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MEDICINE AND HEALTH
Dementia, Diabetes, and Hypertension: Is There a Unified Theory through a Dysregulation of the Ca2+ Homeostasis?

Leandro Bueno Bergantin, PhD (Universidade Federal de São Paulo, Bentham Brand Ambassador, Jardim Brasil, Limeira, Brazil)

In series: Research Progress in Alzheimer’s Disease and Dementia
Publication Date: 02/17/2021
155 pp.
Softcover: 978-1-53619-227-8. $95.00
e-book: 978-1-53619-286-5. $95.00

Dementia, diabetes, and hypertension are considered huge medical problems around the world, costing many millions of dollars to the medical health systems. Curiously, hypertension has been clinically linked with a higher risk for decline of cognition, as shown in dementia patients. In addition, there is a clear clinical association between hypertension and diabetes, reflecting substantial similarities in their etiology. In fact, consistent data support that patients diagnosed with diabetes have shown an increased risk of presenting cognitive dysfunctions, clinical signs of dementia. Considering the cumulative knowledge from the scientific literature, we can now link Ca2+ signals dysregulations as an upstream issue for hypertension, diabetes and other inflammatory processes, and dementia. Regarding therapeutics, hypertensive patients have been classically treated with Ca2+ channel blockers (CCBs), medicines whose mechanism of action consists in reducing the influx of Ca2+ into the cells. Intriguingly, many clinical reports have been demonstrating off-label effects for CCBs. In hypertensive patients treated with CCBs, it can be observed a lower incidence of dementia such as Alzheimer’s disease. The possible mechanism of action could be attributed to a restoration of the Ca2+ homeostasis. In addition, in hypertensive patients treated with CCBs, it can be also observed an improvement of diabetes status such as glycemic control. A possible mechanism of action could be due to a restoration of insulin secretion, then achieving glycemic control, and a reduction of the pancreatic β-cell apoptosis. Thus, this book puts together fundamental concepts, and current therapies to treat dementia, hypertension, and diabetes, including novel therapeutics coming from the pharmacological manipulation of Ca2+/cAMP signalling. Finally, this book compiles more than 300 references from the scientific literature, including data of high evidence such as meta-analysis and systematic reviews, and discusses pharmaceuticals already approved and clinically safe, e.g., CCBs, then allowing sustained increments in the life quality of age-related patients.

Anthropometry: Types, Uses and Applications

Sébastien Legrand

In series: Human Anatomy and Physiology
Publication Date: 02/17/2021
120 pp.
Softcover: 978-1-53619-269-8. $82.00
e-book: 978-1-53619-293-3. $82.00

In Anthropometry: Types, Uses and Applications, the science of anthropometry, which deals with measurements of human size, shape and proportion, is examined in the context of obesity and overweight, common problems in developed countries and developing countries alike. An estimated 39% of the world’s adult population were overweight and 13% were obese over the past 3 decades, and these problems can cause diseases like type 2 diabetes mellitus (T2DM), cardiovascular diseases (CVD), and several cancers. While body mass index (BMI) is commonly used as a health risk phenotype, it has several limitations because BMI does not accurately depict different components of body composition and is therefore unable to predict the prognostic effect of individual tissues. Other anthropometric measurements, such as waist circumference (WC), waist to hip ratio (WHR), and waist to height ratio (WHtR) each have their advantages and disadvantages. As such, in Chapter 1, different novel anthropometric parameters and cardiovascular risk factors among obesity adults are compared and evaluated.

Chapter 2 describes a study of children aged 0–12 years conducted in the Middle Senegal River Valley (MISOES) in 1957-1958. This study was based on representative samples of children in urban and rural areas and included measurements of
weight, height, arm circumference, and more. These measurements were compared with American standards and showed an overwhelming anthropometric deficit compared with standards. This study is examined in the context of other studies conducted in the region as well as in connection with economic development in the valley. Chapter 3 describes the various methods of assessing body fat and their application for obese individuals to predict the risk of Coronary Heart Disease (CHD), and Chapter 4 reviews the effect of different modalities of physical exercise on anthropometric measurements and body composition in different populations of older adults.

