, Darwin, NT, Australia)  
In series: Physics Research and Technology  
Publication Date: 01/14/2022  
363 pp.  
Hardcover: 978-1-68507-456-2, $230.00  
e-book: 978-1-68507-531-6, $230.00  
This book provides a semi-quantitative approach to understanding and applications of charge carriers in inorganic and organic opto-electronic and photonic devices.
Featuring contributions by noted experts in the field of optoelectronics, materials and photonics, this book describes the importance of charge carriers in the operation of optoelectronic and photonic devices of both inorganic and organic semiconductors.

An Introduction to Charge Carriers starts with the concept of charge carriers and their involvement in a few inorganic and organic devices, like solar cells and organic light emitting diodes (OLEDs), including those based on thermally activated and delayed fluorescence (TADF). Then it discusses the applications of charge carriers in silicon p-n junction, nanomaterials, wurtzite phases of gallium, aluminium and indium nitride devices, ion conducting polymer electrolytes, rare-earth doped glasses, organic photodetectors, and several aspects of organic and perovskite solar cells.

An Introduction to Charge Carriers is an ideal book for senior undergraduate and postgraduate students and teaching and research professionals in the field of solid-state physics, material science and engineering.

Electricity

An Essential Guide to Thermal Conductivity
*S. M. Sohel Murshed, PhD (Department of Mechanical Engineering, Instituto Superior Tecnico, University of Lisbon, Lisbon, Portugal)*

In series: *Physics Research and Technology*

Publication Date: 12/03/2021
376 pp.
Hardcover: 978-1-68507-196-7. $230.00
e-book: 978-1-68507-289-6. $230.00

Thermal conductivity is one of the main properties of any materials as it plays a key role for their use in a wide range of essential applications. This book covers emerging fluids like ionic liquids and suspensions of nanoparticles known as nanofluids. Despite being a popular topic under rapid evolution, knowledge on thermal conductivity of nanofluids is far from being mature. Besides discussion on various mechanisms and modeling, this book presents experimental findings related to the impact of various parameters on the thermal conductivity of these new fluids. It includes thermal conductivity of ionanocolloids which is a new type of nanofluids. The book is aimed to serve as a guide to research, education, and industries in the fields of heat transfer and exchange, cooling, and other thermal management.

Solar PV System: Design, Installation, Operation and Maintenance
*L. Ashok Kumar, PhD (Professor and Associate HoD, EEE Department, PSG College of Technology, Coimbatore, Tamilnadu, India) and K. Mohana Sundaram, PhD (Professor, EEE Department, KPR Institute of Engineering and Technology, Coimbatore, Tamilnadu, India)*

In series: *Physics Research and Technology*

Publication Date: 12/28/2021
339 pp.
Hardcover: 978-1-68507-341-1. $230.00
e-book: 978-1-68507-475-3. $230.00

Our book, “Solar PV System: Design, Installation, Operation and Maintenance,” describes the concepts of the Solar PV system which is considered an important alternative to fossil fuels. As UN SDG points out, the implementation of clean and affordable renewable energy is becoming more sustainable and progressive. The authors have addressed the basic concepts of Solar PV systems and the design of PV systems, including several real-world examples. The book will be of great benefit to solar energy management professionals, PV troubleshooting engineers, consultants, professors, students, and industry experts.
Nuclear and High Energy Physics

Nuclear Power Plants: Recent Progress and Future Directions
John K. Compton
In series: Nuclear Materials and Disaster Research
Publication Date: 02/17/2022
317 pp.
Hardcover: 978-1-68507-682-5. $195.00
e-book: 978-1-68507-686-3. $195.00
In this volume, recent research on nuclear power plants is presented across four chapters. Chapter One reviews the digital instrumentation and control systems in a representative pressurized water reactor plant as well as the reported work on developing platforms for conducting cybersecurity investigations and examining the response of such a plant to simulated cyberattacks. Chapter Two develops a data-driven approach that improves the accuracy of schedule and cost estimation for nuclear power plant projects using data mining techniques. Chapter Three estimates the social costs of emissions from fission and nuclear fusion power plants by modifying the existing and related global coefficients. Lastly, Chapter Four characterizes the balances of properties and efficiencies of processes occurring in nuclear reactions.

Polymer Physics

Far Infrared and Terahertz Spectroscopy of Polymers
Valery A. Ryzhov (Researcher at the Laboratory of Materials Dynamics of the Physico-Technical Institute, Researcher, Ioffe Institute, Russian Academy of Sciences, St. Petersburg, Russia)
In series: Polymer Science and Technology
Publication Date: 03/30/2022
168 pp.
Softcover: 978-1-68507-662-7. $95.00
e-book: 978-1-68507-830-0. $95.00
The presented work summarizes and systematizes an extensive experimental material of the results of studying polymers using spectroscopy in the low-frequency infrared region. Today, spectroscopic studies in the far infrared region are becoming an important tool for characterizing the physical properties of polymers, determined by molecular dynamics and the level of molecular interactions. Low-frequency spectroscopy of intermolecular interactions is the original and most informative source and criterion for establishing the presence of a hydrogen bond in biological substances, multiplets and clusters in ionomers, a criterion for crystallinity, etc.

Far IR spectroscopy has proven to be productive in deciphering the molecular nature of solid-state (δ, β, and γ) relaxation transitions in polymers. This was the result of (1) evaluating the potential barriers and sizes of molecular motion units from the spectra, (2) finding empirical correlations between the spectral parameters and molecular characteristics of polymers, and (3) comparing the results with activation barriers for relaxation transitions.

Special Topics

Horizons in World Physics. Volume 305
Albert Reimer
In series: Horizons in World Physics
Publication Date: 09/09/2021
268 pp.
Hardcover: 978-1-53619-951-2. $250.00
e-book: 978-1-68507-057-1. $250.00
This edited volume includes seven chapters describing recent advancements in physics research from scientists around the world. Chapter One provides an insight into amino acid molecule fragmentation under low- and high-energy electron impact. Chapter Two introduces a new method for passive analysis of the molecular structure of the biomatrix of fungi in vivo. Chapter Three analyzes how width of measuring range affects accuracy of estimated values of thermoelastic and geometrical properties of semiconductors. Chapter Four summarizes modern developments in cosmology in connection with gamma
ray bursts. Chapter Five gives a survey of the development of methods for the calculation of current density and eddy currents in a group of long solid parallel conductors. Chapter Six attempts to reconcile quantum field theory predictions with cosmological observations using unified dark energy models. Finally, Chapter Seven reviews alternative proposals to the ΛCDM model of the universe.

Horizons in World Physics. Volume 306
Albert Reimer

In series: Horizons in World Physics
Publication Date: 01/14/2022
231 pp.
Hardcover: 978-1-68507-077-9, $250.00
e-book: 978-1-68507-088-5, $250.00

This monograph includes five chapters that present recent advancements in physics from authors around the world. Chapter One explores how theories of physics have influenced the international relations discipline and considers what international relations theorists can learn from physics in the future. Chapter Two presents various approaches for determining the electromagnetic field in fixed and steadily rotating charged bodies in the form of a cylinder and a sphere. Chapter Three deals with the synthesis and emission properties of multiple rare earth doped white light-emitting single-phase perovskites.

Chapter Four discusses two theoretical methods used to explore the kinetic behavior of the multi-step process of batch protein crystallization. Finally, Chapter Five proposes a modified version of the dual copy idea, which states that the two theories of perturbative gluon-gluon and graviton-graviton scattering amplitudes are dual descriptions of the same physics, in which an exact relation between classical, spherically symmetric metrics and gauge field static potentials is established.

Horizons in World Physics. Volume 307
Albert Reimer

In series: Horizons in World Physics
Publication Date: 01/14/2022
248 pp.
Hardcover: 978-1-68507-549-1, $250.00
e-book: 978-1-68507-574-3, $250.00

This volume contains six chapters which describe recent advancements in physics. Chapter One discusses optical thermometry when Eu3+ ions are substituted in various perovskites/double perovskite lattices. Chapter Two deals with various aspects of measurements of cosmic-ray interactions on the Earth’s surface. Chapter Three covers the use of machine learning for revealing the transfer of xylene from the ambient air to rainwater and an explainable artificial intelligence framework for investigating the relevance of the monitored parameters and identification of the key factors that govern wet deposition of xylene. Chapter Four proposes a new universal constant that connects events in the micro- and macro-world as a consequence of neutrino processes of proton clustering. Chapter Five introduces a new proposal for a gravitational Bose Einstein condensate associated with a special relativity deformed by a minimum speed. Lastly, Chapter Six studies the possible effect of proper ultralight massive structures on the propagation behavior of gravitational waves and neutrinos.

Reality and the Paradigm of Relations
Thomas Nordström (Associate Professor, Entrepreneurship and Organizational Innovation Processes, Blekinge Institute of Technology, Sweden; CEO, Research and Development Institutes, Sweden)

In series: Physics Research and Technology
Publication Date: 10/26/2021
355 pp.
Hardcover: 978-1-68507-253-7, $230.00
Online Book 978-1-53619-860-7, $230.00

We are familiar with the existing views of the world of today, e.g. the theory of quantum, the theory of relativity, the table of elements, the standard model, different ideologies and religions. The world is challenged by severe problems within societies as well as within science, e.g. nuclear weapons, population growth, refugee flows, climate change, starvation and diseases within societies; how to unite the theory of relativity and the theory of quantum
Guided by an alternative definition of the numbers 0 and 1—differently than those made by Gottlob Frege and Bertrand Russell—the foundation of arithmetic breaks down and collapses. So, the need to create a new logic occurred and it is called the logic of relations. Applying this new logic to phenomena such as gravitation and energy and theories of relativity and quantum new perspectives arise. Even the foundation of chemistry, medicine, biology and politics break down and get new perspectives. Concepts and phenomena such as random, determination, DNA, black holes, ATP synthase, equilibrium and cancer also get new explanations.

It is very dramatic!

Inspired by persons such as Aristotle, Spinoza, Newton, Darwin, Einstein and Wittgenstein, the author has formulated a possible new paradigm and new worldview. Based on one single postulate a principle and a theory have been built understanding reality from a new perspective.

So, what has the author done?

One fundamental postulate - Nothing exists in isolation, i.e., everything exists in relations – guides the expedition in reality together with the formula $X = aRb$.

One derivation is this equation, which unites relativity and quantum: $X = a \left( \Psi(x, t) = p1-n \right) b$

It is a captivating journey.

In this volume new answers to old questions are presented, e.g. how the role of transformers replaces black holes, ATP synthase, the photoelectric effect and one equation that unites relativity and quantum.

At this point in time there is a need to create the next fundamental paradigm for the sciences of logic, physics, chemistry, medicine, biology and politics.

A change in perspective is severe and can lead to confusion, anxiety and existential crises. Trusting Soren Kierkegaard’s view of anxiety might be a clue: “An adventure that every human being has to live through, learning to be anxious so as not to be ruined either by never having been in anxiety or by sinking into it. Whoever has learned to be anxious in the right way has learned the ultimate.”

After dealing with objects and theories for different aspects of reality the author has learned to be anxious in the right way and after a long, tough and painstaking process over many years the author created Reality and the Paradigm of Relations.

Whether you’re ready for a new perspective on the world or not, this book will provoke your brain into re-examining everything you think you know about reality.
Here we trace the evolution of neutrino mass research and present the current understanding.

**Thermal Physics and Statistical Mechanics**

Handbook of Research on Heat Transfer
*Suvanjit Bhattacharyya, PhD (Assistant Professor, Department of Mechanical Engineering, Birla Institute of Technology and Science (BITS), Pilani, Rajasthan, India) and Varun Goel, PhD (Associate Professor, Department of Mechanical Engineering, National Institute of Technology Hamirpur, Hamirpur (HP), India)*

In series: *Physics Research and Technology*
Publication Date: 01/28/2022
450 pp.
Hardcover: 978-1-68507-459-3. $270.00
e-book: 978-1-68507-542-2. $270.00

This book evolved from contributions of various experts who presented their thoughts developed over many years of teaching and research. The idea of this book is to present the various research domains of heat transfer in which work is ongoing. The work includes heat transfer augmentation techniques, MHD, fuel cells, solar systems, nano fluids, etc.

This book is intended for research students, PG students and industry professionals. Heat transfer is a very broad subject so the selection of chapters is made in accordance with the need to cover the majority of topics dealt with in heat transfer and focus is placed on areas where the availability of literature is limited compared to other topics. We welcome feedback from readers that will improve the subsequent edition of this book.

**TECHNOLOGY AND ENGINEERING**

Civil Engineering

Computer Aided Bridge Engineering (Detail Design of Pre-Stressed Concrete I-Girder / Box-Girder Bridges)
*Sandipan Goswami (Consulting Engineer, Technical Advisor, The World Bank, Deloitte Touche Tomatsu, West Bengal, India)*

In series: *Civil Engineering and Architecture*
Publication Date: 01/21/2022
381 pp.
Hardcover: 978-1-68507-413-5. $230.00
e-book: 978-1-68507-576-7. $230.00

The present book belongs to the book series of “Computer Aided Bridge Engineering” for the design of pre-stressed concrete (PSC), I-girder (I-Beam), and PSC box-girder bridges. In this volume, the real project design calculations for a deck-girder superstructure are presented along with the design of an abutment and pier with pile foundation as the bridge substructure.

The book is proposed to be read in association with processing the design work by using the computer software ASTRA Pro as referred to in the book. The book describes two essential facets of the work, which are ‘Analysis of the Grillage Model of the Deck-Girder Superstructure’ and the subsequent ‘Design of Deck Slab and PSC I-Girder’. The software provides three facets of the work: first is the ‘Analysis of the Grillage Model of the Deck-Girder Superstructure’, second is the ‘Design of Deck Slab and PSC I-Girder, Abutment, Piers along with Pile Foundation’, and the third is a ‘Set of Sample Editable CAD Drawings for the work’. The drawings may be modified as per the design work and be submitted as required for the construction. The drawings contain information on dimensions, structural detailing, bar-bending schedules, pre-stressing details and construction guides.
The call for transformation in critical aspects of the operations of the global construction industry is ever more critical. This book presents a review and discussion of some of these transformation areas in a research-oriented style that the scientific community will find very useful.

This book focuses on recent advances in the field of planar antenna design and their applications in various fields of research including space communication, mobile communication, wireless communication, and wearable applications. Planar antennas are also used in medical applications including microwave imaging, medical implants, hyperthermia treatments, and wireless wellness monitoring. However, most of these applications still use bulky antenna systems which hamper their efficiency and applicability despite high application potential. The primary objective of recent antenna research is the reduction in size and complexity. Students, scholars and researchers are used to doing mathematical modelling and pattern measurements in simulated environments only. Our aim is to show academic and industry researchers as well as advanced students and lecturers in electronics, electrical and instrumentation engineering how to do measurements in real-world environments. This book will present planar antenna design concepts, methods, and techniques to enhance performance parameters, as well as applications for IoTs and device-to-device communication. We will provide the latest techniques used for the design of antennas in terms of their structures, defected ground, MIMO, and fractal design. This book will also address the specific steps to resolve issues in designing antennas and how to design conformal and miniaturized antenna structures for various applications.

This book will present planar antenna design concepts, methods, and techniques to enhance performance parameters, as well as applications for IoTs and device-to-device communication. We will provide the latest techniques used for the design of antennas in terms of their structures, defected ground, MIMO, and fractal design. This book will also address the specific steps to resolve issues in designing antennas and how to design conformal and miniaturized antenna structures for various applications.

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The book *Types of Photodetectors and their Applications* edited by Dr. S. S. Kushvaha and Dr. V. N. Singh and published by Nova Science Publishers, Inc., USA, is the result of joint efforts of some well-known researchers in the field. The broad electromagnetic spectrum bands from ultraviolet (UV) to terahertz (THz) are effectively detected by PDs depending upon specific applications. Broadband PDs have various applications in various fields, i.e., security, defense, optical communication, imaging, bio-medical, night vision, environmental sensing, process control, etc. Thus, PDs are touching almost all aspects of life. The book comprises eight chapters and discusses various aspects of photodetectors, starting from multiple materials, configurations, methods to enhance its performance, etc. The book aims to cater to the need of budding researchers in the field of optoelectronics and post-graduate students.

**Energy**

*Advances in Energy Research. Volume 35*

*Morena J. Acosta*

In series: *Advances in Energy Research*

Publication Date: 11/11/2021

249 pp.
Hardcover: 978-1-68507-373-2. $250.00
e-book: 978-1-68507-396-1. $250.00

This volume includes six chapters that detail recent advancements in energy research. Chapter One describes a method for optimizing the efficiency of energy storage systems in applications like electric vehicles, thus reducing battery aging and cost of ownership. Chapter Two provides an overview of existing technologies for the production of hydrogen from biomass and discusses their pros and cons. Chapter Three addresses the main challenges, perspectives and innovations related to the use of different biomasses for the generation of clean energy through distinct thermal processes in the Brazilian Northeast. Chapter Four deals with China’s role in the expansion of nuclear energy in Latin America and the Caribbean. Chapter Five gives a rundown of the latest developments in organic-inorganic perovskite nanogenerators, such as piezoelectric and triboelectric nanogenerators. Lastly, Chapter Six explains smart grid technology for maintaining the functioning of a wind-solar electric system.

**Electrical Engineering**

*Design and Simulation of Electrical Machines with Matlab*

*L. Ashtok Kumar (Professor and Associate HoD, Department of Electrical Engineering, Psg College of Technology, Coimbatore, Tamilnadu, India ), S. Albert Alexander (Associate Professor, Kongu Engineering College, Erode, India) and Y. Uma Maheswari (Technology Manager, Pramura Software (p) Ltd., Coimbatore, Tamilnadu, India)*

In series: *Electrical Engineering Developments*

Publication Date: 12/17/2021

254 pp.
Hardcover: 978-1-68507-411-1. $195.00
e-book: 978-1-68507-476-0. $195.00

The technical aspect of electrical machines has gone through passionate scientific progression during the past several decades. Many inventions in strategy, apparatus, circuit, control and system have caused electrical machines to come forward as a major trend in recent years. This book describes promising technology with MATLAB/SIMULINK in electrical machines. It addresses the concept of electromechanical energy conversion and describes the beginning of various electrical machines, special electrical machines, electrical drives and their applications using MATLAB/SIMULINK. This book also gives a condensed and extensive review of current trends and outcomes. The ultimate goal of this book is to lay emphasis on engineering students to engage in energy conversion on up-to-date electrical applications. This book covers features of MATLAB/SIMULINK and its influence in various electrical machines like DC machines, induction machines, synchronous machines, special electrical machines, electrical drives, etc. The focus is to provide technical information to cover equipment based on modeling and design of circuits using MATLAB simulation.
This book is highly suggested as an introductory handbook and as a textbook for undergraduate and postgraduate engineers and as a reference book for researchers who are merely engrossed in design and investigation of electrical machines. The technical and user-friendly facets of this book facilitate strong interest for every individual who is interested in learning more about the subject matter.

**Renewable Energy**

**Biofuel Production from Microalgae, Macroalgae and Larvae: Processes and Conversion Technologies**
Man-Kee Lam, PhD, AMIChemE (Senior Lecturer, Chemical Engineering Department, Universiti Teknologi PETRONAS, Malaysia), Jun-Wei Lim, PhD, ChM, MRSC (Senior Lecturer, Fundamental and Applied Sciences Department, Universiti Teknologi PETRONAS, Malaysia), Yoke-Wang Cheng, PhD (Senior Lecturer, Department of Chemical Engineering, Manipal International University, Malaysia) and Inn-Shi Tan, PhD, FHEA, Grad I.E.M (Lecturer, Department of Chemical Engineering, Curtin University Malaysia)

In series: Renewable Energy: Research, Development and Policies
Publication Date: 09/27/2021

251 pp.
Hardcover: 978-1-68507-116-5. $195.00
e-book: 978-1-68507-159-2. $195.00

Increasing energy demand due to the depletion of fossil fuels and the growth of the human population has prompted the search for renewable and sustainable energy feedstocks. Renewable and green biofuels, e.g., biodiesel and bioethanol, are touted as promising surrogates for fossil fuels. The first generation of biofuel feedstock is mainly derived from food sources, e.g., rapeseed oil and sugarcane, whereas second-generation feedstock is derived from inedible and waste sources, e.g., waste cooking oil and forest biomass. However, these feedstocks have several limitations such as a serious impact on the food supply chain, low productivity, and complicated pre-treatment processes. On the other hand, strategic biofuel production from third-generation feedstock, namely, microalgae, macroalgae and larvae, has opened a new direction in the renewable biofuel industries. The third-generation feedstocks offer several benefits, such as fast growing rate, less utilization of arable land and less impact on the food versus fuel feud. Thus, this book is intended to highlight the potential of these new feedstock for biofuel production as well as other applications. The book is mainly divided into three parts, which cover the discussion of upstream and downstream processing technologies of microalgae, macroalgae and larvae. This book is useful to undergraduate and postgraduate students as well as researchers in the biofuel field to understand the overall process chain and conversion technologies of biofuels from third-generation feedstock.