**The Forebrain: Development, Physiology and Functions**
*Morten F. Thorsen*

In series: *Human Anatomy and Physiology*
Publication Date: 09/18/2020
140 pp.
Softcover: 978-1-53618-407-5, $82.00
e-book: 978-1-53618-426-6, $82.00

In this compilation, the authors provide an overview of neural plate pre-patterning and the concept of the organizing center, describing the contributions of informative cues and signaling pathways involved in zli positioning.

Continuing, *The Forebrain: Development, Physiology and Functions* aims to show the existence of specific neuronal populations in basal forebrain linking with specific sensory, motor and prefrontal cortices. In addition, the electrophysiological properties of cholinergic pathways that control cortical activity are examined.

In closing, the authors discuss the putative involvement of Reelin signal in motor-related impairments observed in neurological diseases, including lissencephaly, psychiatric disorders and brain injuries.

**ATHLETICS**

**Physical Fitness and Exercise: An Overview**
*Quinzia Trevisano*

In series: *Physical Fitness, Diet and Exercise*
Publication Date: 10/02/2020
154 pp.
Softcover: 978-1-53618-521-8, $82.00
e-book: 978-1-53618-595-9, $82.00

This compilation discusses how low levels of physical activity and excess body weight are considered key health risks in modern societies. This may be attributed to changes in the social and built environment, along with technical advances that reduced the requirement for physical activity in daily living.

The authors investigate population aging, the physiology of aging, and the prescription of physical activity for the elderly. In addition, the effects of oxidative stress on skeletal muscle during high-intense resistance training are studied, particularly focusing on reactive oxygen species.

**CARDIOVASCULAR SYSTEM**

**Perspectives in Aortic Valve Disease: Clinical and Morphological Characteristics, Diagnosis and Treatments**
*Giovanni Concistrè (Ospedale del Cuore “G. Pasquinucci”, Fondazione Toscana Gabriele Monasterio, Massa, Italy)*

In series: *Cardiology Research and Clinical Developments*
Publication Date: 11/16/2020
426 pp.
Hardcover: 978-1-53618-769-4, $230.00
e-book: 978-1-53618-848-6, $230.00

This book describes the different aspects of aortic valve including comprehensive discussion of the state-of-the-art diagnostic imaging options, disease risk stratification, selection of candidates for valve repair or percutaneous intervention, and most recent
therapeutic options. The growing prevalence of valvular heart disease represents a major challenge in terms of short- and long-term management and surveillance. Aortic valve diseases, including aortic stenosis and regurgitation, are among the most frequent of these, while the number of cases of aortic root disease is also on the rise. Aortic valve disease treatment options include valve surgery, valve repair, minimally invasive valve surgery, and percutaneous approaches and all are covered in this volume.

Perspective in Aortic Valve Disease is a highly illustrated, case oriented reference aimed at cardiology fellows in training, while also helpful to surgeons, cardiologists, imagers, interventionalists, as well as other clinicians and students involved in the diagnosis and treatment of aortic valve and root diseases.


Dario Buccheri, MD (Interventional Cardiology, S. Antonio Abate Hospital, Trapani, Italy), Bernardo Cortese, MD (Cardiac Department, San Carlo Clinic, Milano, Italy) and Alessio Gaetano La Manna, MD (Cardiology Department, CAST, University Hospital, “Policlinico-Vittorio Emanuele”, Catania, Sicily, Italy)

In series: Cardiology Research and Clinical Developments

Publication Date: 11/04/2020
416 pp.
Hardcover: 978-1-53618-249-1, $230.00
e-book: 978-1-53618-675-8, $230.00

The Interventional Cardiology World is a basic but exhaustive manual treating the most diffuse tools and techniques on coronary artery disease invasively managed by basic coronary angiography, the most recent functional studies, namely fractional-flow reserve (FFR) and instant-Wave Free ratio (iFR), intravascular ultrasound analysis, optical coherence tomography study but also the newer bioresorbable devices and drug-coated balloons application seen by renowned Experts on the matter.

DENTISTRY

Dentistry: Advances in Research and Future Directions

Dr. Kirti Chawla (Associate Professor, Department of Periodontology, Faculty of Dentistry, Jamia Millia Islamia, New Delhi, India) and Dr. Lata Goyal (Assistant Professor, Department of Dentistry (Periodontology), All India Institute of Medical Sciences (Aiims), Bathinda, Punjab, India)

In series: Dentistry and Oral Sciences

Publication Date: 02/10/2021
300 pp.
Hardcover: 978-1-53619-042-7, $230.00
e-book: 978-1-53619-088-5, $230.00

This book focuses on the future direction of dental research in every discipline. In this context, dental research must be deliverable to society, not just to churn out scientific publications but to truly change protocols applied in the clinic. Most of the topics covered in this book discuss the current trends and future advances in clinical dentistry as well as dental research. The book covers advances in research, future perspectives and challenges faced in different disciplines of dentistry. Various chapters discuss the recent advances in materials, methods and diagnostics, as well as their future implications. The contents review the applications of big data, artificial intelligence and machine learning in various branches of dentistry like orthodontics, prosthodontics, periodontics, pediatric dentistry, endodontics and oral and maxillofacial surgery. With the world moving into the digital age and advancing technology, we have collated the latest developments in the field of dental research.
**DERMATOLOGY**

**Atopic Dermatitis: From Diagnosis to Treatment**  
Andreas Maur  
In series: Dermatology - Laboratory and Clinical Research  
Publication Date: 11/04/2020  
277 pp.  
Hardcover: 978-1-53618-520-1, $195.00  
e-book: 978-1-53618-641-3, $195.00

Atopic dermatitis is a chronic inflammatory skin disease that is characterized by xerosis, eczema lesions with skin barrier defects, and severe itch. This compilation describes recent advances in our understanding of intractable itch mechanisms and the development of antipruritic therapies in this condition. Additionally, the authors summarize the current developments in understanding the comorbidities of atopic dermatitis. Insight into various emerging therapies along with currently approved treatments is provided. Some proposed interventions are presented regarding the population group that can benefit the most according to the severity of the symptoms, the mechanism of action of the intervention and the possible adverse effects.

The authors use Pentaherbs Formula to educate readers on efforts in Traditional Chinese Medicine research to adopt this historic and unique complementary medicine as a safer and scientific-based therapy for atopic dermatitis.

In closing, Atopic Dermatitis: From Diagnosis to Treatment focuses on topical corticosteroids that are commonly used by dermatologists and general physicians to treat selected difficult dermatoses effectively.

**ENDOCRINOLOGY / DIABETES**

**Gestational Diabetes: From Diagnosis to Treatment**  
Hasan Aydın, MD (Yeditepe University Hospital, Department of Endocrinology and Metabolism, Istanbul, Turkey)  
In series: Endocrinology Research and Clinical Developments  
Publication Date: 10/09/2020  
648 pp.  
Hardcover: 978-1-53618-335-1, $295.00  
e-book: 978-1-53618-578-2, $295.00

Gestational diabetes, because of its not only high prevalence but also resulting complications in both mother and fetus makes it one of the most important problem of a pregnant woman.

The exact cause of gestational diabetes is unknown. Obviously, there is no one reason for the development of the disease. Placental hormones likely play a role. Insulin resistance is in the center and some factors like adipokines, lipids, inflammation, oxidative stress, heavy metals, gut microbiota, autoimmunity, metabolomics, genetic factors and vitamin D are the determinants for the development of insulin resistance and disease itself.

Worldwide distribution of the disease changes according to geography. Ethnic factors also play role. Although some well-known risk factors have role in the development of the disease, 1 in 20 women without any risk factors also develop GDM. There is no universal screening and diagnostic methods. Some countries use universal screening some others prefer selective screening of women with risk factors. In addition, some suggest use of one-step diagnosis, while others two-step. The most challenging issue is use of some biomarkers in early (first trimester) diagnosis of pregnancy to prevent development of GDM.

Many modalities are used in treatment. Medical nutrition therapy is still the basis of management. Exercise has some roles, too. Besides pharmacotherapies like insulin and oral antidiabetics, some modern modalities like insulin pump therapy together with continuous glucose monitoring, telemedicine, dietary supplements like myoinositol are also covered in this book. Monitorization is important in diabetes and role of nurses in follow-up is incontrovertible.