**Technical Challenges in the Commercialization of Transformers for Solar Photovoltaic Technology Applications**
Bonginkosi A. Thango, Leon S. Sikhosana, Jacobus A. Jordaan, Agha F. Nnachi, Udochukwu B. Akuru, Aloys O. Akumu and Bolanie T. Abe (Lecturer, Tshwane University of Technology, Pretoria, South Africa)

In series: Renewable Energy: Research, Development and Policies
Publication Date: 11/19/2021

150 pp.
Softcover: 978-1-68507-214-8. $95.00
e-book: 978-1-68507-249-0. $95.00

The presence of harmonic currents as a result of switching action of inverters, intermittent sunlight, and resonances triggered by the connection of the solar photovoltaic plant to the electrical network has spread the realization of the prospective rapid depletion of a transformer’s intended service lifetime owing to increased service losses and temperature rise in the active components. On the grounds of the supposed prospect of reduced transformer service lifetime under harmonic conditions, there is a growing interest by manufacturers to explore transformer design procedures that enable transformers to operate reliably under harmonic conditions. This book examines such procedures, highlighting the challenges involved in optimizing transformer performance.
Industrial Technology

Intelligent Information Retrieval for Healthcare Systems
Parma Nand, PhD, Arun Prakash Agrawal, PhD, Ankur Choudhary, PhD and Vishal Jain (Computer Science and Engineering, School of Engineering and Technology, Sharda University, Greater Noida, U. P., India)

In series: *Internet of Things and Machine Learning*
Publication Date: 12/16/2021
257 pp.
Hardcover: 978-1-68507-301-5, $195.00
e-book: 978-1-68507-365-7, $195.00

Ontology-based information extraction is considered as an effective method to improve the performance of information extraction (IE) systems. For research and disbursement of customized healthcare services, a major challenge is to efficiently retrieve and analyze the individual patient data from a large volume of heterogeneous data over a long span of time. This requires effective ontology-based information retrieval approaches for clinical information systems. This book is an attempt to highlight the key advances in ontology-based information retrieval techniques especially in the healthcare domain. The varied chapters attempt to uncover the current challenges in the application of ontology-based information retrieval techniques to the healthcare systems. This book is the first of its kind that highlights the ontology-driven information retrieval mechanisms and techniques being applied to healthcare as well as clinical information systems. It can serve as a textbook for courses in healthcare systems. It can also serve as a reference book to medical practitioners and researchers involved in implementing as well as providing customized health care solutions to patients.

Marine and Naval

Numerical Modeling, Prediction of Ship Maneuvering and Hydrodynamics during Inland Waterway Transport
Peng Du (Associate Professor, School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China), Haibao Hu (Professor, School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China), Ying Wang (Assistant Researcher, School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China), A. Ouahsine (Professor, Roberval Laboratory, UT Compiègne-Sorbonne University, Compiègne, France) and Xiaopeng Chen (Professor, School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an, China)

In series: *Marine Science and Technology*
Publication Date: 01/28/2022
185 pp.
Softcover: 978-1-68507-278-0, $95.00
e-book: 978-1-68507-575-0, $95.00

In this work, ship hydrodynamics during inland waterway transport and ship maneuvering are investigated using CFD (Computational Fluid Dynamics) based on OpenFoam. Validation and verification studies are carried out for the mesh convergence, time step convergence, sensitivity to turbulence models and dynamic mesh techniques. A quaternion-based 6DoF motion solver is implemented for the trim and sinkage predictions.

Environmental effects on several inland vessels (convoy 1, convoy 2, tanker) are studied using the validated numerical models. Three important aspects, the confinement effect of the waterway, head-on encounter, and ship-bridge pile interaction are simulated. The testing conditions cover a wide range, including various channel dimensions, water depths, ship draughts and speeds. The ship resistance, wave pattern, Kelvin angle and wave elevation at specific positions are investigated as functions of these parameters.

Ship maneuvering is investigated using virtual captive model tests based on the MMG (Mathematical Maneuvering Group) model. An actuator disk is implemented to replace the real propeller. Open water test, rudder force test, OTT (Oblique Towing Tank test) and CMT (Circular Motion Test) of a KVLCC2 model are carried out to obtain the hydrodynamic coefficients of the propeller, rudder and ship hull. Using the obtained coefficients, system-based maneuvering simulations are carried out and validated using the free running test data.
These studies reproduce real ship tests and thus prove the validity of our numerical models. As a result, the numerical solver is promising in ship hydrodynamics and marine engineering simulations.

**Materials Science**

**Advances in Materials Science Research. Volume 45**  
**Maryann C. Wythers**  
In series: *Advances in Materials Science Research*  
Publication Date: 09/27/2021  
212 pp.  
Hardcover: 978-1-68507-098-4, $250.00  
e-book: 978-1-68507-126-4, $250.00  
This edited monograph presents five chapters, each detailing a recent advancement in materials science research. Chapter One focuses on several topics in the field of spintronics, including giant magnetoresistance observed in spin valves using various iron oxides and their interesting magnetization reversals by interlayer exchange coupling and spin-polarized tunneling in magnetic tunnel junctions using electrodes of half-metallic magnetite. Chapter Two describes the synthesis of eight coordination polymers by vial reaction method. Chapter Three introduces physical, thermal and electrochemical properties of ionic liquid-based polymer electrolytes and their applications in rechargeable lithium batteries. Chapter Four explores the aspects of opening of bandgap in graphene. Chapter Five describes the use of aluminum alloys, which are lightweight and high-strength materials, in the construction of the hull of a ship.

**Advances in Materials Science Research. Volume 46**  
**Maryann C. Wythers**  
In series: *Advances in Materials Science Research*  
Publication Date: 09/17/2021  
282 pp.  
Hardcover: 978-1-68507-074-8, $250.00  
e-book: 978-1-68507-087-8, $250.00  
This edited monograph includes five chapters, each detailing recent advancements in materials science research. Chapter One discusses various processes to manufacture lithium alloys and salts as well as fabricated pebbles of lithium-based ceramics with desired properties for their use as tritium breeder materials. Chapter Two examines how the mechanical performance of glass fiber reinforced hybrid composites changes according to glass fiber type, glass fiber end form, other reinforcing non-fibrous or fiber-based materials and composite manufacturing method. Chapter Three describes studies concerning the properties of synthesized organometallics. Chapter Four investigates the correlation between the surface chemistry and the corrosion resistance of silanized samples of AZ91D magnesium alloy. Lastly, Chapter Five describes the control methods of brittle intermetallic compounds in the welding process of titanium and other alloys.

**Advances in Materials Science Research. Volume 47**  
**Maryann C. Wythers**  
In series: *Advances in Materials Science Research*  
Publication Date: 11/05/2021  
263 pp.  
Hardcover: 978-1-68507-312-1, $250.00  
e-book: 978-1-68507-328-2, $250.00  
This compilation includes six chapters that present various advancements in materials science research. Chapter One suggests new rigorous approaches to the mathematical modeling and electromagnetic analysis of 2D photonic crystals. Chapter Two details the results of a dynamical study of positron channeling in a (11, 9) chiral single-wall carbon nanotube. Chapter Three uses a deconvolution of IR spectra to attribute the spectra components to definite phases in multiphase proton exchange waveguides. Chapter Four describes the third-order nonlinear optical application of organometallic compounds. Chapter Five focuses on evaluating the behavior of cementitious composites produced with different concentrations of multi-walled carbon nanotubes providing a relationship between mechanical properties, ultrasound pulse velocity and the frequency resonance method. Finally, Chapter Six deals with the design of a capillary electrophoresis sensor based on micro-structured fibers.
Advances in Materials Science Research. Volume 48
Maryann C. Wythers
In series: Advances in Materials Science Research
Publication Date: 11/11/2021
226 pp.
Hardcover: 978-1-68507-371-8, $250.00
e-book: 978-1-68507-388-6, $250.00
This volume includes six chapters and presents some of the latest advancements in materials science research. Chapter One describes the structural characterization, the polyelectrolyte properties and the proton dynamics of imidazole-based materials, with special emphasis on the application for proton conductors, gene delivery systems, pollutant adsorbents, fluorescent sensors and OLED technologies. Chapter Two details various characteristics of polyethylene terephthalate fiber. Chapter Three explains the foundation of photonic crystals from one-dimension to higher-order and introduces topological ideas in photonic crystals. Chapter Four includes research on production, properties and applications of polyethylene terephthalate. Chapter Five explores the potential application of antimonene as an anode material in sodium-ion batteries. Finally, Chapter Six summarizes recent advances on the role of fullerene additions for structural behaviors of thermoplastic matrices.

Advances in Materials Science Research. Volume 49
Maryann C. Wythers
In series: Advances in Materials Science Research
Publication Date: 01/07/2022
260 pp.
Hardcover: 978-1-68507-523-1, $250.00
e-book: 978-1-68507-539-2, $250.00
This volume describes some of the latest advancements in materials science research. Chapter One presents comprehensive information about recent advancements and applications of conjugated polymer-modified electrodes reported in the literature. Chapter Two focuses on polymer membrane modules for large and small scale separations. Chapter Three focuses on the research work done so far on the applications of membrane systems for CO2 capture and storage. Chapter Four presents the structural diagram of the reliability of building materials production in the form of a set of series-connected technological operations. Chapter Five introduces a recently proposed nanoflake model to re-estimate the strength of vitreous silica. Lastly, Chapter Six investigates the structural and electronic properties of Perovskite compositions to describe the control of electronic properties for technological applications.

Advances in Materials Science Research. Volume 50
Maryann C. Wythers
In series: Advances in Materials Science Research
Publication Date: 02/11/2022
274 pp.
Hardcover: 978-1-68507-655-9, $250.00
e-book: 978-1-68507-672-6, $250.00
This volume includes five chapters that describe recent advancements in materials science research. Chapter One explains the advantages of electroactive dye polymers as redox mediators and summarizes the recent developments of electrochemical (bio)sensors based on these polymer films. Chapter Two deals with the harmful effects of diverse pollutants on natural stones and natural stones as potential sources of pollution. Chapter Three explores the role that stones play as elements of cultural landscapes throughout history. Chapter Four studies the changes in PLLA crystal orientation for the uniaxially drawn films of corresponding hybrid materials by differential scanning calorimetry, X-ray diffractometry and transmission electron microscopy. Lastly, Chapter Five presents an overview of different polypyrrole films electrogenerated onto AZ91D magnesium alloy.
Advances in Materials Science Research. Volume 51
Maryann C. Wythers
In series: Advances in Materials Science Research
Publication Date: 02/25/2022
188 pp.
Hardcover: 978-1-68507-678-8. $250.00
e-book: 978-1-68507-689-4. $250.00
This volume includes six chapters presenting some of the latest research in materials science. Chapter One reviews a few functionalization and characterization techniques for graphene oxide. Chapter Two examines the role of functionalization methods, synergetic polymeric materials, or anchoring of noble metal nanoparticles in increasing the nonlinear optical properties of graphene-based compounds along with explaining physico-chemical mechanisms. Chapter Three presents the main results, conclusions, and limitations issued from studies examining bentonite adsorption performance in sugar juices, molasses decolorization, and apple juice and wine purification and stabilization. Chapter Four describes a reactive co-evaporation process employed for the fabrication of REBCO coated conductors. Chapter Five reports the effect of nano-silica particles on the thermal and mechanical properties of polyurethane foams synthesized from corn starch, glycerol, polyethylene glycol and methylene diphenyl diisocyanate. Finally, Chapter Six gives an overview of different polypyrrole films electrogenerated onto AZ91D Mg alloy.

Military Science

Tactics. Volume I: Introduction and Formal Tactics of Infantry
Author: William Balck
Translator: Walter Krueger
In series: Military and Veteran Issues
Publication Date: 11/23/2021
373 pp.
Hardcover: 978-1-68507-272-8. $230.00
e-book: 978-1-68507-351-0. $230.00
This book is the epitome of the interpretation and application of tactical principles in various armies, discussed in the light of the tactical views and methods prevailing in Germany, and amplified by numerous examples from military history.

Nanotechnology and MEMS

Advances in Nanotechnology. Volume 25
Zacharie Bartul and Jérôme Trenor
In series: Advances in Nanotechnology
Publication Date: 11/05/2021
284 pp.
Hardcover: 978-1-68507-233-9. $250.00
This edited compilation presents some of the latest advancements in the field of nanotechnology. Chapter One details the use of self-emulsifying drug delivery systems as a technique for improving drug solubility. Chapter Two describes a proposal for improving the efficiency of solar panels by harvesting heat energy as well as light energy. Chapter Three investigates the efficacy of a sensor composed of carbon nanotubes and other nanomaterials for detecting toxic phenolic compounds in the environment. Chapter Four studies the characteristics of a sensor prepared with low-dimensional metal oxide nanoparticles with a fast response towards Xanthine. Chapter Five compares different approaches to modeling of the kinetics of metal nanoparticles formation and analyzes how these methods could be improved. Chapter Six deals with the use of heavy metal oxide nanoparticles for unsafe bio-chemical detection. Chapter Seven summarizes the importance, properties and applications of carbon nanotubes as a potential superior adsorbent group. Lastly, Chapter Eight obtains the structural model of an electroelastic actuator for nanotechnology.
Advances in Nanotechnology. Volume 26
Zacharie Bartul and Jérôme Trenor
In series: Advances in Nanotechnology
Publication Date: 02/11/2022
217 pp.
Hardcover: 978-1-68507-565-1. $250.00
e-book: 978-1-68507-586-6. $250.00
This volume includes five chapters that describe recent advances in nanotechnology research. Chapter One summarizes the progress that has been made in the past five years in the field of electrochemical sensing using nanomaterial-based electrodes and modified electrochemical platforms for the determination of drugs, enzymes, cancer markers, hormones, nucleic acids, vitamins, and different environmental pollutants such as pesticides, chemical warfare reagents, phenolic compounds, heavy metal ions and other inorganic anions. Chapter Two reviews the modification of a semiconductor’s surface by metal nanostructures by galvanic replacement method. Chapter Three explores the influence of stoichiometry over the electronic structure of vanadium oxides in terms of V-V and V-O orbitals hybridization and highlights the spectroscopic trends. Chapter Four employs electrochemical impedance spectroscopy, potentiodynamic polarization and salt spray tests to investigate the anticorrosive properties of nanocomposite coatings. Lastly, Chapter Five investigates the potential of electrospun nanofibers capable of chromium (VI) removal in wastewater treatment.

Nanotechnology Applications in Green Energy Systems
Tangellapalli Srinivas, PhD (Associate Professor, Department of Mechanical Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab, India) and Rajan Kumar, PhD (Assistant Professor, Department of Mechanical Engineering, Dr B R Ambedkar National Institute of Technology Jalandhar, Punjab, India)
In series: Energy Science, Engineering and Technology
Publication Date: 12/28/2021
284 pp.
Hardcover: 978-1-68507-451-7. $195.00
e-book: 978-1-68507-479-1. $195.00
This book will be beneficial for students, researchers and scientists working in the field of green energy systems. In the last few decades, green energy technologies have gained significant interest. The increase of heat transfer in green energy technologies is one of the most important concerns in energy collection, energy storage, energy utilization, energy conservation, and optimum design. Since nanofluids/nano-enhanced phase change materials are used to increase heat transfer characteristics and thermal properties compared to conventional fluids/phase change materials, the performance of green energy technologies can be improved. These novel strategies are gaining interest to researchers and authors in recent years. This book presents the various applications of nanofluids, hybrid nanofluids, and nano-enhanced phase change materials in green energy technologies such as solar thermal energy storage, photovoltaic/thermal systems, tracking and non-tracking solar collectors, solar thermal power plant, and wind turbine cooling systems. The thermophysical properties of the nanofluids and nano-enhanced phase change materials are also presented. This book also overviews the challenges and opportunities in implementing the nanofluids/nano-enhanced phase change materials application in green energy technologies.

Titanium Dioxide: Advances in Research and Applications
Aparna B. Gunjal, PhD (Assistant Professor, Department of Microbiology, Dr. D.Y. Patil, Arts, Commerce and Science College, Pimpri, Pune, Maharashtra, India)
In series: Nanotechnology Science and Technology
Publication Date: 12/21/2021
130 pp.
Softcover: 978-1-68507-457-9. $82.00
e-book: 978-1-68507-466-1. $82.00
This book, titled Titanium Dioxide: Advances in Research and Applications, deals with important aspects of applications of titanium dioxide and recent developments in the areas of research of titanium dioxide. There are 5 chapters in this book contributed by various authors.
Chapter 1 deals with applications of titanium dioxide in space and its photocatalytic activity in a vacuum environment. Chapter 2 mentions various applications of titanium dioxide in the biomedical field, such as in bone implantation, immobilization of drug carriers, and in cancer therapy as well as in environmental remediation, such as degradation of hazardous pollutants and treatment of wastewater. Chapter 3 deals with doped titanium dioxide nanostructures for visible light driven photo catalysis. The applications of visible light on active titanium dioxide photocatalysts for degradation of various toxic pollutants are described. Chapter 4 deals in detail with various methods of biosynthesis of titanium dioxide nanoparticles and their antibacterial activity. Chapter 5 describes preparation of titanium dioxide nonmaterials, their forensic applications, and fingerprint imaging.

The book Titanium Dioxide: Advances in Research and Applications will be of immense use to students, professors and researchers of various colleges, universities and research institutes. It will increase knowledge regarding the synthesis, applications and various aspects of titanium dioxide.

Special Topics

Advances in Engineering Research. Volume 45
Victoria M. Petrova
In series: Advances in Engineering Research
Publication Date: 11/11/2021
279 pp.
Hardcover: 978-1-68507-360-2. $250.00
e-book: 978-1-68507-384-8. $250.00

This volume includes seven chapters presenting recent advancements in engineering research. Chapter One investigates soybean processing to identify the best technologies to transform soybean byproducts into new products. Chapter Two provides an overview of intrinsically conducting polymers-based electrochemical sensors as quick and easy diagnostic tools for bacterial infection control. Chapter Three presents a programmable logic controller/human-machine interface-based logic design laboratory platform for computer science and electrical engineering students. Chapter Four evaluates artificial neural network systems for bioengineering systems and industries. Chapter Five determines the efficacy of multi-walled carbon nanotubes for the adsorpive removal of acrylic acid from water. Chapter Six deals with regulating the direction of movement of air contaminated with dust, smoke, and soot in worship halls. Lastly, Chapter Seven aims to explore different domains where non-quantum and quantum resources co-exist and non-classicality arises in different forms.

Advances in Engineering Research. Volume 46
Victoria M. Petrova
In series: Advances in Engineering Research
Publication Date: 12/03/2021
280 pp.
Hardcover: 978-1-68507-406-7. $250.00
e-book: 978-1-68507-427-2. $250.00

This volume contains six chapters describing some of the latest advancements in engineering research. Chapter One presents a detailed methodology to evaluate bio-based projects, including financial, technical, and market uncertainties at the early stages, when less information is available. Chapter Two analyzes the latest scientific articles and reports which deal with the adverse consequences of 5G network development. Chapter Three explains how new technologies, including downlink and uplink decoupling and machine learning, can support 5G networks and form core components of future networks. Chapter Four presents the latest research results on the advantages and challenges of non-orthogonal multiple access networks. Chapter Five explores the four largest South Korean shipyards, analyzing their strategy and management techniques. Lastly, Chapter Six examines the factors affecting the choice of welding method in the basic stages of shipbuilding.
Research Challenges in Science, Engineering and Technology
S. Kannadhasan, PhD (Assistant Professor, Department of Electronics and Communication Engineering, Cheran College of Engineering, K. Paramathi, Karur, Tamilnadu, India), R. Nagarajan, PhD (Professor, Department of Electrical and Electronics Engineering, Gnanamani College of Technology, A.K Samuthiram, Namakkal, Tamilnadu, India) and M. Shanmuganantham (Vice Principal, Department of Electrical and Electronics Engineering, Tamilnadu Government Polytechnic College, Madurai, Tamilnadu, India)
In series: Advances in Applied Science and Engineering
Publication Date: 11/11/2021
343 pp.
Hardcover: 978-1-68507-008-3. $230.00
e-book: 978-1-68507-028-1. $230.00
This edited volume includes eighteen chapters and discusses various research challenges in science, engineering and technology. Topics discussed include learning methods of artificial intelligence, computerized medical image processing, human-computer interaction for detection of hand gestures, community energy storage, e-learning, prediction of diabetic risk, hydrogen fuel cells for automobiles, solar cells, and more.

Technology Development
Channelizers and Reconstructors - A Design Guide
Bradford S. Watson (Principal RF and DSP Engineer, Lockheed Martin Space, Littleton, CO, USA)
In series: Systems Engineering Methods, Developments and Technology
Publication Date: 12/03/2021
262 pp.
Hardcover: 978-1-68507-174-5. $195.00
e-book: 978-1-68507-346-6. $195.00
Channelizers and reconstructors find use in a wide variety of signal processing systems across many industries, including aerospace and telecommunications. This book represents a comprehensive collection of techniques, tips and tricks for the practicing digital signal processing professional that designs and implements wideband communications and sensing systems. Collected from a wide range of sources from across the industry and academia, rich in text, graphics, and examples, this book brings together a comprehensive assortment of techniques that are needed to design and field channelizers and reconstructors in real-world systems. Through a wide range of analysis and worked examples in the Matlab™ programming language, the reader is guided step-by-step through the process of designing and implementing these systems in the most efficient way possible.
This volume offers a worldwide array of the first truly integrated work reflecting the most up-to-date research and practice in global organizational science by 40 topmost experts (scientist-practitioners) from 25 nations. It is a well-blended international stew of epistemic knowledge on some of the hottest subject areas such as cross-cultural and cross-border issues of importance and challenge to organizations today, small and family business/entrepreneurship, diversity, individualism-collectivism, and modern technology. It is a valuable resource for scholars, practitioners, managers, decision makers, and students alike. This extraordinarily well-written and practically-crafted, culture-inclusive text could not be more relevant and timelier.

The motivation for writing this book is to share our knowledge, analyses, and conclusions about cybersecurity in particular and risk management in general to raise awareness among businesses, academics, and the general public about the cyber landscape changes and challenges that are occurring with emerging threats that will affect individual and corporate information security. As a result, we believe that all stakeholders should adopt a unified, coordinated, and organized approach to addressing corporate cybersecurity challenges based on a shared paradigm. There are two levels at which this book can be read. For starters, it can be read by regular individuals with little or no risk management experience. Because of the book's non-technical style, it is appropriate for this readership. The intellectual information may appear daunting at times, but we hope the reader will not be disheartened. One of the book's most notable features is that it is organized in a logical order that guides the reader through the enterprise risk management process, beginning with an introduction to risk management fundamentals and concluding with the strategic considerations that must be made to successfully implement a cyber risk management framework. Another group of readers targeted by this book is practitioners, students, academics, and regulators. We do not anticipate that everyone in this group will agree with the book's content and views. However, we hope that the knowledge and material provided will serve as a basis for them to expand on in their work or endeavors. The book comprises ten chapters. Chapter 1 is a general introduction to the theoretical concepts of risk and constructs of enterprise risk management. Chapter 2 presents the corporate risk landscape and cyber risk in terms of the characteristics and
Social Sciences

Challenges of cyber threats vis-à-vis the emerging risks thereof from the perspective of a business organization. Chapter 3 presents the idea of enterprise risk management and explains the structure and functions of enterprise risk management as they relate to cybersecurity. Chapter 4 provides the cybersecurity risk management standards, which may be used to build a cybersecurity risk management framework that is based on best practices. The cyber operational risk management process begins in Chapter 5 with the introduction of the risk identification function. Chapter 6 continues with the next step of this process by presenting the risk assessment procedures for evaluating and prioritizing cyber risks. Chapter 7 explains the activities in the third step in the ORM process of risk mitigation and provides examples of the tools and techniques for addressing risk exposures. Chapter 8 presents a critical function from an operational perspective for its role in detecting risk and continual improvement of the organization's cybersecurity processes through the reporting function. Chapter 9 discusses the crisis management steps that businesses must take to respond to and recover from a cyber incident. Chapter 10 emphasizes the essential ERM components that senior management should be aware of and cultivate to create an effective cyber risk control framework by focusing on the strategic aspects of cybersecurity risk management from a business viewpoint. This chapter proposes a cybersecurity ERM framework based on the content given in this book.

Economics

Progress in Economics Research. Volume 47

Albert Tavidze

In series: Progress in Economics Research
Publication Date: 10/12/2021
283 pp.
Hardcover: 978-1-68507-178-3, $250.00
e-book: 978-1-68507-208-7, $250.00

This edited volume comprises six chapters, each detailing a recent advancement in economics research. Chapter One addresses the idiosyncratic labor markets of Spain and Andalusia. Chapter Two deals with the development and qualitative renewal of Kazakhstan’s human capital in the context of innovative development. Chapter Three analyzes big companies and the relationship between capital and labor in contemporary society, supporting the research agenda of economic sociology and political economy. Chapter Four clarifies the concepts of green finance and identifies trends, challenges, and opportunities for the financial sector’s role in the fight against climate change. Chapter Five sets out to determine whether livestock productivity can increase through bioeconomic management. Finally, Chapter Six studies the economy of crypto assets, comparing it to well-established financial markets and contemplating whether cryptocurrency network structure evolves and the importance of vertices changes.

Progress in Economics Research. Volume 48

Albert Tavidze

In series: Progress in Economics Research
Publication Date: 11/11/2021
245 pp.
Hardcover: 978-1-68507-308-4, $250.00
e-book: 978-1-68507-331-2, $250.00

This compilation presents some of the latest advancements in economics research. Chapter One evaluates the impact of public policies, such as those regarding infrastructure and education, on a country’s economic performance. Chapter Two deals with the issues of utilization of sludge from wastewater treatment in agriculture as a socio-economic and environmental problem in the European Union and Bulgaria. Chapter Three investigates the impact of cognitive and non-cognitive skills on the quality of a task-specific outcome by conducting an experiment on a popular crowdsourcing platform and finds that the performance of workers depends on cognitive skills, personality traits and work effort. Chapter Four explores how trade show visitors’ objectives impact their visual attention to trade show booths and booth visit likelihood. Chapter Five summarizes some trends in R&D expenditures in post-socialist countries in the course of market transformation on the basis of comparative statistical analysis of relative R&D effort. Chapter Six aims to establish the best tourism human resources development practices utilized by Egypt as one of the countries leading the tourism industry in Africa. Chapter Seven outlines the major aspects of the shift in the IMF stance on international capital mobility from the perspective of finding the right balance between freedom, regulation, and control. Chapter Eight focuses on stochastic control of exchange rates via discretionary central bank intervention. Finally, Chapter Nine investigates the quantitative importance of investment frictions for the propagation of cyclical fluctuations in Bulgaria.
Public-Private Partnerships: Trends, Perspectives and Opportunities

Diego Monferrer Tirado, PhD (Associate Professor, Department of Business Administration and Marketing, Universitat Jaume I, Castellón, Spain) and Beatriz Irún Molina, PhD (Lecturer of Economics, ESIC Business and Marketing School in Valencia, Spain; Associate Professor, Department of Business Administration and Marketing, Universitat Jaume I, Castellón, Spain)

In series: Business Issues, Competition and Entrepreneurship

Publication Date: 11/23/2021
350 pp.
Hardcover: 978-1-68507-184-4. $230.00
E-book: 978-1-68507-292-6. $230.00

In the context of the economic crisis, governments are under increased pressure to find quick answers to hard questions about maintaining public services and funding infrastructure.

Public-Private Partnership (PPP) can be used to describe a wide variety of arrangements involving the public and private sectors working together in some way.

The key elements for a PPP project are long-term contract; design construction, financing and operation of public infrastructure by the private sector party; payments over the lifetime of the project to the private sector party for the use of the facility made either by the public sector party or by the general public as users of the facility; and facility remaining in the public sector ownership or reverting to public sector ownership at the end of the PPP contract.

In this book we go through this concept by analyzing not only the opportunities in that field but also the trends and new perspectives. Therefore, this book captures the results of some of the recent research that is being carried out on public-private cooperation.

Women Entrepreneurs and Employment: Past, Present and Future Perspectives

Lillian D. Fitzgerald

In series: Women's Issues

Publication Date: 02/08/2022
120 pp.
Softcover: 978-1-68507-623-8. $82.00
E-book: 978-1-68507-645-0. $82.00

While women have gained a more prominent role in employment over the past several decades, more work still needs to be done to achieve equality between the sexes. This volume includes five chapters addressing the issues faced by women in the workplace from several perspectives. Chapter One explores the health, social, workplace and financial barriers and facilitators to working beyond state pensionable age in a predominantly female workforce. Chapter Two analyzes gender differences at work such as women’s participation in specific working sectors and management positions as well as access to paid work and health services, differences in salaries and working areas and patterns of morbidity among male and female workers. Chapter Three explores selected demographic outcomes, namely the core indicators of fertility, mortality and reproductive health, according to employment status of Syrian refugee women in Turkey. Chapter Four addresses questions of the meaning of equal opportunity in the emerging world of work, its relevancy, and whether equality is even possible. Finally, Chapter Five deals with the issue of work-life balance for female entrepreneurs and mothers during the COVID-19 pandemic.
**SME Finance: Constraints and an Information Asymmetric Perspective**  
Chokey Wangmo, PhD (CEO, Bhutan Care Credit Ltd., Microfinance Project, His Majesty’s Secretariat, Thimphu Bhutan; Victoria University, Melbourne, Australia) and Sardar M. N. Islam (Professor, Director of Decision Sciences and Modelling Program, Victoria University, Australia; Certified Public Accountant, Professor (Researcher) – Institute of Sustainable Industries and Liveable Cities, Victoria University, Melbourne, Australia)  
In series: Financial Institutions and Services  
Publication Date: 09/17/2021  
318 pp.  
Hardcover: 978-1-68507-063-2. $230.00  
e-book: 978-1-68507-141-7. $230.00  
This book, titled SME Finance: Constraints and an Information Asymmetric Perspective, studies the gap between bank financing and the small and medium sized enterprises (SME) sector, based on the economic theories of information asymmetry and agency theory. Access to finance continues to remain one of the key constraints faced by SMEs to start and expand businesses, particularly in the developing economies where access to bank loans is subject to the availability of collateral. The SME financing gap, studied from the perspectives of both the key actors – banks and SMEs – is well presented in this book. The authors have used Sequential Explanatory Design, a mixed methodology, to collect data from SMEs and banks. The econometric model of the study represented SMEs’ debt accessibility as a function of independent variables of loan repayment capacity, financial information, characteristics of the firm and owner and bank loan characteristics. The book provides empirical evidence that SME financing constraints are caused by factors arising from SMEs as well as the banks, primarily SMEs’ high information opacity and banks’ imposition of collateral to offset the credit risk. In the estimation of the econometric model, the size of collateral and owner’s equity were among the most significant predictor variables. Likewise, the thematic analysis of interview data of credit officers to understand the banks’ lending behavior evidenced a strong positive relationship between the size of the collateral and owner’s equity and access to bank loans. SMEs’ high information opacity and credit risk induced adverse selection and credit rationing on the part of finance providers. The findings of this book contribute towards academic literature on developing economies characterized by limited data available for academic and empirical research.  
This book provides a unique example of rigorous research on SME finance within an information economics framework. The theoretical issues are nicely balanced by the practical application of information economics to an emerging market. It can be used as a reference by researchers, academics, practitioners and policy makers in the areas of development finance, banking, development economics, microfinance and rural development. In addition, it can be used as an academic reference for a finance subject at the Master’s or Doctoral level. The book is relevant to key stakeholders in understanding the debt inaccessibility from SMEs and the banks in drafting policies and measures to address the SME financing gap.

**The Food Industry: Perceptions, Practices and Future Prospects**  
Diego T. Santos, PhD (Director/Researcher, Center for Ayurvedic Studies, Department of Food Science and Technology/Natural Products, Campinas, São Paulo, Brazil), R. Abel Castillo-Torres, PhD (Professor, LAQCAP (Laboratory of Analysis and Quality Control of Agro-industrial Products)/DEAM (Department of Engineering and Agro-industrial Management)/FCA (School of Agricultural Science)/UNACH (University of Chota), Chota, Cajamarca, Peru) and Giovani B.M. Carvalho, PhD (Full Professor, LAFER (Laboratory of Fermentation) / PPGBIOTEC (Graduate Program in Biotechnology) / PPGCF (Graduate Program in
The Food Industry: Perceptions, Practices and Future Prospects explores different aspects related to the food industry. The book begins by presenting various perceptions towards western and ayurvedic food industries. It continues by examining the potential of enhancing agents in replacing chemical additives in bread processing and discussing the performance of whole grain wheat flour and the enzyme transglutaminase on the technological characteristics of spaghetti. Additionally, the book includes a study of microbial pectinases, cellulases and xylanases in the food industry, focusing on types of support and immobilization techniques, as well as an experimental study focusing on shelf-life increase of pineapples via drying techniques. Other chapters focus on different yeast strain approaches in beer production, the use of natural bioactive compounds from plants and their extraction processes, and essential oil extraction techniques for Venezuelan lemons, among other topics.

Tourism Safety and Security Just After COVID-19
Maximiliano Emanuel Korstanje (Senior Lecturer, University of Palermo, Buenos Aires, Argentina)
In series: Hospitality, Tourism and Marketing Studies
Publication Date: 04/06/2022
120 pp.
Softcover: 978-1-68507-738-9. $82.00
e-book: 978-1-68507-878-2. $82.00
In the light of a new millennium, the tourism industry has faced some (major) global risks which seriously affected its functioning, leading it to the brink of collapse. What is most important, after September of 2001, is that tourism security and safety not only captivated the attention of scholars but is also situated as a leading object of study within the fields of tourism research. The scourge of terrorism associated with the ecological crisis, recent natural disasters without mentioning virus outbreaks as Ebola, SARS or even COVID-19, and political instability place the tourism industry in jeopardy. It is safe to say that the ontological security of tourists occupied a central position in tourism research. Of course, the recent COVID-19 outbreak accelerated a socio-economic crisis in the service sub-sectors that paralyzed the global trade and the tourism industry. The imposition of severe lockdowns, social distancing as well as the borders and airspace closure speak us of a new normal or a feudalized world where tourists are feared or even demonized. In the days just after COVID-19, academia should debate the new guidelines of future research not only to enhance tourism security but to put the industry back on its feet again. The present book project is a selection of high-quality chapters, which are authored by well-renowned experts in tourism safety and security; all of them were invited to bring some reflections on the future of the discipline in a post-COVID-19 context. Authors come from different disciplines, cultures and nations, so the book offers a fertile ground towards an international platform for professionals, researchers, students or policymakers interested in the future of tourism.

Economic Crises: A Review and Directions for Research
Tulus T.H. Tambunan, PhD (Professor of Economics, Center for Industry, Small and Medium Enterprise and Business Competition Studies, University of Trisakti, Jakarta, Indonesia) and Budi Santosa, DBA (Associate Professor, Department of Development Economics, Faculty of Economics and Business, Universitas Trisakti, Indonesia)
In series: Economic Issues, Problems and Perspectives
Publication Date: 02/17/2022
212 pp.
Hardcover: 978-1-68507-613-9. $160.00
e-book: 978-1-68507-692-4. $160.00
In the 1920s, the United States experienced an economic crisis. The public called it the Great Depression. This dark history lasted for 10 years, starting from 1929 to 1939. The
Great Depression was a severe blow to the United States economy considering that during the 1920s their economy grew so rapidly. The country's wealth more than doubled, so this period was called "The Roaring Twenties". The fast-growing economy fueled massive speculation in the stock market. The stock index skyrocketed to its peak in August 1929. The Great Depression was not the last crisis to hit the world. Since the end of the second world war until 2022, the world has experienced a number of crises both global in nature such as the oil crisis in the mid-1970s, the global financial crisis in 2008-2009, and most recently the crisis due to the Covid-19 pandemic, as well as regional ones that also caused disruptions to the economies of many countries outside the region, such as the 2010 Euro debt crisis and the 1997-1998 Asian financial crisis. In the 2008/2009 global financial crisis, the United States faced severe economic turmoil. Stock values plummeted, loans were bad, companies went bankrupt, and people were unable to meet savings goals or plan for the future. People panicked and feared that their country would fall apart. As a result of expectations or speculations that were too far apart, that year witnessed how a superpower region like the United States was able to sink into the depths of crisis.

Many people equate the global economic crisis of 2020 to mid-2021 due to the Covid-19 pandemic with the Great Depression of the 1930s. Even the International Monetary Fund (IMF) has stated that the world will face the worst crisis due to the pandemic (COVID-19). It is said that this crisis will be more severe than the Great Depression. In the World Economic Outlook report released by the IMF in October 2021, it said that the closure of most business activities by governments in many countries to stop the transmission of the pandemic resulted in a decrease in global economic activity. This makes this one of the reasons for the global crisis.

Although there have been many articles in journals and books about these crises, there are still several questions, including the main source of an economic crisis and how the crisis negatively affected a country's economy. This book, entitled Economic Crises: A Review and Directions for Research, tries to answer this question both theoretically and empirically. It is hoped that the discussion in this book can provide new research topics regarding an economic crisis and the direction of future research. What is clear is that the world's experience with the economic crisis that occurred in 2020 due to a virus that devastated the world economy requires more research on this new type of economic crisis from various perspectives.

Management

Advances in Business and Management. Volume 18
William D. Nelson
In series: Advances in Business and Management
Publication Date: 10/20/2021
245 pp.
Hardcover: 978-1-68507-173-8, $250.00
e-book: 978-1-68507-200-1, $250.00

This edited volume includes eight chapters describing recent advances in business and management studies. Chapter One studies how marketing actions can help reduce and prevent food waste in developed countries. Chapter Two examines whether advertising behaves differently over alternative phases of the business cycle. Chapter Three analyzes new crowdfunding systems that are emerging in large Chinese technology companies such as Tencent and WeChat. Chapter Four looks at the influence of a graduate program on students' decision whether to pursue a career in entrepreneurship. Chapter Five introduces the Economic Value Added model to allow for a cost-benefit analysis of people investments. Chapter Six explores how altruism positively impacts a firm's performance by strengthening organizational resilience. Chapter Seven discusses how advertisers are adapting a strategy of communicating shared values, such as support for underprivileged groups, to build relationships with socially conscious customers. Finally, Chapter Eight investigates the quantitative importance of the presence of shocks to the depreciation rate of capital for the magnitude of cyclical fluctuations in Bulgaria.

Competitive Trends and Technologies in Business Management
Arshi Naim (Department of Information Systems, King Khalid University, AIS.Amer, Abha, Kingdom of Saudi Arabia (KSA)) and Praveen K. Malik, PHD (School of Electronics and Electrical Engineering, Lovely Professional University, Phagwara, Punjab, India)
In series: Business Issues, Competition and Entrepreneurship
Publication Date: 02/15/2022
155 pp.
Softcover: 978-1-68507-612-2, $95.00
e-book: 978-1-68507-646-7, $95.00

This book explains the global business management domain in the current scenario and it covers the latest concepts in business and technologies applied for their successful implementation. The growth of global corporations has led to the development of new business strategies by the applications of new technologies. The critical success factors
of business management depend on the successful applications of information systems and information technologies. To achieve competitive advantages, business management is applying strategies from technological perspectives for various concepts such as customer relationship management, cost management, marketing management, etc. Competitive Trends and Technologies in Business Management describes the applications and concept of IS in business management and presents the success stories of business. The book assesses competitive business management from an IS and IT perspective, examining business development policies linked to the profitability of global firms. The book covers comprehensive topics such as use of green technology in business processes, machine learning in business education, and artificial intelligence in the business sector. This book will drive readers to actively think through the most fundamental business concepts developed by IS and IT in the current competitive landscape and provides answers to questions such as: what are the new drivers of Business Management? and how do businesses apply IS and IT? The current Covid pandemic has caused serious financial loss to developing countries, and this book will help to explore new options of expanding markets for businesses by the applications of IS and IT.

Leadership in Management
John Y. Chen, Ph.D. (NVIDIA Corp., Corporation Vice President, Cupertino, California, USA)
In series: Business Issues, Competition and Entrepreneurship
Publication Date: 02/11/2022
203 pp.
Hardcover: 978-1-68507-582-8. $160.00
e-book: 978-1-68507-669-6. $160.00
Have you wondered why geese fly in V’s as shown on the cover of this book? The bird in the front works the hardest to generate airflow that makes it easier to fly for the ones in the back. This is what a leader should do in any organization. The geese quack to communicate and encourage the team. The team helps every goose. When one goose gets sick or injured and leaves the formation, a few others leave the formation to fly with him. They stay with him until he can get back to the team. Communication, teamwork, and trust are the resources of leadership just like soil, fertilizer, and water for a plant. This is the reason why this book begins with an introduction, followed by these topics in its earlier chapters.

The trunk of the plant stands up straight to the sky like a leader in an enterprise. Its leadership cultivates branches organized for R&D, Operations, and Engineering, and for Marketing, Sales, and Service to make them function well and grow. People in these organizations develop and grow like leaves on the plant taking sunshine and nutrition to function and prosper. The book discusses leadership styles in all different branches to grow the enterprise successfully. When seeding or planting a tree, we must visualize the space and surrounding in the years ahead for flowers and/or fruits to emerge. By the same token, a leader needs to be aware of the environment and Culture and to have the Vision to imagine how his/her organization would grow in the future.

The author tells his real-life stories to illustrate his experiences and learnings in leadership. The book uses his practice-based theories to provide the scaffolding for others to think about and refine their approaches to lead and find personal fulfillment and happiness in life.