If not treated well, both fetus and mother are open to complications. From congenital malformations to macrosomia, if inevitable, proper management of these problems has to be considered. Some comorbidities like hypertension, thyroid problems and psychosocial stress complicate the problem further.

Fetal monitorization, time and type of delivery and management of glycaemia during peripartum period are the issues to be considered towards to end of pregnancy.
The problem does not finish with the birth of baby. Both mother and newborn has to be followed for the development of future problems like postpartum diabetes and obesity. Nutrition and benefits of breastfeeding are important points for the health of the baby. In addition, every efforts has to be spent to prevent recurrence of the disease in subsequent pregnancies. The most important instrument against fighting a disease is information i.e. how much we know about it. Understanding the problem thoroughly strengthens our hands to cope and overcome it more easily. The main target of this book is to handle every aspect of the disease from diagnosis to treatment as evident from the title. It is a candidate for a reference guide in this subject. It includes most recent and update data on gestational diabetes.

**GASTROENTEROLOGY**

**Gut Bacteria: The Secret to Health**

*Dr. Ujjwal Sonika (Associate Professor, Department of Gastroenterology, GIPMER, Maulana Azad Medical College, University of Delhi, India) and Dr. Medha Kapoor (Chief Nutrition Consultant, Varsity Skin and Wellness Clinic, New Delhi, India)*

In series: *New Developments in Medical Research*
Publication Date: 01/29/2021
167 pp.
Softcover: 978-1-53619-084-7. $95.00
E-book: 978-1-53619-144-8. $95.00

This book provides the bird’s eye view of the latest scientific research centered around the importance of gut bacteria in influencing our health and well-being and their impact on lifestyle diseases.

The scientific information is presented in an easy-to-understand language while being interspersed with fun-facts and anecdotal accounts, which entertain the audience while helping them acquire this fundamental and relevant scientific knowledge.

The authors explain in a lay-person friendly terminology about the role of gut bacteria in determining the state of both our physical and mental well-being. The authors then share insights about the role of gut bacteria in predisposition to various lifestyle diseases such as diabetes, obesity, metabolic syndrome, and response to stress, utilizing the latest published scientific research in peer-reviewed journals.

- “What are the gut bacteria?”
- “What are the various factors which affect their composition and numbers?”
- “How do they perform such vital functions?”
- “How do they protect us from the biggest killers of today’s mankind- the lifestyle diseases?”
- And most importantly, “how can we harness this knowledge for our benefit?”

This book answers these questions in an easy language for readers without any background in biology. The information provided in the book is useful to anyone who wants to lead a healthy life. It is worth reading even for the health care professionals as their current curriculum does not entail extensive information about the gut-bacteria and their significance in determining our health.

**GENETICS**

**p53: Structure, Functions and Role in Disease**

*Monte Stevens*

In series: *Genetics - Research and Issues*
Publication Date: 11/06/2020
201 pp.
Softcover: 978-1-53618-771-7. $95.00
E-book: 978-1-53618-808-0. $95.00

p53: Structure, Functions and Role in Disease discusses the role of p53 dysregulation in different hematologic neoplasms defined by the current WHO classification. The prevalence of p53 aberration, mechanisms of p53 inactivation, regulation of p53 signaling pathway, and prognostic implications of p53 dysfunction in different hematologic malignancies are reviewed. The authors also discuss the prevalence of p53 mutations in cancers and important mechanisms underlying the impact of p53 mutations such as loss of function, dominant negative effect and gain of function.
Recent findings related to the p53-mediated neuroprotective effects of natural compounds at the cellular, molecular, and behavioral level in various in vitro and in vivo models of neurodegenerative diseases are described, with a focus on Alzheimer’s disease.