Performance Management for the Modern Leader
Cam Caldwell, PhD (Retired Professor, Business, American University of the Emirates; University of Illinois Springfield, Illinois, USA) and Verl Anderson, PhD (Professor of Management, College of Business, Dixie State University, St. George, UT, USA)
In series: Business Issues, Competition and Entrepreneurship
Publication Date: 12/16/2021
238 pp.
Hardcover: 978-1-68507-336-7. $160.00
This book addresses the importance of employee engagement – the degree to which employees feel connected to their organizations, dedicated to its purposes, and able to utilize their talents to help organizations to succeed. The alarming findings of leadership research confirm that more employees currently feel negatively engaged than fully positively engaged in their relationships with leaders, managers, and supervisors. In addition to identifying the nature of engagement, we have explained why those who lead organizations are so often ineffective – and we offer suggestions throughout this book to help leaders, managers, supervisors, and those who work in Human Resource Management to create organizational relationships that build employee trust, commitment, and ownership. While reading this book, the reader will find well-documented information incorporating the findings of management experts, practitioners, and consultants – but also new ideas that we have refined from our past research about human relationships and leadership effectiveness.
Among the most famous features of a family firm, complex HR management practices are on top of it all. Owners and family members are all aware that non-family employees are needed, and non-family managers are required for the success and sustainability of the family firm. Hence, family firms cannot have biased, bifurcated, or different HR practices towards non-family employees.

Readers will find this book comprehensive and inclusive of new issues of HR management literature. The book is comprised of chapters, each describing current and important practices and problems of HR management. Along with the family firm-specific problems like non-family managers, women entrepreneurship, and nepotism, chapters cover the state-of-the-art topics and findings in the HR management literature. This includes organizational development and HR management relationship, discrimination and nepotism, women in family firms and tourism, HR accounting and digital age, quality and management, behavior, and change management. Students and scholars of human resource management, along with the leaders of modern management teams, will benefit from this book from the first page to the last page. Each chapter will carry its reader to the next level of understanding of issues and findings of human resource management.
Consumer Protection during the Pandemic
Georgina Conway

In series: Business Issues, Competition and Entrepreneurship
Publication Date: 11/11/2021
345 pp.
Hardcover: 978-1-68507-314-5, $230.00
e-book: 978-1-68507-352-7, $230.00

In the United States, the COVID-19 pandemic continues to be a health and economic crisis. As the virus forced the closure of many businesses, workers were faced with historic levels of unemployment, and the February unemployment level remained elevated at 6.2 percent while the labor force participation rate has declined. This book provides information about the state of federal consumer financial protection policies under the current administration. It will discuss specific areas of concern, including payday lending practices, the servicing of student loans, and enforcement of existing law to provide better protection for consumers.

COVID-19 and Its Reflection on SMEs in Developing Countries
Tulus T. H. Tambunan, PhD (Professor & Director, Center for Industry, SME and Business Competition Studies, Economic Science, Universitas Trisakti, Jakarta, Indonesia) and Himachalam Dasaraju, PhD (Professor, School of Commerce & Management, Commonwealth Visiting Fellow, UK; Economic Science, Sri Venkateswara University, Tirupati, India)

In series: Small Business Considerations, Economics and Research
Publication Date: 12/28/2021
324 pp.
Hardcover: 978-1-68507-454-8, $230.00
e-book: 978-1-68507-503-3, $230.00

This book contains empirical analysis of the impact of the COVID-19 pandemic crisis on micro, small, and medium enterprises (MSMEs) in a number of developing countries including Indonesia, India, Sri Lanka, Vietnam, Brunei Darussalam and South Africa. This book also provides an explanation of the theory of transformation channels through which the pandemic crisis has affected MSMEs.

What to Know about Supply Chain Management
Md. Mamun Habib, PhD (School of Business & Entrepreneurship, Independent University, Bangladesh and Visiting Scientist, University of Texas – Arlington (UTA), USA) and Mohd. Aminul Karim, PhD (Former Visiting Professor, University of Malaya, Malaysia)

In series: Business Issues, Competition and Entrepreneurship
Publication Date: 01/07/2022
213 pp.
Hardcover: 978-1-68507-455-5, $160.00
e-book: 978-1-68507-478-4, $160.00

The objective of supply chain management (SCM) is to incorporate activities across and within organizations for providing the customer/stakeholders value. SCM has been widely researched in numerous application domains during the last decade. Despite the
popularity of SCM research and applications, considerable confusion remains as to its meaning. There are several attempts made by researchers and practitioners to appropriately define SCM. Amidst fierce competition in all industries, SCM has gradually been embraced as a proven managerial approach to achieving sustainable profits and growth. This book entitled “What to Know about Supply Chain Management” consists of nine (9) chapters.

**EDUCATION**

**Classroom Management**

Service Learning at a Glance

Dr. Rosa M. Rodríguez-Izquierdo, PhD (Professor, Department of Education and Social Psychology, University Pablo de Olavide, Seville, Spain)

In series: *Education in a Competitive and Globalizing World*

Publication Date: 04/01/2022

159 pp.

Softcover: 978-1-68507-739-6. $95.00
e-book: 978-1-68507-846-1. $95.00

Service Learning at a Glance involves the dissemination of recent findings from empirical research and practical samples of service-learning programs in higher education to better identify the significant drivers of service-learning critical pedagogy. Service-learning is an immersive and experiential learning experience that combines academic course work and community service, underscoring reciprocal learning and sustainable and reflective practices to address community needs, while developing students’ citizenship skills and critical thinking for social justice.

While much has been written about service-learning adoption in higher education settings, this book seeks to demonstrate its broad relevance within a multidisciplinary context. Unique about Service Learning at a Glance is that it offers an "international" point of view by including learning experiences and research work from different regions around the world. We believe the comprehensive knowledge offered through this book will advance service-learning research and support the adoption of engaging service-learning experiences and practices in higher education settings, which will be valuable for researchers and practitioners in many national and cultural contexts. Furthermore, we hope that future research will enlarge upon experiences and research provided in this book to continue to build more international service-learning projects across the world.

Chapter 1, drawing on Mezirow’s transformative learning theory, investigates how intercultural competence is developed as students interact with other cultural groups in a service-learning experience in Spain.

Chapter 2 explores through a qualitative research study enactments of service-learning and conceptions of civic engagement within an Irish university in order to understand the cultural and historical contextual influences.

Chapter 3, based on the experience of the Latin American Center for Solidarity Service-Learning (CLAYSS), analyzes the development of service-learning in the Latin American continent.

Chapter 4 includes a case study from an Austrian perspective and focuses on the extent to which service-learning has become integrated within the policy and practice of German-speaking higher education institutions.

Chapter 5 includes a case study in a Philippine institution of Catholic higher education which examines the reforms undertaken to institutionalize service learning based on Kotter’s theory of organizational change.

Chapter 6 examines the COVID-19 pandemic setting which has overturned the traditional model of in-person service-learning and, using course evaluation qualitative data, argues that students reflect changes in environmental behavior and greater understanding of environmental issues.

Chapter 7 documents the experience of an Indian higher education institution regarding emerging trends of technopedagogical innovations which could be instrumental for service learning in Remote Teaching-Learning format.

Ultimately, the book aims to provide an in-depth perspective of service-learning, which is supported by empirical evidence and practical teaching experiences in different international settings. The overall aim is to offer a unique and appealing insight to service-learning pedagogy. The book does not require successive reading as each chapter can be extracted independently and can be used both as teaching and learning material.
Distance Education

E-Learning: Global Perspectives, Challenges and Educational Implications
Dr. Donnie Adams, PhD (Senior Lecturer, Department of Educational Management, Planning and Policy, University of Malaya, Kuala Lumpur, W. Persederal Kuala Lumpur, Malaysia) and Chuah Kee Man (Senior Lecturer, Faculty of Language and Communication, Universiti Malaysia Sarawak, Malaysia)

In series: Education in a Competitive and Globalizing World
Publication Date: 02/17/2022
161 pp.
Softcover: 978-1-68507-604-7. $95.00
e-book: 978-1-68507-651-1. $95.00

As the world recovers from the unprecedented outbreak of the COVID-19 pandemic, the field of education continues to cushion the impacts of school closures and teaching disruption through various measures. E-learning, while not new, has taken a greater role in mitigating the effects of the pandemic. This book, E-Learning: Global Perspectives, Challenges and Educational Implications, is not only a collection of chapters shared by researchers and academics but also a manifestation of the dedication of those involved in the pursuit of providing equitable and quality education through the support of e-learning tools and platforms.

The book begins with an outlook on the post-pandemic potentials and challenges of utilising e-learning for cross-border education. The chapter by Donnie Adams and Chuah Kee Man focuses on the necessary measures that can be taken to fully maximise the use of e-learning in promoting cross-border education in higher education institutions. It is indeed timely for higher education institutions to re-examine the concept of cross-border education through the lens of e-learning and virtual mobility especially when physical presence is costly or not feasible.

Several innovative pedagogical approaches and ideas are also presented in enhancing learning experience via e-learning. In Chapter 2, Zainun Mustafa and colleagues offered their perspectives on using creative pedagogy through e-learning for the purpose of science education. They explain the distinctive components of creative pedagogy that can be incorporated through various e-learning tools in order to foster meaningful learning in science classrooms.

In Chapter 3, Vinothini Vasodavan and colleagues focus on developing students’ attitude domain via online collaborative learning tools. They propose a framework which was derived through the fuzzy Delphi method. Their model serves as a guide in selecting the most suitable collaborative learning tools to develop the attitude domain of the students.

In the next chapter, Selvakumar Selvarajan and colleagues introduce the concept of interactive digital storytelling assignment in online teaching and learning that could help teachers foster higher order thinking skills among their students.

In addition, studies that measure the impact of online learning in different settings are also included in this book. In Chapter 5, Mustaji and colleagues reported the outcomes from their study on online learning engagement among Indonesian university students during the COVID-19 pandemic. Using Rasch model analysis, their study highlighted the Indonesian students’ level of engagement and readiness in coping with online learning.

In Chapter 6, Muhammad Mujtaba Asad and colleagues shared their findings on a study conducted on university students in Pakistan, which examined the challenges that they faced dealing with online learning during the pandemic.

Finally, in Chapter 7, Riccardo Corrado and Audrey Liwan described massive open online courses (MOOCs) implementation in the Association of Southeast Asian Nations (ASEAN) region, specifically on the barriers faced by the member states. They also offered their review of issues to be addressed in creating a homogeneous ecosystem for MOOCs in ASEAN.

Education and Public Policy

Working Between The Folds: School Leaders’ Reimagining School Life
Labby Ramrathan, PhD (Professor, School of Education, University of KwaZulu-Natal, Durban, South Africa), Daisy Pillay, PhD (Professor, School of Education, University of KwaZulu-Natal, Durban, South Africa) and Inbanathan Naicker, PhD (Associate Professor, School of Education, University of KwaZulu-Natal, Durban, South Africa)
In series: *Education in a Competitive and Globalizing World*
Publication Date: 10/20/2021

235 pp.
Hardcover: 978-1-68507-150-9. $160.00
e-book: 978-1-68507-239-1. $160.00

The publication arises out of a research project of school education within South Africa and takes a school leadership perspective for imaginative possibilities resulting in school change. It illuminates the complexities associated with leading schools as they assume particular identities owing to specific categorizations. Its specific focus is on school leaders’ lived experiences of addressing school challenges that brought about substantive change to school life.

The book chapters collectively build on personally, professionally, and socially useful understandings of teaching, learning, governance, school finance and school-community partnerships in relation to wider social, political and cultural concerns, and across diverse contexts. Drawing on everyday real-life experiences, generated mainly through a range of narrative and arts-based practices and sources, the book communicates new voices, new insights, and imaginative possibilities for working with school challenges in contextually relevant and responsive attitudes to bring quality education to the doors of schools.

The book, therefore, foregrounds school leaders from school principals through to teacher leaders’ imaginative solutions to reimagining school life in each of their respective schools.

Using a multi-perspectival theoretical lens, we offer portrayals of different dimensions of lived experiences of school life. The authors of the chapters (comprising both experienced and novice researchers) present critical descriptive accounts of different contextual realities of schooling juxtaposed against how they are categorized, for example: infrastructure (quintile rankings); financial (fee paying); geography (rural, urban, townships); poverty (feeding scheme) and performance.

**General Education**

**Handbook of Homework: Theoretical Principles and Practical Applications**

*Susana Rodríguez Martínez, PhD (Associate Professor, Department of Developmental and Educational Psychology, Campus of Elviña University of La Coruña, Galicia, Spain), Antonio Valle Arias, PhD (Professor, Evolutionary and Educational Psychology, Campus of Elviña University of La Coruña, Galicia, Spain), Isabel Piñeiro Aguín, PhD (Department of Psychology, Faculty of Education, Campus of Elviña University of La Coruña, Galicia, Spain) and Bibiana Regueiro Fernandez, PhD (Department of Pedagogy and Didactics, Faculty of Educational Sciences, University of Santiago de Compostela (USC), Spain)*

In series: *Education in a Competitive and Globalizing World*

Publication Date: 12/06/2021

197 pp.
Softcover: 978-1-68507-380-0. $95.00
e-book: 978-1-68507-395-4. $95.00

The aim of this handbook is to offer a series of contributions about homework regarding various theoretical and applied issues. It aims to offer education researchers and professionals the necessary fundamentals in the field of homework and thus help answer many of the questions about the conditions for setting quality homework. The aim is for homework to no longer be a source of conflict and controversy at the educational level and for it to become a useful tool for improving student learning.

The handbook is organized into six chapters and an epilogue written by leading figures in the field of international educational research from seven different universities. In this handbook information about the variables involved in homework and its relationship with self-regulation of learning can be found. Furthermore, the role of teacher’s feedback is explored and details about how to set quality and diverse homework are described.

The Epilogue: Tasks for Teachers and Parents, offers a summary of ten key guidelines that teachers and parents should bear in mind during the homework process. These are essential aspects in achieving homework that students find useful, varied, and motivating.
This edited volume includes ten chapters, each of which provides a unique perspective on specific topics in the field of education. Chapter One demonstrates how gender subtexts are both communicated and resisted, are relevant for postsecondary systems facing sustained inequity despite anti-discrimination policies. Chapter Two concludes that online music lessons can be of benefit for an enhanced sense of well-being during a global pandemic. Chapter Three findings suggest that direct instruction, modeling, physicalizing the meaning of words and unscripted verbal interactions were key to boosting the speaking skills of K-2 ELLs. Chapter Four aims at developing recommendations for promoting the innovation policy of universities in Georgia and other developing countries. Chapter Five highlights the importance of an early intervention programme applied to children with language difficulties in order to improve their academic, social and behavioral difficulties early in life (i.e., while they are in kindergarten), and to improve therefore school success later in their life. Chapter Six focuses on Science Education and Sustainability Science and based on an exploratory qualitative methodology, offers an overview of the main reference theories and a case analysis. Chapter Seven discusses both undergraduate and graduate programs in Business Administration from which general management specialists graduate. Lastly, Chapter Eight studies modern information systems, within the field of taxation, and an analysis of the advantages and disadvantages, alongside theoretical educational courses in higher educational establishments, appears germane.

This volume includes seven chapters that describe various advancements in the field of education. Chapter One is a glossary of specific terms in the field of information literacy. Chapter Two includes research on how the COVID-19 pandemic impacts Polish children’s education. Chapter Three seeks to demonstrate how concepts of information literacy in higher education have evolved in parallel with the publication of theoretical frameworks, defined from guiding documents. Chapter Four explores integrated STEM activities for the teaching of scientific and technological content at different educational stages. Chapter Five investigates the potential of “serious games” in cybersecurity education. Chapter Six analyzes the developmental characteristics of Chinese name writing products among kindergarten children in Hong Kong. Lastly, Chapter Seven presents a case study on the relationship between the perceptual-visual-motor skills and the speed and legibility of handwriting in schoolchildren with mixed dyslexia.

This volume presents some of the latest research conducted in the field of education. Chapter One evaluates the efficacy of a sequence developed to teach the concept of the mole, which is important in stoichiometry, to eleventh-grade students. Chapter Two offers lesson ideas for the S.T.E.A.M. teacher that can be completed with students virtually using items that can be found at home or acquired for a minimal cost. Chapter Three includes research on how academic staff development had been implemented in response to reforms in Vietnamese higher education. Chapter Four characterizes the latency time to produce handwriting of high frequency words in students with dyslexia. Lastly, Chapter Five reports on a study that focuses on classroom teachers and their bilingual skills in preparation for the challenge of teaching in Spanish and English.
Progress in Education. Volume 71
Roberta V. Nata
In series: Progress in Education
Publication Date: 12/17/2021
273 pp.
Hardcover: 978-1-68507-433-3, $250.00
e-book: 978-1-68507-484-5, $250.00
This volume includes six chapters showcasing recent developments in education research. Chapter One introduces the constructs of dyspraxia, developmental coordination disorders and motor difficulties, and describes the historical background of the “clumsy child” syndrome and what schools can do to prevent bullying. Chapter Two provides an overview of the historical developments surrounding education of children with learning disabilities and emphasizes the need to update current mainstream teaching methods. Chapter Three discusses children with reading difficulties, such as dyslexia, in the Persian language. Chapter Four deals with issues related to school management, including insufficient funding and lack of professional training, in Slovakia. Chapter Five includes a study that investigates whether teaching metacomprehension and reading strategies can improve third-grade students’ reading comprehension and differential effects as a function of gender and socioeconomic status. Lastly, Chapter Six illustrates an innovative way of presenting conditional probability and Bayes’ rule through George Polya’s (1954) plausible reasoning pattern and syllogisms, promoting statistical novices’ knowledge to a larger degree by emphasizing the underlying logic and rationale behind the mathematical formulas.

Progress in Education. Volume 72
Roberta V. Nata
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211 pp.
Hardcover: 978-1-68507-557-6, $250.00
e-book: 978-1-68507-600-9, $250.00
This volume includes eight chapters describing recent progress in the field of education research. Chapter One explores contemporary Chinese animation and analyzes the current educational aims behind these productions. Chapter Two deals with the needs of special education students in Ukraine. Chapter Three investigates means by which to help students reach their full potential with respect to course enrollment decisions and students’ motivation to read. Chapter Four examines preservice elementary teachers’ depiction of what a diverse classroom looks like to them, what individual assets they bring, and challenges they predict will arise during teaching. Chapter Five presents a literature review with an overview of the speech-language pathologist (SLP) profession for preservice teachers, as well as how and why teachers and SLPs collaborate together in schools, followed by a review of the literature focused on diversity, equity, and inclusion in preservice teacher and SLP preparation programs. Chapter Six explores the role of case studies in changing teacher candidates’ attitudes toward parent involvement across four geographically dispersed universities. Chapter Seven determines how a collaborative curriculum and teaching in a flipped classroom affects the development of university science co-instructors’ technological pedagogical and content knowledge. Finally, Chapter Eight includes the author’s personal opinion on the purpose of education, the current status of the Bhutanese education system, and the way forward.

Special Topics
An Essay Towards a Philosophy of Education: A Liberal Education for All
Charlotte M. Mason
In series: Education in a Competitive and Globalizing World
Publication Date: 11/23/2021
298 pp.
Hardcover: 978-1-68507-306-0, $230.00
e-book: 978-1-68507-385-5, $230.00
This book explains that the natural and only quite wholesome way of teaching is to let the child’s desire for knowledge operate in the schoolboy and guide the teacher. This means that without foregoing discipline, nor cutting ourselves off from tradition, we must continue experiments already being started in our elementary schools. These are based on the chastening fact that children learn best before we adults begin to teach them at all: and hence that however uncongenial the task may be, we must conform our teaching
methods to those of Nature. The attempt has often been made before. But in this book there is a rare combination of intuitive insight and practical sagacity. The author refused to believe that the collapse of the desire for knowledge between seven and seventeen years of age is inevitable.

**Children in India: Opportunities and Challenges**

*Dr. Seema Puri, PhD (Associate Professor, Department of Food and Nutrition, Institute of Home Economics, University of Delhi, Delhi, India)*

In series: *India: Economic, Political and Social Issues*

Publication Date: 10/22/2021

298 pp.

Hardcover: 978-1-68507-067-0, $230.00
e-book: 978-1-68507-158-5, $230.00

This publication focuses on the situation, opportunities and challenges in providing children an optimal environment for growth and development in India. Issues like early childhood care and education, nutrition opportunities through infancy, and physical and mental health of children are explored. An attempt has also been made to shed light on emerging challenges such as child development amidst pandemics like COVID-19, the increasing influence of media in the child’s development, and tackling the triple burden of malnutrition. Implementation of related policies and programs, both by governmental and non-governmental agencies, has been detailed for lessons learnt.

The contributors to this edition are experienced researchers, practitioners, and academicians with extensive work in their respective areas of expertise. There is a good representation from different parts of the country which gives the reader a flavor of the regional diversity while dealing with children and their issues. The book provides a comprehensive updated reference for the scientific community. In addition, students and researchers in public health, social work, epidemiology, community medicine, public nutrition, human development, anthropology and sociology are the target audience. Stakeholders involved in policy planning, program implementation and advocacy will also benefit from this publication.

**Education Systems: Past, Current and Future Trends**

*André Ratté*

In series: *Education in a Competitive and Globalizing World*

Publication Date: 03/30/2022

171 pp.

Softcover: 978-1-68507-766-2, $95.00
e-book: 978-1-68507-791-4, $95.00

This volume consists of five chapters that include research on past, present, and future trends in education systems. Chapter One proposes a conceptual framework for monitoring the internationalization of higher education in Ukraine. Chapter Two examines the best practices and challenges of teaching during the COVID-19 pandemic crisis in Croatia. Chapter Three aims to classify the European vocational education and training systems into similar groups using two indicators and statistical analysis. Chapter Four proposes a mobile edge computing supporting E-learning framework to reinforce learning processes in higher educational institutions which are geographically sparsely distributed systems in different locations. Lastly, Chapter Five investigates the attitudes towards mathematics in university students and how these impact their motivation to learn.

**Instructional Leadership and Effective Teaching and Learning**

*Nazmi Xhomara, PhD (Department of Mathematics and Statistics, Luarasi University, Tirana, Albania)*

In series: *Leadership in a Changing World*

Publication Date: 09/17/2021

207 pp.

Hardcover: 978-1-68507-079-3, $160.00
e-book: 978-1-68507-140-0, $160.00

School leadership has been identified as a key function in assuring quality in education. The instructional leadership model refers to the role and the functions of school leadership to employ different management tasks with regards to teaching and learning. Instructional leadership role includes (a) developing mission and goals, (b) managing the educational production function, (c) promoting an academic learning climate, and (d) developing a
Instructional leaders were described as leading from a combination of both expertise and charisma focused primarily on the improvement of student learning outcomes. The monograph, entitled Instructional Leadership and Effective Teaching and Learning and written by Nazmi Xhomara, is dedicated to school instructional leadership as an important factor that influences teaching and learning at school. In the first chapter, the author presents and analyzes educational leadership vs educational management, as well as models of educational leadership and management. The author argues on the importance of different leadership models, such as managerial leadership, transformational leadership, participative leadership, interpersonal leadership, transactional leadership, postmodern leadership, moral leadership, and contingent leadership. Chapters Two, Three, and Four shed light on instructional leadership and teaching and learning, understanding of instructional leadership, the concept and practice of instructional leadership, instructional school leadership and learning environment, attributes of instructional leaders, instructional excellence, instructional leadership time management, effective teaching and teachers, as well as teaching challenges and learning environment.

Meanwhile, the author has analyzed constructivism, student intelligence, understanding of supervision, instructional collegial supervision, supervision approaches, understanding of evaluation of teaching and learning, teacher evaluation, and instructional observing instruments in chapters Five, Six, and Seven. Chapters Eight and Nine are focused especially on the research work of the relationships between instructional leadership and teaching, learning, and students’ achievements, as well as on an empirical study designed and conducted in Albania as a case. Chapters Ten and Eleven are dedicated to instructional leadership preparation and the future of instructional leadership.

As a conclusion, Xhomara indicates that principals are responsible for developing school climates and cultures that support the very best instructional practices. The new era of instructional leadership has predictably placed significant demands for accountability for student success and equity on the principal as well as for the university programs that prepare them. Working in twenty-first-century schools, the instructional leader is held more accountable than ever for student success.
For many years, public schools served as prominent examples of organizations operating in a stable organizational environment. In the 21st century, however, this notion is gradually changing. Public schools face a dynamic organizational environment characterized by technological innovations, increased social heterogeneity, competition, and contradictory expectations presented by various stakeholders. In addition, the outbreak of the Covid-19 pandemic undermined schools' basic routines, introducing uncertainty and instability to an extent that school leaders had never experienced before. These changing circumstances have increased the complexity school leaders experience on the job, creating new professional challenges, which are growing in number and sophistication.

This book intends to promote awareness of the complex and unique challenges educational leaders are facing and, in doing so, to introduce a rational and a more balanced voice to the discourse on school leadership.

**Students' Attitudes towards Learning and Education**

*Walter S. Rolph*

In series: *Education in a Competitive and Globalizing World*

Publication Date: 02/08/2022

165 pp.

Softcover: 978-1-68507-618-4. $95.00

e-book: 978-1-68507-636-8. $95.00

While factors including school budget and teacher competency undoubtedly impact outcomes in education, the success of students ultimately depends on their interest in, and enjoyment of, the experience of learning. In the same vein, this volume includes six chapters exploring the importance of students' attitudes towards education from a variety of perspectives. Chapter One aims to unveil the attitudes of nineteen Greek state senior high school students toward the use of self-assessment as an alternative assessment method for learning. Chapter Two includes the first cross-national study of affective outcomes among middle-school mathematics students in the USA and Hong Kong. Chapter Three discusses the need for and strategies for incorporating critical thinking, student engagement, and assessment of competency and education in the context of students in healthcare. Chapter Four argues that the three Chinese primary school elements of class group space, project-based learning, and student clubs make learning more enjoyable for students and help them form a community of practice. Chapter Five examines the role of growth mindset in student learning and engagement at community colleges. Finally, Chapter Six presents a critical review of the existing literature surrounding e-learning during the COVID-19 pandemic.

**Teacher Identity Development Within a Community of Practice**

*Ronél Ferreira (Professor, Department of Educational Psychology, Faculty of Education, University of Pretoria, Pretoria, South Africa)*

In series: *Education in a Competitive and Globalizing World*

Publication Date: 01/07/2022

248 pp.

Hardcover: 978-1-68507-487-6. $195.00

e-book: 978-1-68507-511-8. $195.00

The development and refinement of a professional teacher identity forms an integrated part of both pre- and in-service teachers. More specifically, any person entering the teaching profession needs to engage in reflexive practice when standing in front of a class and putting theory into practice. By understanding one’s strengths and areas for further development, a teacher can build self-confidence and develop a repertoire of skills and resources that can be mobilised within the school context.

Teacher Identity Development Within a Community of Practice makes a valuable contribution to the existing knowledge base and current debates on professional teacher identity development and how this can be supported by higher education institutions offering teacher training programmes. More specifically, professional identity development is linked to the importance of a community of practice, where joint reflection and action can add value to the continued development of any teacher. The contribution of this book to scholarship is regarded as ground-breaking, as it is based on recent research conducted with pre-service teachers over a period of three years. In addition to the pioneering contribution to existing literature in the fields of teacher identity development and community of practice theory, the publication has practical application value for teachers and practitioners already in the profession.

Based on the participatory nature of the methodological approach followed for the FIRE research project, the importance of agency, collaboration within a community of practice, joint reflection and continued action is illustrated. More specifically, the way in which the teachers-in-becoming engaged in cycles of reflection and action while taking joint responsibility for their professional development in communication with others in the field demonstrates how continued participatory research by people on ground level can result in not only theory building but also in positive change and continued future development in practice.
Career Development and Job Satisfaction

**Quincy Martin III, PhD (Assistant Professor, Interdisciplinary Leadership Doctorate Program, College of Education, Governors State University, University Park, IL, USA)**

In series: *Education in a Competitive and Globalizing World*

Publication Date: 04/14/2022

285 pp.

Hardcover: 978-1-68507-714-3, $230.00

e-book: 978-1-68507-824-9, $230.00

This book examines and expands understanding and career development competencies for diverse purposes and audiences as well as highlights key areas to consider to enhance job satisfaction within organizations. This book is suitable for academics, researchers, faculty, doctoral and graduate students, policy makers, business managers, and practitioners from organizations and agencies. The foundational knowledge of this book will serve as a reference point for organizational leaders, business managers, and practitioners, and will also prompt future academic research.

Career development and job satisfaction are important issues for organizations. It is the evolitional process an individual experiences to advance their occupational status, deciding to align personal needs and wants to that of their career advancement opportunities. Career development revolves around work-related experiences and—in some cases—the rise above ranks into the occupational roles occupied by individuals in their workplace. As such, career development also requires planning. An individual’s career planning and the organization’s planning should have an integration point to develop appropriate career paths and developmental strategies. Job satisfaction is the inward fulfillment that comes from work experience and acts as motivation for work. The fulfillment here comes with the attainment of specific goals and objectives that are personal to an employee. Fundamentally, job satisfaction is the combination of psychological, physiological, and environmental factors that can cause an employee to experience the effects of fulfillment, joy, and value in an organization. The end result of successful career development and job satisfaction practices will result in both individuals and organizations to better adapt and successfully navigate a competitive business and organizational climate while equipping them to face a promising future.

**HUMANITIES**

**History**

**African History**

**Sub-Saharan Africa: Culture, History and People**

**Paul Sergius Koku, Esq. PhD, JD (Professor, College of Business, Florida Atlantic University, Boca Raton, FL, USA)**

In series: *African Studies*

Publication Date: 10/22/2021

414 pp.

Hardcover: 978-1-68507-191-2, $230.00

e-book: 978-1-68507-204-9, $230.00

Sub-Saharan Africa literally remains the “gift that keeps giving”. The more we know about this region of a rich and diverse continent, the less we realize that we actually knew. Thus, this book, Sub-Saharan Africa: Culture, History and People, is an effort to yet again revisit a region that we thought we knew. It is a culmination of eclectic research efforts, both conceptual and empirical, that focus on sub-Saharan Africa from scholars around the world. The book serves as useful compendium to those who already study the field and as an indispensable handbook to beginners who wish study the region.
Western Sahara: Reasons for Extemporaneous Colonization and Decolonization, 1885–1975
Jesús Martínez-Milán, PhD (Lecturer, Economic History, Department of Historical Sciences, Universidad de Las Palmas de G.C., (Canary Islands), Spain) and Claudia Barona Castañeda, PhD (Professor and Researcher, Department of International Relations and Political Science, Universidad de las Americas, Puebla (UDLAP), Cholula, México)

In series: African Studies
Publication Date: 12/16/2021
177 pp.
Softcover: 978-1-68507-334-3. $95.00
E-book: 978-1-68507-420-3. $95.00

This book discusses some of the most controversial themes in the Hispanic colonial historiography of recent years. Its objective is to offer a synthesis about Spain’s presence in the Occidental Sahara between 1885 and 1975 to show that the processes of colonization and decolonization were unseasonable to the historic context in which they took place. Addressing an English-speaking population with the objective to provide the most complete information possible on a subject matter which continues to be in the public light as a result of an unfinished decolonization process, this work is enriched with research work recently done on different aspects of this subject.

European History

Essays from the History of Georgia: XIX-XXI Centuries
Otar Janelidze (Professor at Gori State University, Researcher at The National Museum of Georgia, Tbilisi, Georgia)

In series: Georgian Classics
Publication Date: 12/28/2021
356 pp.
Hardcover: 978-1-68507-367-1. $230.00
E-book: 978-1-68507-472-2. $230.00

The presented book, which includes 21 essays, covers the cardinal issues of the new and the modern history of Georgia in the South Caucasus. One part of the essay discusses the Russian conquest of Georgia in the first half of the 19th century and the evolution of the country's interests in the Caucasus region; the second part describes the vicissitudes of the life of the Democratic Republic of Georgia in 1918-1921 and is dedicated to showing its domestic life and relations with the outside world; and the rest of the text reflects certain aspects of Georgian reality in the Soviet and post-Soviet periods.

This work is based on numerous primary sources, including archival documents, periodicals, memoirs, and special literature. The book is intended for numerous readers interested in the recent past and modern reality of Georgia.

Statehood and Governance in the History of the West 100-1700: From Rome to The Age of Reason
Robert Ignatius Letellier (Author and Lecturer, Madingley Hall, Cambridge, UK)

In series: Political Science and History
Publication Date: 10/22/2021
367 pp.
Hardcover: 978-1-68507-144-8. $230.00
E-book: 978-1-68507-257-5. $230.00

The subject is historical and cultural, and focuses on the unfolding of the big movements and people that have shaped Western History from Roman times to the late 17th century. It would be informative and exploratory in asking questions, and suitable for all students of history and political philosophy at postgraduate level, as well as for a wider readership.

The history of Western Europe from the fall of the Roman Empire (478 AD) until the end of the 17th century saw a process of discontinuity, deconstruction and loss turn, through the various reengagements and regroupings of the former barbarian invaders, into increasingly self-defined and viable national groupings. Over the centuries of the Dark Ages and early medieval period, these would consolidate further
into ever-more closely defined nation states. The Renaissance, Reformation and Age of Discovery carried the process further and through colonialism and mercantilism saw the restitution of concepts of empire spread globally.

**History of Religion**

**Holy Men of God: Kings, Priests, and Monks in Eastern Orthodoxy**
*Theodore Sabo (Research Professor in Theology, North-West University, South Africa)*

In series: *Religion and Spirituality*
Publication Date: 12/28/2021
128 pp.
Softcover: 978-1-68507-337-4. $82.00
e-book: 978-1-68507-470-8. $82.00

Holy Men of God is a history of the kings, priests, and monks of Eastern Orthodoxy, an intriguing subject especially for Western readers. It focuses on the violent and luxuriant worlds of Byzantium and medieval Russia, taking its readers from the Iconoclastic crisis, the last church fathers, the Bogomil heretics, the God-intoxicated Hesychasts, and the flowering of Russian saints under the Mongol yoke, to the quarrel between the Possessors and the Non-Possessors, the bizarre persecution of the Old Believers, the twilight of the Ottoman Empire, the spiritual classic The Way of a Pilgrim, and the death on a Greek peninsula of the solitary monk Silouan. Central to its plot are the quarrelsome figure Symeon the New Theologian and the final schism between the Eastern and Western churches in AD 1054.
Throughout the book the quiet sanctity of the Eastern church is contrasted with the neurosis and sadism of the Russian and Byzantine monarchs. This interplay helps the reader better appreciate the strength and resilience of a church that has been repeatedly exposed to chaos and catastrophe up to the present day.

**World History**

**Political Theories and Their Systems in World History 1700-2000: From the Enlightenment to Perestroika**
*Robert Ignatius Letellier (Author and Lecturer, Madingley Hall, Cambridge, UK)*

In series: *Political Science and History*
Publication Date: 10/22/2021
361 pp.
Hardcover: 978-1-68507-154-7. $230.00
e-book: 978-1-68507-327-5. $230.00

The history of Western Europe from the fall of the Roman Empire (478 AD) until the end of the Second World War (1945) saw a process of discontinuity, deconstruction and loss turn, through the various reengagements and regroupings of the former barbarian invaders, into increasingly self-defined and viable national groupings. Over the centuries of the Dark Ages and early medieval period, these would consolidate further into ever-more closely defined nation states. The Renaissance, Reformation and Age of Discovery carried the process further and through colonialism and mercantilism saw the restitution of concepts of empire spread globally. The tremendous pressures of growing national rivalry would eventually ignite the huge struggles of the First and Second World Wars, and see the new world order of the Cold War and Post-Colonialism. Throughout modern history the memory of the Roman Empire as a source of unity and economic strength has remained a social and political ideal, confronted by an equally perennial centrifugal pull into forms of defiant, often aggressive, national association. The resultant tension is a recurring theme of history.
Linguistics

Phonetics and Phonology

The Emergence of Grammars. A Closer Look at Dialects between Phonology and Morphosyntax

Michela Russo, PhD (Professor, Director of the Linguistics Department, Jean Moulin University Lyon III, France)

In series: Languages and Linguistics

Publication Date: 09/17/2021
456 pp.
Hardcover: 978-1-53619-888-1. $230.00
e-book: 978-1-68507-022-9. $230.00

What is a grammar? What types of grammar are possible in natural languages? Why and to what extent do grammatical properties vary from one language to another?

This book gathers ten original contributions on the phonology and morphosyntax of various languages, which, from several complementary angles, contribute to the general debate on the genesis and structure of grammars. Their common thread is the logical relationship between general theory and particular grammar(s).

Basing their reflections on the careful study of various empirical materials (from Lithuanian, Gothic, Sanskrit, Nakanai, Bosnian, Croatian and Serbian, Finnic languages, Atlantic Languages, Proto-Western Arabic and Maltese, to Occitan, Medieval French, Medieval and Modern Italo-Romance), the general and common angle to these contributions is to describe and model variation in grammar.

The contributions help to show how grammar is structured at different levels of linguistic analysis and how syntactic, morphological and phonological theories are mutually enriched by work carried out at their interface.

The book, which combines theoretical linguistics with a great concern for detailed description, is intended for all general linguists interested in phonology, morphology, syntax and typological variation.

Musicology

Johann Sebastian Bach: His Life, Art and Work

Johann Nikolaus Forkel (Author)
Charles Sanford Terry (Translator)

In series: Historical Figures

Publication Date: 11/11/2021
303 pp.
Hardcover: 978-1-68507-271-1. $230.00
e-book: 978-1-68507-364-0. $230.00

Johann Sebastian Bach: His Life, Art, and Work is an early 19th-century biography written in German by Johann Nikolaus Forkel and later translated by Charles Sanford Terry.

Statistical Musicology: Embracing Hindustani Ragas

Swarima Tewari, PhD (Department of Mathematics, BIT Mesra, Ranchi, India) and Soubhik Chakraborty, PhD (Professor and former Head in the Department of Mathematics, BIT Mesra, Ranchi, India)

In series: Focus on Civilizations and Cultures - Music

Publication Date: 03/30/2022
185 pp.
Softcover: 978-1-68507-683-2. $95.00
e-book: 978-1-68507-771-6. $95.00

The authors of this book propose to computationally analyze both the structure and the performance of Hindustani classical music. Under the structure, they have taken up certain fundamental aspects like aroh (ascent), awaroh (descent), pakad (catch), etc. of the more common ragas. Under performance, other features like note duration, inter onset interval, and pitch movements between the notes have also been considered. Both statistics and probability are extensively used, including statistical modeling. The authors
have also analyzed raga-based songs whose role in promoting Hindustani classical music among laymen cannot be denied. An open research problem of assessing the raga content in such songs is addressed as well. This book would be useful for musicians, musicologists, researchers in music history, aesthetics, statistical musicology, and advanced undergraduate and postgraduate students of music and musicology.

**Philosophy**

**Time Hybrids: A New Generic Theory of Reality**
*Fred Van Oystaeyen (Dept. of Mathematics, University of Antwerp, Wilrijk, Antwerp, Belgium)*

In series: *World Philosophy*
Publication Date: 11/05/2021
281 pp.
Hardcover: 978-1-68507-213-1. $195.00
e-book: 978-1-68507-264-3. $195.00

What if the Big Bang was an exodus of non-existing reality into existence? In this book a theory of the reality is started from the principle that ‘existing takes time’ but in states of the universe there are pre-things in moments, thus non-existing, which realize in strings over specific time intervals as existing phenomena. Causality must be reviewed now and new paradigms for reality follow. The existing and observed universe are discontinuous and “limits” in mathematical models do not correspond to reality. New interpretations in evolution theory and the human condition are being investigated.

**Religion**

**Atheism**

**Natural Theology: The Atheist’s Way to God**
*Anthony Walsh (Professor Emeritus, Boise State University, Boise, Idaho, USA)*

In series: *Religion and Spirituality*
Publication Date: 10/22/2021
346 pp.
Hardcover: 978-1-68507-198-1. $230.00
e-book: 978-1-68507-267-4. $230.00

Natural theology is the process of observing nature and engaging science and reason to provide evidence for God's existence by "reasoning to the best explanation." It sets aside the revealed word and engages only with the evidence supplied by science, history, and philosophical reasoning to affirm the existence of God. This book provides signposts to God from solid evidence from physics, chemistry, biology, the social sciences, philosophy, and history. This evidence has forced many scientists, including a number of Nobel laureates in science, who have thought deeply about the ultimate meaning of their work to accept Almighty God.

**Christianity**

*Robert Ignatius Letellier (Author and Lecturer, Madingley Hall, Cambridge, UK)*

In series: *Religion and Spirituality*
Publication Date: 02/11/2022
324 pp.
Hardcover: 978-1-68507-520-0. $230.00
e-book: 978-1-68507-635-1. $230.00

The subject is historical and follows the development of the Church—the great movements of faith and the people that have shaped the worldwide mission over two
millennia. Christianity came into being (c. 30 AD) when the Apostles received the power of the Holy Spirit to preach the resurrection and Gospel of Christ (Acts 1—2). Jesus had placed the Jewish idea of the Kingdom of God at the centre of his teaching but gave the idea a new spiritual and universal meaning (Matthew 28:16-20). He taught that God is present wherever individuals enter into the relationship of love which God is seeking to initiate with them. Throughout the ages the Catholic Church spread the Gospel, and sustained Christian communities, bringing light and hope into the lives of men and women in the darkest times of their history, playing a key role in the development of society with the founding of hospitals and institutions of education, retraining the political ambitions of monarchs. Despite emerging differences of interpretation in matters of theology and practice, and the invention of new ways of being Christian at the Reformation, belief in Jesus Christ and his Gospel has grown and spread throughout the world, beginning with the Age of Discovery. In the 20th century the Church began to reconsider its ideological traditions and to participate in the ecumenical movement, with a resurgence of scholarship, a new attitude to the witness of the Church in the world, expounded at the Second Vatican Council (1962-65). Christianity has moulded the shape of Western civilization and has been carried by missionaries to nearly all the countries of the world.
In the months leading up to the attack on the U.S. Capitol on January 6, 2021, there were reported efforts to organize large groups of protestors to travel to Washington, D.C. to dispute the outcome of the 2020 presidential election. Over the course of about 7 hours on January 6, the attack on the U.S. Capitol resulted in assaults on approximately 140 police officers. In addition, the events of the day led to at least seven deaths. Questions have been raised about the extent to which necessary steps were taken to adequately secure the Capitol Complex and share intelligence information.

The Federal Government was unprepared for this insurrection, even though it was planned in plain sight on social media for the world to see. And despite all the military and law enforcement resources our Government can call upon in a crisis, security collapsed in the face of the mob, and reinforcements were delayed for hours as the Capitol was overrun. This book tries to understand what went wrong that day to prevent this from ever happening again.

This edited volume marks a further step toward responding to the challenge of providing a moderately broad but sensibly detailed and advanced treatment of human rights and foreign policy in comparative perception and the trend of democracy and the rule of law in the United States under Trumpism. In other words, the volume is responding to the general challenge (faced by others) of “providing a moderately broad but sensibly detailed and advanced treatment” of two things: (1) “human rights and foreign policy in comparative perception” and (2) “the trend of democracy and the rule of law in the United States under Trumpism.” This edited volume discusses the state of democracy, human rights, freedom of speech, rule of law and foreign policy in the United States under the US 45th President, Donald J. Trump, through the perspective of the authors – from different backgrounds such as the United States, Europe, Egypt, Brasil, Mexico – and their response to these policies, along with Trump’s degrading concepts of human rights in Islam (Shārīe’ā). In other words, the volume underscores the concept of democracy, human rights, freedom of speech, rule of law, and foreign policy in the United States under Trump, and Trump’s degrading opinion of Islamic conceptions of human rights.

The academic literature on political economy includes many models and theories. The contributions to this volume illustrate four basic principles that many exhibit. First, many different types of political economies exist. There are large differences between not just developed and developing countries but between early and late developers; and
substantial differences are easy to discern even among superficially similar ones, such as the East Asian developmental states. Second, most political economies are marked by a myriad of interdependencies among market, state, and civil society. Third, change, both incremental and fundamental, occurs regularly in many. Fourth and as a result of the first three, the analysis of political economies is often quite complex. Chapter 1 focuses on change by analyzing the ongoing Great Reset in the U.S. political economy in the early 21st century. Chapters 2-4 discuss how China differs from western models: in particular, models for international relationships, Confucianism and the Belt and Road Initiative, and China’s cooperation with the Central and East European Countries respectively. Chapter 5 also covers variety and complexity with an in-depth theoretical treatment of Marx’s theory of value. Chapter 6 raises issues of interdependence by highlighting the social bases of political economies. Chapters 7 and 8 touch upon interdependence and complexity by demonstrating how the U.S. political economy marginalizes minorities in the areas of education and health care respectively. Chapter 9 focuses upon interdependence by linking fiscal policy to subsequent election outcomes. Finally, Chapter 10 relates workforce development policy to changes in the 21st century American economy.

**Congressional Activity**

**Legislation to Address Puerto Rico’s Political Status**

*Alvaro Campoy*

In series: *Congressional Policies, Practices and Procedures*

Publication Date: 12/03/2021

363 pp.

Hardcover: 978-1-68507-404-3. $230.00

Two pieces of key legislation have been introduced in Congress to resolve Puerto Rico’s political status, H.R. 2070, Puerto Rico’s Self-Determination Act of 2021, and H.R. 1522, Puerto Rico Statehood Admission Act. This book discusses the legislation and re-examines the island’s territory status.

** Presidents**

**President Trump's National Security Strategy Non-Doctrine: An Assessment**

*Leonard Cutler, PhD (Professor, Political Science Siena College, Loudonville NY, USA)*

In series: *American Political, Economic, and Security Issues*

Publication Date: 02/17/2022

179 pp.

Softcover: 978-1-68507-611-5. $95.00
e-book: 978-1-68507-697-9. $95.00

President Donald Trump never developed a National Security Strategy or Doctrine. Rather he went from issue to issue, challenge to challenge, and position to position without a detailed framework or plan. Trump used unpredictability and disruption to achieve his goals and objectives, with the principal objective being playing the game better, harder, and tougher while reducing the costs and risks for American global leadership. Trump's national security approach promoted American sovereignty, military interests, and deals that advanced America first rather than reinforcing alliances that were of marginal value to our interests.

President Donald Trump's transactional personalized approach to other world leaders in many instances ignored American values and interests. This was clearly the case with respect to his relationship with MbS of Saudi Arabia, Kim Jong-Un of North Korea, Vladimir Putin of Russia, and even the president's failed attempt to pursue Saeid Ali Hosseini Khamenei of Iran. His willingness to accept and embrace positions taken by foreign adversaries over those of his own national security team, allies abroad, or even allies in the Congress defined Trump's approach to national security policy which preferred short term gains for him rather than securing the long term interests for the United States. Trump believed that keeping allies and adversaries perpetually off balance accrued to the benefit of the United States. America First and foremost meant that the president did not have to apologize for anything the United States did under his leadership, and he saw no adequate substitute for American power while insisting that our regional allies and coalitions bore a greater share of the burden in providing for the common defense, and he believed that we were vulnerable if our allies were resolute or unprepared.
Trump's National Security Non-Doctrine has transitioned to the Biden Presidency which seeks to renew American engagement in the world in ways that reinvigorate the global norms for cooperative behavior. The United States' allies and adversaries remain the same today as they were four years ago and unilateral policies are highly unlikely to advance America's main goals; rather, they are likely to undermine its security and prosperity. President Biden has emphasized that multilateral engagement remains in America's interest as the best strategy to securing peace and prosperity.

I reflect in the first chapter on the recent scholarly research of Frank Ninkovich, Mel Gurov, and Robert Jervis as it relates to Trump's approach to national security policy and issues and how my approach is distinct from theirs with respect to the themes and issues examined in my manuscript. I also reflect upon my personal interaction and conversation with H.R. McMaster on the significance of the National Security Strategy Report of 2017, and the highly limited and questionable role that it played for the Trump Administration.

### Asian Political, Social and Economic Issues

**Is China Encircling India?**

**Mohd Aminul Karim**

In series: *Asian Political, Economic and Social Issues*

Publication Date: 10/12/2021

219 pp.

Hardcover: 978-1-68507-120-2. $160.00

e-book: 978-1-68507-215-5. $160.00

Encircling India from different flanks is seemingly a key strategic objective of China, apart from others. China needs dominance in this part of the world both for economic and strategic reasons. China wants to regain its lost grandeur that it lost during the ‘Century of Humiliation’ on the world stage. Southeast Asia is generally under China’s influence, by means foul or fair. It could even manage the Philippines after it got a verdict in its favor in the international court on an issue related to the South China Sea. China’s economic power is impacting its relations with Southeast Asian countries.

Given the recent conflict between China and India, India is more likely to align itself with the United States. India is a strong partner in the Quadrilateral Dialogue (QUAD), alongside Japan, the United States, and Australia. The QUAD is getting stronger militarily, and the U.S. has been generous to India, especially under former President George W. Bush, who signed a civil nuclear agreement that set India as a nuclear power. India is likely to become a potent naval force in the Indian Ocean, where China is also making advances.

China is now more closely aligned with Russia. The combined forces of China and Russia are a great deterrent to the United States. Added to that, the Bridge and Road Initiative (BRI) is drawing more countries across Asia, Africa, Europe, and the Middle East. The coming decade won’t be divided by an iron curtain but clearly by two blocks vying for influence. China has huge economic and proximity advantage whereas the United States has its military component and potent alliance powers especially with India and Japan. After the pandemic, the turn of history may be different, so the 21st century scenario development may be problematic as it standsnow. That said, the book attempts projection and scenario development extrapolating the vexed issues and events between India and China within the broader framework of Indo-Pacific.

### Middle Eastern Politics

**Iran: U.S. Relations, Foreign Policies and Sanctions**

**Ditte H. Søndergaard**

In series: *Politics and Economics of the Middle East*

Publication Date: 09/09/2021

372 pp.

Hardcover: c. $230.00

e-book: 978-1-68507-060-1. $230.00

Since May 2019, U.S.-Iran tensions have heightened significantly, and evolved into conflict after U.S. military forces killed Qasem Soleimani, the commander of the Iran’s Islamic Revolutionary Guard Corps-Quds Force (IRGC-QF) and one of Iran’s most important military commanders, in a U.S. airstrike in Baghdad on January 3, 2020. The United States and Iran have appeared to be on the brink of additional hostilities since, as attacks by Iran-backed groups on bases in Iraq inhabited by U.S. forces have continued. This book details U.S. policy options on Iran, Iran’s regional and defense policy, and Iran sanctions.
Politics of Gender in the Kurdistan Region of Iraq: Resource Curse, Tribalism and Political Culture

Emel Elif Tugdar, PhD (Visiting Professor, International Institute for Qualitative Methodology, University of Alberta, Canada)

In series: Politics and Economics of the Middle East

Publication Date: 11/05/2021
195 pp.
Hardcover: 978-1-68507-181-3. $160.00
e-book: 978-1-68507-296-4. $160.00

After the U.S. invasion of Iraq and the establishment of close relations between the West and the Kurds after 2003, there has been an increase in the demand towards reading and learning about this ethnic group. However, while in Western countries, there is substantial literature on the politics of gender, giving a deeper insight into the role that women play in the field, in the Kurdistan Region of Iraq (KRI), women rarely come up as a topic of discussion. This trend has also affected the literary works that detail their role in social and political affairs. Little has been written to establish the position in politics and their unexploited potential. On the other hand, in Iraq and in the Middle East at large, the Iraqi Kurdish society has made significant strides towards modernization and observation of the rule of law and governance in line with international standards. The National Action Plan and the Declaration of the Elimination of Violence against Women among others are the documents that are binding over Kurdistan to work towards ensuring the rights of women and their participation in politics. However, whether the contents of these documents on the involvement of women in the political landscape and respect for their rights are being honored or just remain on paper is still debatable. With a focus on these issues, this book examines the politics of gender in the Kurdistan Region of Iraq, delving into the regional phenomena, i.e. resource curse, tribalism, religion, elitist feminism, and political culture. Using a mixed-methods approach, this book also acts as a pointer to how the country regards women even in the private spheres, including in the civil society level. Understanding the challenges that women face in articulating and shaping their interests and the place of tribal structure of the society and religion besides the oil economy that lead to gender inequality in political, social, and economic spheres is important towards helping them increase their representation in the Kurdistan Region of Iraq (KRI).

Special Topics

India, China, and Tibet: A Quest for Autonomy

Rakhee Viswambharan, PhD (Assistant Professor and Head of the Department of Political Science, Sree Narayana College, Chempazhanthy, (affiliated to the University of Kerala), Thiruvananthapuram, Kerala State, India)

In series: Political Science and History

Publication Date: 10/12/2021
215 pp.
Hardcover: 978-1-68507-091-5. $160.00
e-book: 978-1-68507-205-6. $160.00

This book deals with the 70-year-old peaceful struggle for autonomy/independence of the Tibetan Buddhist living in the ‘Roof of the World’, Tibet. In 1950, Tibet, an erstwhile independent entity intermittently under the suzerainty of China, was coercively annexed by the People’s Republic of China (PRC). It is located in the Himalayan region bordering India and the PRC, the two major players in Asia. The book describes the contemporary history of Tibet and analyzes the implications of autonomy especially in the context of geostategic significance of Tibet to India and China. The response of the PRC and India towards Tibetan autonomy is very important to understand the undercurrents of international relations in the Himalayas. Concomitantly in the 21st century the international response is also significant in helping the move towards autonomy to erstwhile groups of people that have a common cultural identity. The relative significance of the right of a modern state to territorial integrity and people’s right of self-determination are discussed in detail. Though people’s right to self-determination has been an internationally recognized principle, its implementation depends on the persistence of the struggle for autonomy/independence, the means adopted, and the international response toward it. The interplay of international politics with national interests of major players in the era of globalization is also dealt with. Thus, in the era of human security and human rights, the Tibetan quest for autonomy has solicited great significance.
Social Sciences

Adolescence and Youth

**Adventure Education and Positive Youth Development in Aotearoa, New Zealand**

*Damian Scarf (University of Otago, Dunedin, New Zealand)*

In series: *Pediatrics, Child and Adolescent Health*

Publication Date: 04/20/2022

163 pp.

Softcover: 978-1-68507-753-2. $95.00

e-book: 978-1-68507-848-5. $95.00

This book consists of nine chapters, each of which provides an example of a context for positive youth development in Aotearoa, New Zealand. These contexts cover high school (Chapters 1, 3, and 9), the rugby field (Chapter 8), the ocean (Chapters 2, 4, and 5), and youth-led events (Chapter 6). Moreover, in Chapter 7, the authors dare to dream that video games may provide a novel context for positive youth development. Importantly, the book includes chapters that focus on Māori youth (Chapter 5), Pasifika youth (Chapter 8), and youth from a refugee background (Chapter 9).

Archaeology

**Materials in Art and Archaeology through Their Infrared Spectra**

*Stamatis C. Boyatzis, PhD (Associate Professor, Chemistry of Materials in Cultural Heritage, University of West Attica, Egaleo, Greece)*

In series: *Archaeology - Discoveries of the Past*

Publication Date: 01/21/2022

429 pp.

Hardcover: 978-1-68507-305-3. $230.00

e-book: 978-1-68507-561-3. $230.00

Materials in Art and Archaeology through their Infrared Spectra introduces students and professionals in archaeology, conservation, chemistry, and materials science to the world of archaeological and art materials. The infrared spectra of materials directly reflect their structures, whether amorphous or crystalline, color or colorless, polar (hydrophilic), or nonpolar (hydrophobic). Through this book, the reader is offered a top-down approach for interpreting the rich but often subtle information drawn from the infrared spectra of most materials in the above-described context and correlate them to their molecular geometry, their molecular environments, and, most importantly, their deterioration pathways that lead to their current condition.

**Paradigms in Conflict: Cognitive Archaeology on the High Plains**

*Thomas N. Huffman (University of the Witwatersrand, Johannesburg, South Africa) and Frank Lee Earley (Arapahoe Community College, CO, USA)*

In series: *Archaeology - Discoveries of the Past*

Publication Date: 02/11/2022

266 pp.

Hardcover: 978-1-68507-497-5. $195.00

e-book: 978-1-68507-599-6. $195.00

Paradigms in Conflict presents an anthropologically grounded alternative to Culture History and Culture Ecology. By using principles derived from the ethnography of descendant (or closely related) peoples, the book explains three contemporaneous archaeological cultures in the High Plains and the Southwest of North America: High Plains Upper Republican, Apishapa, and Sopris. Rather than hunter/gatherers, High Plains Upper Republican people at the Wallace site were maize farmers as well as bison hunters. In contrast, Apishapa people were hunter/gatherers but were probably Numic speakers.
from the Great Basin, while Sopris people were not related to Apishapa but to the Tanoan group of Pueblo people. In keeping
with their worldview, the rock art at the Wallace site reflected supernatural protection of shield-bearing warriors on the one
hand and the cosmic origins of humanity on the other. Pilgrimages led by shamans provided the social context of rock art in
the Apishapa valley, while Sopris rock art varied according to the concentric zones around the core of Pueblo-like villages:
maize agriculture in zone 2, hunting shrines in zone 3 and rain control in zone 4. Our ethnographically informed approach
helps to unite rock art with traditional dirt archaeology.

Child Safety

Childhood Exposure to Violence and Psychological Implications
Frederic M. Babin
In series: Domestic Violence and Abuse
Publication Date: 01/28/2022
207 pp.
Hardcover: 978-1-68507-556-9, $160.00
e-book: 978-1-68507-580-4, $160.00
This volume includes seven chapters that examine the phenomenon of childhood exposure to violence from a variety of perspectives. Chapter One discusses some of the main behavioral problems of students in the school context such as bullying among peers, including the causes and mitigation strategies of such behaviors. Chapter Two proposes a conceptual framework to include youth exposure as victims of or witnesses to different types of interpersonal violence. Chapter Three details the repercussions of childhood exposure to domestic violence on human development. Chapter Four investigates the characteristics of victims of child-to-parent violence. Chapter Five examines the role that time perspective, particularly the orientation towards the future, and expectations play in the relationship between adverse past experiences of adolescents in residential care and their involvement in risky behaviors. Chapter Six includes the results of a study on the phenomenon of parental alienation in Brazil. Finally, Chapter Seven analyzes domestic violence cases reported to Portuguese police forces in the context of exposure of children to domestic violence.

Communication and Media Studies

Journalism

Loaded Language and the Dilemma of Journalism
Alexandra Kitty (Professor, Communications, Conestoga College, Kitchener, ON, Canada)
In series: Languages and Linguistics
Publication Date: 04/11/2022
286 pp.
Hardcover: 978-1-68507-707-5, $230.00
e-book: 978-1-68507-792-1, $230.00
The problems of loaded language in journalism have eroded professional credibility over the years, and yet the journalist has a bounty of empirical and psychological tools to counter disinformation and propaganda by the use of the word alone. What are the best practices for investigative journalists to interview and present information in an emotionally literate manner? How and why is loaded language used, and how can a reporter counter attempts at gaslighting and manipulation? How does the profession reinvent the interview to connect to audiences through multiple literacies? Drawing from studies in the social sciences, this definitive book looks at the primal, emotional, and analytical aspects of words and their neurobiological effect on audiences, as it shows how to avoid loaded language, spin, propaganda, atmosphere, narrative, and sophistry.
A Closer Look at Women’s Issues
Mylie Velasquez
In series: Women’s Issues
Publication Date: 11/23/2021
430 pp.
Hardcover: 978-1-68507-317-6. $230.00
e-book: 978-1-68507-348-0. $230.00
This book covers a wide range of women’s issues, including their health, education, safety and security. Chapter 1 looks at improving the rights and status of women and girls worldwide. Chapter 2 examines whether and how U.S. trade preference programs protect or promote women’s rights and economic interests. Chapter 3 reports on child marriage and the devastating impact it has on girls. Women’s meaningful participation and leadership in political and civil life and empowering them to play key roles in decision-making and peace processes are discussed in Chapters 4 and 5. Chapters 6 and 7 examine the nature and extent of women’s involvement in violent extremism and peacemaking in contemporary Afghanistan. Chapter 8 provides background and data on key issues regarding women in the MENA region and describes selected ways in which Congress has engaged on issues such as women’s legal rights, economic participation, and political representation; the humanitarian impact of conflict and displacement on women; women’s inclusion in conflict resolution and peace processes; violence against women; and women’s roles in perpetuating and combatting violent extremism.

Women’s Issues: Health, Retirement and Legislation
Brandon Vazquez
In series: Women’s Issues
Publication Date: 11/23/2021
406 pp.
Hardcover: 978-1-68507-316-9. $230.00
According to the CDC, tens of thousands of people die each year from breast or cervical cancer. Early screening and detection, followed by prompt treatment, can improve outcomes and, ultimately, save lives. Chapter 1 provides information on the number of people who were 1) screened through the Early Detection Program and 2) enrolled in Medicaid under the Treatment Act. Chapter 2 provides an overview of laws protecting pregnant workers, including their substantive provisions, legislative history, practical considerations, judicial interpretation, and limitations. Pregnant Workers Fairness Act is discussed in Chapter 3. Chapter 4 examines 1) trends in prosthetics provided by VHA to female veterans; 2) characteristics of the female veteran population with limb loss and how VHA provides prosthetic services to these veterans through its Amputation System of Care; and 3) VHA’s research efforts and the challenges that exist in studying prosthetics for female veterans with limb loss. Chapter 5 reports on the financial security of older women. Chapter 6 provides a brief legal background of the Selective Service System, including legal consequences of failing to register. It next describes judicial challenges to the male-only draft and legislative efforts to require women to register. Gender-responsive criminal justice approaches acknowledge women’s unique pathways into and out of the criminal justice system as examined in Chapter 7. Chapter 8 discusses the policy issues commonly associated with Violence Against Women Act (VAWA) as well as several provisions of H.R. 1620.

Children and Youth in China Since 1978: Opportunities and Challenges
Johnston Wong Hong-Chung (Professor of Social Work and Social Administration Programme, Chief Student Affairs Officer, BNU-HKBU United International College, Zhuhai, China)
In series: Asian Political, Economic and Social Issues
Publication Date: 10/20/2021
316 pp.
China, while maintaining high speed in economic growth, has made tremendous social progress since 2000, particularly in the provision of general education and health services. In the same period, the society is rapidly aging, particularly in North and Northeastern China where the proportion of population over 65 years of age has exceeded twenty percent. Decision makers are facing difficulties in balancing the protection expenses between the young and the old. This book aims to describe the situations of children and youth in China, a country characterized by regional disparities and urban-rural divisions in every social aspect. The book aims to report the many hardships and difficulties youth and children face when support from the State or public goods are unavailable. It also aims to identify areas of future growth.

Discrimination and Race Relations

Slavery Throughout the Ages
Dr. James Biser Whisker (Professor Emeritus, West Virginia University, PA, USA) and Kevin R Spiker (Associate Professor of Political Science, Ohio University, OH, USA)

In series: Social Issues, Justice and Status
Publication Date: 09/17/2021
303 pp.
Hardcover: 978-1-53619-913-0. $230.00
e-book: 978-1-68507-142-4. $230.00

Slavery has existed since the origins of written history and probably long before. It is discussed in the Hebrew Bible which set standards for enslaving persons and treatment of slaves. Excepting a few schools of philosophy, nearly all Greeks thought slavery was the natural condition of many human beings. Most important among those Greeks advocating slavery were two of humankind's greatest minds, Plato and Aristotle. Enslavement of one with a slave soul was considered just and freeing such a person was considered unjust. The Romans ignored the Greek philosophizing about slavery, but practiced it on a massive scale, frequently enslaving captives from various wars. Rome's greatest philosopher Cicero defended slavery. Rome was plagued by several servile revolts, the best known of which was led by Spartacus. Slavery was practiced throughout Europe and the Middle East following the fall of Rome. There was no racial dimension or consideration until Spain and Portugal began to enslave native aborigine in the newly discovered Western Hemisphere. To save these natives from involuntary servitude, the Church promoted importation of Africans. Following decades of profitable slave trade, England led the way in abolishing slavery. Other nations followed, including the United States, although that emancipation required a major internal war. Southern slave holders consistently defended the enslavement of presumed racial inferiors and claimed that slavery was beneficial to them. Southern slave holders produced volumes of literature supporting slavery, some of which referred to the Greek philosophers.

Law and Society

Conscience of Judges in International Criminal Law: The Heart of Judgement
Farhad Malekian (Uppsala, Sweden)

In series: Criminal Justice, Law Enforcement and Corrections
Publication Date: 01/14/2022
264 pp.
Hardcover: 978-1-68507-252-0. $195.00
e-book: 978-1-68507-469-2. $195.00

For the author, a judge is a person with a high ethical and moral capacity who respects their position. When we think of a court, we think about a place where we confront the truth, where every single individual, every judge and prosecutor, every victim and witness, and every accused person, offender, and the condemned, come together to reveal the naked truth. The main objective of criminal proceedings is to uphold a pure juridical system with full ethical conscience in order to protect the rights of all individuals, including members of the general public. Judges of criminal courts are required to be independent in order to pursue the truth and uphold judicial conscience, which is itself an institution based on the professional values of criminal justice. A judge with ample judicial conscience should not be afraid of being attacked or losing their position if they work to uphold and uncover the truth. This implies the independent freedom of judicial justice. If justice is safe, then the safety of the victims and the accused will also be guaranteed. That is why confidence in the professional standards of the ethical requirements of judges of national criminal courts or of the International Criminal Court is heavily contingent upon the judges’ honesty, which in turn relates to their practical
Social Sciences

experiences and ought to be based on the knowledge of the essence of humanity. Professional ethics are particularly vital when evaluating diverse values and the very question of the existence of pluralist systems of national and international criminal justice which deal with core international crimes.

The intention of this work is to assess the way in which our administration of national and international criminal justice requires judges to be impartial, pursue the truth, and not be the puppets of ventriloquist politicians.

Time Served: Perspectives on Incarcerated Women and their Children
Zina McGee (Hampton University, Hampton, VA, USA)
In series: Law, Crime and Law Enforcement
Publication Date: 10/22/2021
166 pp.
Softcover: 978-1-68507-153-0. $95.00
e-book: 978-1-68507-258-2. $95.00
Using personal interview accounts, focus group discussions, and semi-structured questionnaires analyzed from a sample of female long-term jail inmates, this book focuses on understanding the experiences of mothers in confinement, particularly with regard to coping with separation from children. The chapters examine the extent to which familial background characteristics (i.e., living situation while growing up, family history of incarceration, and parental abuse of drugs and alcohol) relate to the female inmate’s own circumstances including abuse prior to incarceration, history of drug and/or alcohol abuse and physical illness. Specific race/ethnicity, age, and social class differences regarding these familial background characteristics and the female inmate’s own patterns of abuse and victimization are also explored. Additionally, the book describes the methods of treatment including drug/alcohol therapy, mental health counseling, medical care, group counseling, parenting classes, and reunification counseling, and the differences that exist regarding effective treatment and the female offender’s familial background. Emphasis is placed on the mechanisms that the female inmates use to cope with their incarceration, and the specific factors that relate to their use of drugs/alcohol, including previous sexual, emotional, and physical abuse. Investigations also focus on the type of drugs used prior to incarceration, in addition to policy implications for criminal legal processing of female inmates with children, many of whom engage in drug-related crimes to escape adverse, abusive situations during childhood and into adulthood. Finally, select chapters include an expansion of the work on mothers to investigate patterns of behavioral and emotional adjustment outcomes among children and adolescents experiencing maternal incarceration using data drawn from interviews and surveys as well as a national sample.

International Law

Conscience of Lawyers in International Criminal Law: The Burden of Doppelgängers
Farhad Malekian (Uppsala, Sweden)
In series: Law, Crime and Law Enforcement
Publication Date: 01/14/2022
280 pp.
Hardcover: 978-1-68507-304-6. $230.00
e-book: 978-1-68507-471-5. $230.00
Empowering ethical codes is vital in all branches of law because without these codes, we would be unable to differentiate between right and wrong in our personal judgments. Lawyers can either be the most precious or most precarious parties in a criminal case—depending on the state of their conscience. In certain cases, immorality replaces morality, and legal norms become pawns in a game, the goal of which is to serve the economic interests of lawyers. Lawyers become a greater threat to the truth when they support the establishment of special tribunals meant to hide the truth, such as was seen in Iraq, or when they receive payment in order to cover up genocide in places such as Myanmar and in the territories of the superpowers. Such lawyers then turn around and condemn the same crimes in places such as China. They speak out against crimes against humanity carried out by the Iranian government, but do not say a single word about the crimes against humanity, war crimes, and genocide committed by the Saudi Arabian, Israeli, American, French, and British governments. Here, doppelgänger puppet attorneys do not present the true image of justice, but rather work to convince the international public that their brutal clients are innocent. The situation becomes even more complicated when we are dealing with very sensitive questions of international criminal justice under various criminal procedures directed by lawyers in the ICI, the ICC, or in ad hoc tribunals. What is the nature of integrity, impartiality, conscience, truth, and payments, and why are lawyers increasingly being sponsored and directed by outsiders?

This book reveals the forbidden truth—an embarrassment and moral weakness of conscience.
Conscience of Prosecutors in International Criminal Law: The Heart of the Matter
Farhad Malekian (Uppsala, Sweden)
In series: Law, Crime and Law Enforcement
Publication Date: 11/11/2021
244 pp.
Hardcover: 978-1-68507-172-1. $195.00
e-book: 978-1-68507-299-5. $195.00
This book evaluates the resting pulse of national and international criminal justice in conjunction with the actual definition of the truth which burdens prosecutors. Prosecutors have several valuable, yet inconspicuous tasks which are significant to criminal procedure. In criminal justice, the conscience of justice is based on the pursuit of the truth by following the evidence. As a rule of genuine judgment, we seek to discuss the principle of truth and its enforcement in the proceedings of criminal justice. The perception of moral law and its imperative function governing the theory of ethical obligations, responsibilities, and duties of the prosecutor in the criminal jurisdiction therefore represent the primary starting point for all of our judgments. Prosecutors should actively ensure that both powerful and powerless criminals are brought to justice. The main objective of the statute of the permanent International Criminal Court (ICC) claims to uphold the high moral precedent which must be set by the Office of the Prosecutor. However, the actual practice of the ICC has instead led to millions of deaths, including those of innocent children, as well as to the destruction of countries whose protection is not considered to be in “the interest of justice.” If the ICC wishes to establish justice for victims, then the deterrence of impunity for any criminal should be its priority. The ICC should not become a pawn of the political superpowers or the platform through which prosecutors can misuse classified documents to serve their personal interests. The ultimate nature of justice cannot be comprehensive if impartial validity is not the permanent foundation of the core pillars in all criminal proceedings. This book is recommended to anyone who concerns themselves with legal questions of international criminal justice and its efficacy.

Gravity of Wisdom in International Law
Farhad Malekian (Uppsala, Sweden)
In series: Laws and Legislation
Publication Date: 11/11/2021
342 pp.
Hardcover: 978-1-68507-171-4. $195.00
e-book: 978-1-68507-330-5. $195.00
In this comprehensive work, Malekian introduces the importance of the noble principle of the population of wisdom, which relates to the far-reaching foundations of the systems of international human rights law and international criminal justice. This principle is not dependent upon the norm of inequality, nor upon the threat of use of force and the killing of millions, nor does it seek to destroy the truth in order to exploit nations. Malekian trusts that an equitable system of international law based in wisdom can provide a forum for a deeper philosophical understanding of the value of our perception, which struggles to establish quality standards, rather than an exorbitant number of human rights provisions. If international human rights law and international criminal law do not uphold moral values, they cannot make ethically wise decisions or attain long-term legal efficiency. We may successfully increase the significance of legal disciplines such as human rights law, the law of the United Nations, and the moral capacity of the norm of perception through the magnificent power of wisdom. This book discusses original theories addressing serious questions concerning the ethical, normative, and moral values of human essence concerning a variety of issues, in order to decrease violations and increase perceptions of true humanisation. The musings on the distinctive values of this book are presented to those who are not afraid to honour the truth. Read the book with a vigilant heart and scrutinise it with an open-mind.

Orchestrating Diversity in International Criminal Justice
Farhad Malekian (Uppsala, Sweden)
In series: Law, Crime and Law Enforcement
Publication Date: 11/11/2021
279 pp.
Hardcover: 978-1-68507-222-3. $195.00
e-book: 978-1-68507-333-6. $195.00
The scope of criminal justice has to include the body of equal norms which have to be protected. The basic elements of authoritarianism, universality, complementarity, and
pluralism should not be employed by superior powers and enforced within the procedures and values of our criminal charter. A pure criminal jurisdiction ought to have its own independent honour and its own unified diverse values including: righteousness, innocence, virtue, honesty, and the preservation of objectivity in legal judgments. At the same time, the notion of diversity should not create an artificial equality in place of authentic, dynamic protection. It is of no essential significance which criminal justice measures are exercised by a court if the rulings of the court are based on clear evidence, and most importantly, if the court has not granted immunity for major criminals through impunity as a result of corrupt proceedings. It is the independent character of criminal justice which earns it its high level of respect. The existence of pure values is the natural and essential requirement for a court and allows it to be qualified as a body with ethical and moral character. A court should not be run through the threat of force or through monopolisation, but rather with trust. Furthermore, the courts are morally required to resist enmeshing themselves in the authoritarian exploitation of criminal justice. Working towards this goal should be imperative in the mechanism of criminal jurisprudence. This is the most plausible method for decreasing the number of victims of core international crimes and achieving pluralist values of diversity.

The British Judges of the International Court of Justice: An Explication? Overview, McNair and Lauterpacht

Graeme Baber (Researcher in Financial Law)

In series: Laws and Legislation
Publication Date: 12/03/2021
465 pp.
Hardcover: 978-1-68507-226-1. $270.00
e-book: 978-1-68507-419-7. $270.00

The monograph lists the cases at the international court of the two British judges who were members of the Permanent Court of International Justice, and the five British judges who were members of the International Court of Justice (ICJ), together with a short biography of each and a sample of his/her writing. Then, academic works and the separate and dissenting opinions at the ICJ of Judge Sir Arnold McNair and Judge Sir Hersch Lauterpacht are reviewed. Finally, an attempt is made to find their common ground.

Rediscovery of Society: A Post-Pandemic Reality

Brij Mohan (Dean Emeritus, Louisiana State University, USA)

In series: Political Science and History
Publication Date: 12/28/2021
130 pp.
Softcover: 978-1-68507-321-3. $95.00
e-book: 978-1-68507-463-0. $95.00

A social work pioneer debunks the myth of a Great Society. Embedded in a contrapuntal culture, while societal dysfunctionality and institutional meltdown play havoc with mortals, we stand on the edge of an existential abyss. Humanity confronts its own monsters: Fury of fires, floods; scourges of a pandemic; random mass shootings; and mayhem, not to speak of the ravages of pervasive inequality, injustice, and ubiquity of fear. A culture of falsification, terror, and nihilist narcissism obscures small steps toward progress. The algorithms of change thwart human and social development since structural anomalies breed dysfunctional outcomes. They also manifest contours of frayed institutions in a broken society. The result is paradoxical convulsions of hope and despair.

Once the structure of values erodes, our social-institutional foundation requires transformational renewal. The author calls for a new Social Contract and Enlightenment Two – a movement of reconstruction – in search of a new society. Implicit here is a compelling argument to reinvent homo-sapiens and rediscover the purpose of life i.e., global harmony.
The Communitarian Nation-State Paradox in Lebanon

Imad Salamey, PhD (Associate Professor, Political Science and International Affairs Program, Lebanese American University, Beirut Lebanon)

In series: Political Science and History

Publication Date: 11/23/2021

355 pp.

Hardcover: 978-1-68507-223-0. $230.00
e-book: 978-1-68507-293-3. $230.00

Since the foundation of the modern consociational state of Lebanon, the country’s multi-communitarian diversity has contested the distribution of state power and its national identity. Recurring stormy struggles yielded protracted instabilities. Alternatives to power-sharing have, however, awakened fears of repressive unitarian nationalism. This book re-examines the viability of the Lebanese power-sharing arrangement in preserving plurality and providing a common vision for nationhood. Thirteen Lebanese academic scholars offer different views in addressing the paradox of building a nation-state in a multi-communitarian society.

Psychology

Autism Spectrum Disorder: Symptoms, Diagnosis and Types of Treatment

Kelly Nicole Banneyer, PhD (Department of Pediatrics, Baylor College of Medicine Houston, TX, USA) and Rachel Fein, PhD (Department of Pediatrics, Baylor College of Medicine Houston, TX, USA)

In series: Psychology Research Progress

Publication Date: 02/25/2022

375 pp.

Hardcover: 978-1-68507-521-7. $230.00
e-book: 978-1-68507-713-6. $230.00

While this book is not intended to serve as a how-to manual for providing assessment and intervention for individuals with autism spectrum disorder (ASD), it should serve as an informational source and guide of evidence-based practice. The first six chapters of this text discuss assessment, including common characteristics and presentations of an ASD diagnosis (Chapter 1), common co-occurring conditions (Chapter 2), factors associated with ASD (Chapter 3), evidence-based assessment in clinical settings (Chapter 4), and best practices for assessment in school settings (Chapter 5). The second part of this book focuses on various forms of intervention, including behavioral intervention with an emphasis on applied behavioral analysis (Chapter 6), an overview of treatments for core symptoms of ASD (Chapter 7), the use of cognitive behavioral therapy for autistic individuals (Chapter 8), treatment for severe maladaptive behaviors including feeding difficulties and aggression (Chapter 9), school-based modifications and interventions (Chapter 10), and pharmacological interventions (Chapter 11). Since ASD is a diagnosis usually given in childhood and early intervention is important, the majority of the content in this book is focused on and comes from research from children. However, several chapters allude to research based on autistic adults, and Chapter 12 focuses on important considerations when providing intervention to adolescents and young adults.

New Horizons in Creativity

Professor Shulamith Kreitler

In series: Expressive Arts Therapies

Publication Date: 04/11/2022

324 pp.

Hardcover: 978-1-68507-751-8. $230.00
e-book: 978-1-68507-822-5. $230.00

The book is devoted to exploring creativity from several points of view and in a variety of domains that are mostly not discussed in the common approaches to creativity. An endeavor of this kind is of particular importance at the present time which is marked by the occurrence and necessity of changes in many domains of life and social functioning. Creativity is probably a major resource for dealing with the changes in a manner that minimizes suffering and maximizes growth for the individual and for humanity at large.
The book includes 13 chapters by world-renowned experts in creativity which present new viewpoints about major processes of creativity and main domains in which it is manifested and needs to be explored. Two of the chapters are devoted to health and wellbeing, dealing with the role of intuition in medicine (chapter 7), of technology in nursing (chapter 9) and of mindfulness and related techniques in mental wellbeing (chapter 8). The emotional aspect is counterbalanced by the cognitively-grounded explorations dealing with problem-solving (chapter 11), science and education in mathematics (chapter 10) and with humor (chapter 12) which contributes its share for moderating excessive seriousness in most domains of life. Three chapters deal with organization in terms of work, production (chapters 2 and 3) and perhaps unexpectedly with diplomacy (chapter 4) which provides the overall framework for social and administrative functioning. Creativity in the external environment is the dominant theme of the chapter that deals with the landscape (chapter 5) and ecology (chapter 6). The book is framed by two chapters in the beginning (chapter 1) and at the end (chapter 13). The first chapter provides an introduction to the study of creativity based on the major developmental trends in theory and methodology in the past up to the present (chapter 1). The last chapter provides an integrative introduction for development of creativity in the future, based on motivation, cognition and emotion, characterizing the producers of creativity and those who benefit from it through experiencing and implementation (chapter 13). Each chapter contributes its share to highlighting the role and potential contribution of creativity to enhancing the meaningfulness of our life and being in the world.

**Research on Hispanic Psychology. Volume 2**

*Cirilo Humberto García Cadena, PhD (Research Professor, Faculty of Psychology, Autonomous University of Nuevo León, Mexico City, Mexico) and Laura Karina Castro Saucedo, PhD (Faculty of Social Work, Autonomous University of Coahuila, Mexico City, Mexico)*

*In series: Research on Hispanic Psychology*

*Publication Date: 01/20/2022*

*196 pp.*

*Softcover: 978-1-68507-450-0. $82.00*

*e-book: 978-1-68507-533-0. $82.00*

This work is based on various research carried out from different contexts containing discussions from the national, family structure, staff, sexual, work, parenting styles, risk factors such as crime, among others, to demonstrate advances in psychological research of individuals who are part of a society, group, or community. This knowledge is intended to contribute to the development of new forms of intervention and social research that guarantee the timely attention to social phenomena through a legal, theoretical, and scientific framework that has been aroused throughout history in Latin America. This work emphasizes the importance of Latin American scientific psychology in the study, acquiring of knowledge about, and understanding of the progress of human behavior regarding reality, about the different situations that happen to it in fields such as politics, education and in improving the quality of life of people.

**The Importance of Self-Efficacy and Self-Compassion**

*James J. Carmona*

*In series: Psychology of Emotions, Motivations and Actions*

*Publication Date: 03/30/2022*

*141 pp.*

*Softcover: 978-1-68507-763-1. $95.00*

*e-book: 978-1-68507-790-7. $95.00*

Self-efficacy and self-compassion are psychological skills that form the basis for resilience, success, and overall quality of life, and as such understanding how best to implement these skills is essential for well-being. This volume includes six chapters that explore the concepts of self-efficacy and self-compassion from several perspectives. Chapter One investigates the predictive value of pre-academic self-efficacy for academic self-efficacy six months into the Danish teacher education program. Chapter Two provides a theoretical foundation for educator self-efficacy and current empirical evidence exploring self-efficacy of educators who are working in schools implementing tiered systems. Chapter Three examines reciprocal relations between academic self-efficacy and elements of achievement in math, with persistence as a mediator. Chapter Four synthesizes and examines research evidence on the relationship between parental self-compassion and parents’ mental health, analyzes the role of parental self-compassion in parenting practices, and investigates the effects of parents’ self-compassion on children’s outcomes. Chapter Five reviews recent findings concerning self-compassion from a trait/state perspective based on a development schema theory combined with a state of mind approach. Lastly, Chapter Six explores self-efficacy and its association with demographic characteristics in Greek families of university students with or without members with special educational needs and disabilities during the COVID-19 pandemic.
Understanding Emotions
Michael A. Carr
In series: Psychology of Emotions, Motivations and Actions
Publication Date: 11/16/2021
164 pp.
Softcover: 978-1-68507-307-7. $95.00
e-book: 978-1-68507-325-1. $95.00

Emotion represents a core element of human life, as our thoughts and behavior are influenced by the complex and interrelated set of feelings we all experience. As such, developing an understanding of the role emotion plays in human psychology is essential not only in the treatment of mental illnesses, but for the optimization of overall well-being. This book includes five chapters, each presenting research concerning various aspects of emotion. Chapter One discusses the most effective treatments for emotion dysregulation and emotional disorders, focusing on therapies that target emotional regulation. Chapter Two examines the impact of emotions on learning processes, particularly how emotions evolve in the context of clinical reasoning, which aims to reduce the incidence of medical errors. Chapter Three draws from socio-cognitive and cultural studies to analyze the relations between emotions and social representations of the past. Chapter Four introduces three studies on Japanese children’s understanding of guilt. Finally, Chapter Five presents an integrated view of current studies on how consumers’ purchases impact their emotions, particularly their happiness.

Spheres of Meaning
Shulamith Kreitler, PhD (Professor School of Psychological Sciences, Tel-Aviv University, Tel-Aviv, Israel; Head, Psychooncology Research Center, Sheba Medical Center, Tel-Hashomer, Israel)
In series: Perspectives on Cognitive Psychology
Publication Date: 12/17/2021
332 pp.
Hardcover: 978-1-68507-335-0. $230.00
e-book: 978-1-68507-467-8. $230.00

Spheres of Meaning describes the activation of meaning in real-life domains. After introducing the major theoretical tenets and assessment procedures, the book focuses on the role of meaning in various contexts. Chapter 1 describes in detail the main variables of the meaning system in the form of definitions accompanied by examples and the notations assigned to each variable, and Chapter 2 describes the essentials of the methodology employed in this work. The following chapters explore the application of meaning in education, health, society, communication, culture, art, the experiencing of reality, and consciousness. It is hoped that this book will help meaning to emerge from its state of invisibility long enough and impressively enough to evoke the attention of those who do not look that way habitually, and to convince the disbelievers that meaning is alive, active, and very functional. The time seems ripe for learning about the properties of meaning and of embedding it in the regular set of practical tools designed to benefit science. Hopefully newcomers and those who are already familiar with meaning alike will be inspired by the present volume to uncover new possibilities and yet unexplored domains for the advancement of science and the meaningfulness of life.

The Construct of Meaning
Shulamith Kreitler, PhD (Professor School of Psychological Sciences, Tel-Aviv University, Tel-Aviv, Israel; Head of Psychooncology Research Center, Sheba Medical Center, Tel Hashomer, Ramat Gan, Israel)
In series: Perspectives on Cognitive Psychology
Publication Date: 01/14/2022
438 pp.
Hardcover: c. $270.00
e-book: 978-1-68507-551-4. $270.00

This book includes a comprehensive investigation of the concept of meaning, focusing on its structure, function, and materials. In terms of structure, it is proposed that meaning is a unit which consists of two components: the carrier of meaning, called referent, to
which meaning is assigned, and the meaning assigned to the referent, called meaning value. In terms of function, meaning is designed to identify inputs from outside and inside the organism, so as to enable responding to them in forms adequate for the psychological system. Otherwise expressed, meaning turns stimuli into potential triggers of reactions on all psychological levels. In terms of materials, meaning consists of cognitions, which are neither expected to be logical or rational nor are necessarily subjected to awareness, voluntary control or verbal expression. So, in practice, meaning consists of cognitive units, which are characterized in terms of referents and meaning values, forming sequences and networks, providing identification of stimuli and potentialities for grasping reality, reacting to it and transforming it. This book is a culmination of the author’s decades of academic experience in pursuit of an understanding of meaning. In this book’s thirteen chapters, meaning is explored through a variety of perspectives, including those drawn from evolutionary psychology, linguistics, cognition, personality, and other fields. Also, exercises are included that provide tasks designed to allow readers to familiarize themselves with the system of meaning elucidated in the book.

General Psychology

Advances in Psychology Research. Volume 146
Alexandra M. Columbus
In series: Advances in Psychology Research
Publication Date: 09/09/2021
232 pp.
Hardcover: 978-1-68507-115-8. $250.00
e-book: 978-1-68507-127-1. $250.00
This monograph includes seven chapters that detail recent advances in psychology research. Chapter One provides practical cognitive-behavioral treatment recommendations to address typical issues associated with depression and anxiety in pediatric patients with asthma, functional gastrointestinal disorders, and headache pain. Chapter Two argues that community level screening, timely diagnosis and integrated traditional medicine and traditional healing practices rooted in a given cultural and religious context are essential for the treatment of schizophrenia. Chapter Three explores psychological theories, diagnostic instruments, assessment tools, and management strategies for factitious disorder and borderline personality disorder. Chapter Four presents a study of the impact of academic stressors on the health of students in the health field. Chapter Five reviews the literature on general mental health stigma, discusses borderline personality disorder and the specific stigma related to it, reviews potential steps to reduce stigma, and suggests future directions for research and clinical intervention. Chapter Six reviews the effectiveness of cognitive behavioral therapy for heart failure patients with depression. Lastly, Chapter Seven provides an overview of the potential role of psychologists in requests for voluntary euthanasia and physician assisted suicide.

Advances in Psychology Research. Volume 147
Alexandra M. Columbus
In series: Advances in Psychology Research
Publication Date: 02/25/2022
213 pp.
Hardcover: 978-1-68507-656-6. $250.00
e-book: 978-1-68507-705-1. $250.00
This volume presents some of the latest advancements in psychology research. Chapter One examines the link between sleep deprivation in military settings and risk of suicide behavior. Chapter Two outlines the most effective evidence-based psychotherapies for generalized anxiety disorder. Chapter Three provides information about the potential therapeutic effects of antidepressant drugs for COVID-19. Chapter Four explains how child maltreatment leads to an adult propensity to violence, which enables genocide, and describes parenting strategies to prevent these characteristics from emerging. Chapter Five studies clinical cases with empirical research on characteristics of parenting that form bases of children’s well-being into adulthood. Chapter Six examines how emotional intelligence influences job satisfaction, particularly in the context of the ongoing pandemic. Chapter Seven studies whether job satisfaction mediates the relationship between emotion regulation ability and psychological distress in teaching professionals. Chapter Eight conveys the narratives of an implementation of a project dedicated for the establishment of happiness and wellbeing centers at nine campuses of the Royal University of Bhutan. Chapter Nine explores the psychological characteristics of juvenile sex offenders, juvenile perpetrators of non-sexual violent offences, and a representative sample of non-delinquent youngsters. Finally, Chapter Ten presents a correlation study between two empathy subscales of the Adolescent Sexual Abuser Project Assessment Pack-Dutch Revised version and the Moral Orientation List.
Social Psychology

Between I and We: Unifying Psychology and Sociology Along the Amygdala-Prefrontal Cortex Continuum
Doron Pely, PhD (Writer, Teaching-Fellow, Safe Communities Institute, Sol Price School of Social Policy, University of Southern California (USC), Los Angeles, CA, USA), Igal Vardi, PhD (Formerly Tel Aviv University, Ramat Gan, Israel)
In series: Social Psychology Research Progress
Publication Date: 01/07/2022
371 pp.
Hardcover: 978-1-68507-460-9. $230.00
e-book: 978-1-68507-535-4. $230.00

The relationship between the individual and society has been a major topic in social sciences since their emergence in the 19th century. Yet it was only at the turn of the century – when Sigmund Freud developed psychoanalysis – that the discussion of this relationship changed from a merely philosophical deliberation on the categories "individual" and "collective" into a discussion between two new disciplines with their own paradigmatic ambitions: sociology versus psychology. It is not by chance that, when hierarchizing the sciences, Auguste Comte did not consider psychology to be a science in its own right, but rather had to decide whether to assign it to either biology or sociology.

As a matter of fact, in the 19th century, biology, representing "nature", was the actual counterpart to the abstract category of society. It was this reciprocal relationship on which Herbert Spencer founded his system of sociology. Thus, the triad sociology-psychology-biology, and the disciplinary combinations resulting from it, may be seen as the matrix of modern social sciences. It should be pointed out, though, that whether in the synthesis of macro-sociological Marxism and Freudian depth psychology, or in the combination of biology and sociology in US American sociobiology, the social dimension remained predominant, while the sociological explanation of collective phenomena was enriched by engaging in interdisciplinary discourses.

But an interdisciplinary approach based on the full triad of sociology-psychology-biology is yet to be born. It is undoubtedly a very complex endeavor. All the more welcome is the engagement of Doron Pely and Igal Vardi in this book. One can only agree with their claim: "It is time to give a rapprochement between psychology and sociology another honest try – this time around with the help of the bridging services of neurology."

Security Issues

The COVID-19 Disaster. Volume II: Prevention and Response to Pandemics Using Artificial Intelligence
Robert Irving Desourdis
In series: Homeland Security and Safety
Publication Date: 01/21/2022
292 pp.
Hardcover: 978-1-68507-118-9. $230.00
e-book: 978-1-68507-485-2. $230.00

This book describes the work to be done in building an automated pandemic prevention and response capability for the US with international extensions and extendibility using artificial intelligence. The complexity of operational decisions, information sharing, situational awareness, and planned/ongoing actions by thousands of actors in pandemic prevention, preparedness and response is far too great for anyone to manage effectively. The deaths and economic devastation caused by COVID-19 yet again proved this fact, much like all other major disasters we have endured. There are too many organizations, too many differing plans and agendas, too many different people of varying experience in positions of responsibility, and too much information as well as critical need for optimal decisions and actions, to avoid calamity during the inevitable next pandemic.

We need automated planning, information vetting/sharing and rapid action to optimize prevention and, if not prevented, response to minimize spread. Volume I laid out the case for a better approach than exists in the U.S. today, and our nation’s military – touted as the best in the world – employs methodologies with precision and fidelity that optimize rapid decision making for human-sized enemies. It turns out these same methodologies and associated technologies work just as well with our microscopic enemies, like COVID-19. This book provides an overview of how it should be developed, implemented and evolved nationwide before the next pandemic. Seems like we finally should get our “act” together, otherwise the toll for passage of the next virus could be far higher as we remain unprepared. It will be hard and extensive work, which some have referenced the “Manhattan Project” or the Apollo Program, but the COVID-19 death count mandates we apply our best effort to prevent another pandemic disaster. We are better equipped now than ever to do so.
The COVID-19 Disaster. Volume I: The Historic Lessons Learned and Benefits of Human Collaboration

Robert Irving Desourdis

In series: Homeland Security and Safety
Publication Date: 10/12/2021
570 pp.
Hardcover: 978-1-53619-861-4. $310.00
e-book: 978-1-68507-024-3. $310.00

This book, The COVID-19 Disaster. Volume I: The Historic Lessons Learned and Benefits of Human Collaboration, is an intentionally apolitical treatment of the many experiences at the heart of the disaster. It collects hands-on experience from government preparedness and response work, including the impact on state IT systems, the heroic healthcare workers who directly faced the consequences of the disease each day, and the medical and insurance industries’ impact and response, and then builds recommendations for the solution-approach book entitled The COVID-19 Disaster Volume II: Pandemic Prevention and Response Using Artificial Intelligence.

Social Policy and Welfare

Crime and Criminal Justice

Cybersecurity in the Current Framework of the EU and Italian Criminal Justice Systems. A Focus on Digital Identity Theft

Clara Pettoello-Mantovani, JD (Department of European Criminal Law, "G.Carli" LUISS University, Rome, Italy)

In series: Cybercrime and Cybersecurity Research
Publication Date: 02/17/2022
210 pp.
Hardcover: 978-1-68507-583-5. $160.00
e-book: 978-1-68507-688-7. $160.00

This book deals with the complex and often challenging topics of cybersecurity and cybercrimes. The expansion in the use of the internet and thus cyberspace has led to the exponential growth of threats, vulnerabilities and risks for users. Cyberspace has therefore become a sort of battlefield where, in addition to different interconnected computer systems, hardware and software devices are capable of rendering inefficient or destroying physical or virtual infrastructures.

The complex reality of cyberspace, which is constantly evolving and expanding, requires the continuous adaptation of criminal law. The author emphasizes that the role of legislators remains essential for the need to update and/or develop legal rules aiming at regulating the activities that take place within cyberspace. This book provides useful insight for those interested in understanding the current issues related to cybercrimes and it clarifies the notion that cybersecurity is in its essence the activity of prevention, detection and finally intervention in the attacks that rotate within cyberspace, guaranteeing not only the protection of information but also of individuals.

Race and Crime: A Conservative View

Anthony Walsh, PhD (Professor Emeritus, Boise State University, Boise, Idaho, USA)

In series: Law, Crime and Law Enforcement
Publication Date: 02/11/2022
258 pp.
Hardcover: 978-1-68507-591-0. $195.00
e-book: 978-1-68507-668-9. $195.00

In addition to being one of the few books offering a conservative viewpoint on race and crime, this book differs from others about race and crime in a number of ways. Although concepts, data, and explanations are dispersed throughout, it is divided into three broad categories: Conceptual, Statistical Data, and Explanation. The first concept it looks at is the different mindsets and temperaments of liberals and conservatives that have been noted ever since Plato and Aristotle. It has been consistently shown that liberals and conservatives typically differ in their loci of control: external and internal, respectively. Differences in the locus of control lead to quite different interpretations of raw data. It
then looks at the concept of race and whether or not it exists. This issue is examined in two chapters; the first in terms of molecular genetics, and the second in terms of evolutionary theory. Then, the concepts of racism and poverty are addressed. Criminological statistical data is analyzed and crime is examined in a cross-cultural context. Explanations for the crime data are proposed.

**Social Policy**

**The Struggle to Make Democratic Socialism in the 21st Century**

David Neilson (University of Waikato, Faculty of Arts and Social Sciences, Sociology Programme, Hamilton, Waikato, New Zealand)

In series: *Social Welfare Policies and Programs - Patterns, Implications and Prospects*

Publication Date: 01/07/2022

220 pp.

Hardcover: 978-1-68507-392-3. $160.00

e-book: 978-1-68507-462-3. $160.00

This book persistently challenges the residual orthodoxies of first-generation neo-Marxism and its fellow travelers in order to lay the foundations of a second-generation neo-Marxist project that also seeks a path beyond Marx’s and Marxism’s polarization. It is not the young or the old Marx, but the young and old Marx. It is not historical materialism or the philosophy of praxis, but rather historical materialism plus the philosophy of praxis. Essentially, this book seeks unification by reversing the epistemological break fallacy thus bringing in the early works that are demonstrated to be integral to a holistic reading of Marx’s episteme, while simultaneously shattering the myth of a seamless continuity in account between the Communist Manifesto and Capital Vol. 1 that opens up the need to rethink the prognosis and unite it with praxis.

**Sociology**

**Advances in Sociology Research. Volume 36**

Jared A. Jaworski

In series: *Advances in Sociology Research*

Publication Date: 09/27/2021

248 pp.

Hardcover: 978-1-68507-104-2. $250.00

e-book: 978-1-68507-168-4. $250.00

This edited volume presents some of the latest research in the field of sociology. Chapter One presents a research study of the processes through which food concentrates and reflects migrant cultures while it becomes means of expression, survival and cultural identity for diasporic communities, focusing on two films. Chapter Two explores issues of diversity and multiculturalism in the recent history of Europe. Chapter Three investigates the extent of internet addiction among adolescents. Chapter Four discusses mass migration and explains how it has forced a change in the global perspective of social policy, specifically in the context of child development and parenting. Chapter Five examines the fandom of South Korean popular music in France. Chapter Six adopts the “critical theory” hypothesis to explain structuralism and analyze the complexities of contemporary global politics. Chapter Seven assesses how the Communist Party of Spain was affected by the Spanish Civil War. Lastly, Chapter Eight deals with the challenges faced by whistleblowers in post-Soviet Russia.

**Advances in Sociology Research. Volume 37**

Jared A. Jaworski

In series: *Advances in Sociology Research*

Publication Date: 12/03/2021

269 pp.

Hardcover: 978-1-68507-452-4. $250.00

e-book: 978-1-68507-468-5. $250.00

This volume includes seven chapters, each of which presents recent advancements in sociology research. Chapter One argues that Britain’s decision to leave the European Union for the sake of national sovereignty was erroneous. Chapter Two provides an additional sociological perspective on Brexit based on the work of Émile Durkheim and Norbert Elias. Chapter Three summarizes characteristics, antecedents, and consequences
of social media addiction. Chapter Four reviews the state of affairs of information technology in connection with the COVID-19 pandemic. Chapter Five sheds light on the three-decade-long artisan exchange in papermaking between Bhutan and Japan. Chapter Six examines the relationship between postmodernity and the retirement of middle-aged Chinese citizens. Lastly, Chapter Seven discusses the state of health and well-being of caregivers of older people in Ghana.

Social Skills: Influencing Factors, Gender Differences and Impact of COVID-19
Francine Náthalie Ferraresi Rodrigues Queluz, PhD (Adventist University of São Paulo, Hortolândia, Brazil), Lígia de Santis, PhD (São Francisco University, Campinas, Brazil) and Valeria Moran, PhD (Century 21 University, Córdoba, Argentina; Neurocognitive Research Center “Nodos”, Río Cuarto, Argentina)
In series: Social Issues, Justice and Status
Publication Date: 10/01/2021
174 pp.
Softcover: 978-1-68507-197-4. $95.00
e-book: 978-1-68507-243-8. $95.00
The study of interpersonal relationships has been one of the areas of psychology with the most theoretical and scientific development. This field has been of interest to many psychologists from different fields, such as clinical, organizational, educational, and social, among others. As numerous investigations have indicated over the years, interpersonal relationships are one of the pillars of mental health. For this reason, studies from different perspectives are of great relevance in the advancement of knowledge about the psychology and mental health of humans. This book aims to contribute to this purpose, presenting conceptual and empirical advances on social skills and interpersonal relationships that arise from different practices and contexts that have been affected by COVID-19.

Special Topics
Food Security Issues and Challenges
Adriana Fillol Mazo, PhD (Assistant Professor of International Public Law and International Relations, University of Seville, Spain) and Miguel Ángel Martín-López, PhD (Associate Professor of International Public Law and International Relations, University of Seville, Spain)
In series: Food Science and Technology
Publication Date: 09/17/2021
393 pp.
Hardcover: 978-1-68507-095-3. $230.00
It is clear that one of the most damaging global problems is hunger. There is still a high proportion of hungry people in the world, the number of human beings in this condition exceeding 690 million, according to the latest State of Food Security and Nutrition in the World Report (FAO 2020). Consequently, its eradication is extremely urgent. Nevertheless, it does not appear that Sustainable Development Goal number two, i.e. Zero Hunger, will be achieved by 2030. The United Nations itself admits this, stating that "the world is not on track to achieve Zero Hunger by 2030. If recent trends continue, the number of people affected by hunger would surpass 840 million by 2030". The problems facing food in the world today have increased considerably, as well as various factors and phenomena that augment the complexity of the issues or situations that fall within the scope of food security, such as: climate change, land grabbing, use of chemical fertilizers, loss of agrodiversity and other agricultural sustainability issues, obesity problems resulting from unhealthy diets, the impact of the coronavirus pandemic, the lack of justiciability of the right to food, the use of biotechnology in food, etc.
In short, this book is a diverse compilation of the new manifestations of global food security seen from several angles and areas. The book aims to let visualize the main global problems and challenges that have a negative impact on food security, with the underlying objective of highlighting the need for reinforcing its full application in all contexts and countries. To this end, we believe that it is necessary to make its concept operational, and take it into consideration when applying policies and standards, especially in those areas and matters that may undermine said food security. In this sense, it is essential to strengthen its legal protection through a coherent and operational interpretation of the human right to food, so as to broaden its content and make it consistent with its pillars and foundations.
Terrorism

Domestic Terrorism: The Attack on the U.S. Capitol
Helga Vaughn
In series: Terrorism, Hot Spots and Conflict-Related Issues
Publication Date: 12/03/2021
347 pp.
Hardcover: 978-1-68507-405-0. $230.00
e-book: 978-1-68507-439-5. $230.00
This book examines the threat of domestic terrorism in the wake of the attack on the U.S. Capitol on January 6, 2021. It discusses whether or not participants and their actions may be categorized as domestic terrorists and domestic terrorism, respectively, and issues around designating domestic fringe groups, such as the Boogaloo Boys and Proud Boys who were allegedly involved in the attack, as terrorist organizations.

Urban Studies

Urban Regeneration: Methods, Implementation and Management
Ray Perrault
In series: Urban Development and Infrastructure
Publication Date: 02/08/2022
162 pp.
Softcover: 978-1-68507-558-3. $95.00
e-book: 978-1-68507-610-8. $95.00
Urban regeneration refers to projects that are designed to revitalize and improve the quality of areas in cities, involving an investment of private or public funds, based upon an understanding of the shortcomings of particular cities and what makes cities great. This volume includes five chapters that explore the concept of urban regeneration from a variety of perspectives. Chapter One includes a review of the scientific literature regarding the origin of the concept of urban regeneration, discusses the assumptions and defining traits associated with urban regeneration, and addresses business districts and the challenges they pose to the retail revitalization of urban environments. Chapter Two examines how it is possible to produce urban regeneration while preserving the identity of historic centers and minimizing the negative impacts of gentrification. Chapter Three presents reflections on the lessons learned from urban regeneration processes in the context of Southern European countries, with a special focus on the case of Barcelona. Chapter Four presents a case study of the Knocknaheeny estate in Cork city, Ireland, where a multi-annual regeneration masterplan has been implemented since 2013. Lastly, Chapter Five focuses on the different continental backgrounds for expropriation in Germany and South Korea and includes specific case studies for residential redevelopment projects based on three categories: effectiveness, justice, and legitimacy.
UPCOMING PUBLICATIONS
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Chandra Sekhar Rout and BrahmAnanda Chakraborty
978-1-68507-965-9

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Victoria M. Petrova
978-1-68507-894-2

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978-8-88697-052-4

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Professor Ahsan Nazeer, MD, Associate Professor Roger W. Apple, PhD
and Professor Joav Merrick, MD
979-8-88697-019-7

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and Professor Joav Merrick, MD
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Dr. Soner Şahin and Kenan Demir, MD
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Dr. Ioannis K. Argyros and Dr. Santhosh George
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