**GERIATRICS**

**Combating Elder Abuse in Australia and India**  
*Mala Kapur Shankardass, PhD (Sociologist, Gerontologist and Health Social Scientist, Associate Professor, Maitreyi College, South Campus, University of Delhi, New Delhi, India; Asia Representative, International Network for Prevention of Elder Abuse)*

In series: *Geriatrics, Gerontology and Elderly Issues*  
Publication Date: 11/04/2020  
359 pp.  
Hardcover: 978-1-53618-606-2, $230.00  
e-book: 978-1-53618-689-5, $230.00

This edited book is based on original work of authors. It discusses elder abuse issues and brings focus on different ways of combating it. The topic of elder abuse has gained importance in recent years especially with ageing of the populations and increase in the number of older people in societies. Australia and India are two important and leading countries in the Asia Pacific region. Their specific country responses are of interest in these regions and even for the world. Combating elder abuse has gained importance in recent times as there are not only different types of elder abuse identified in societies but also there exists various strategies to deal with the problem. What steps are being taken in Australia and India can be examples of combating the menace in the Pacific and Asian region. The book will of academic interest as it highlights an important concern with which academicians and researchers are increasingly getting involved in different countries and looking for solutions and ways to combat the growing problem from different disciplinary frameworks but mainly from social and legal perspectives which this book takes into account. This is first of its kind book which focuses on two important ageing countries, namely Australia and India, simultaneously, who are increasingly facing the problem of elder abuse, a growing global menace which requires different combating mechanisms to minimize its impact on societies. Social and legal perspectives on tackling the problem of elder abuse in different situations are gaining ground in countries and the chapters in this book discuss different aspects of ways to combat the problem by also discussing aspects of its occurrence in different sections of the society. Issues of vulnerabilities which older people face leading to elder abuse and what kind of societal responses are needed and are being adopted in societies to combat the problem has been highlighted by different authors in the book. Chapters written by experts from the social and legal field from the two countries, giving first-hand account of the situation in terms of care giving issues, financial abuse, rural areas, dementia patients, widows, prevailing legislations, residential care facilities, national and local responses, rights of senior citizens, and broader concerns related to combating the problem would be of interest to cross section of people across the world.

**Elderly Care: Current Issues and Challenges**  
*Sean M. Eckstein*

In series: *Geriatrics, Gerontology and Elderly Issues*  
Publication Date: 09/11/2020  
227 pp.  
Hardcover: 978-1-53618-446-4, $160.00  
e-book: 978-1-53618-539-3, $160.00

Elderly Care: Current Issues and Challenges first presents an analysis of the ethical and societal issues related to the introduction of new patient and care/caregiver monitoring technologies. A comprehensive review of assisted living technologies aimed at helping elderly people to perform activities of daily living is provided, and associated challenges identified through this review are discussed. The authors go on to maintain how it is incumbent on the Lebanese government to find ways to invest in economic and social development targeted at providing accessible and high-quality services to its older population to ensure a respectful and independent life. Socio-demographic changes, social and economic developments, health services and financing relative to the elderly population in Lebanon are discussed in further detail.
Additionally, this compilation investigates the impact of further training of care workers on the quality of care in nursing homes in Canada through a multiple regression analysis technique. An overview of the aging populations in Hong Kong, Japan, and Germany is presented. The perceptions of nursing homes held by older and middle-aged adults and their expectations of what nursing homes will be like in the future are explored. Following this, the effects of a non-drug pain management program for older adults in a nursing home environment are assessed. A review of substance use and abuse coverage in Medicare home health is provided in conjunction with an exploratory study based on interviews of a sample of 26 home care social workers in the New York City metropolitan area. In closing, the authors discuss the findings of two studies on home care aides in Maine and, from the perspective of the study participants, offer recommendations for improving job conditions.

**Health Care**

**Computing Paradigms for Smart Healthcare**

*Dr. B Vinoth Kumar (Associate Professor, Department of Information Technology, PSG College of Technology, Coimbatore, Tamil Nadu, India), Dr. J Uma Maheswari (Assistant Professor, Department of Computer Science and Engineering, PSG College of Technology, Coimbatore, Tamil Nadu, India), Dr. G R Karpagam (Professor and Associate Head, Department of Computer Science and Engineering, PSG College of Technology, Coimbatore, Tamil Nadu, India) and Dr. P. Sivakumar (Assistant Professor, Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore, Tamil Nadu, India)*

In series: *Health Care in Transition*

Publication Date: 11/20/2020

337 pp.

Hardcover: 978-1-53618-619-2. $230.00
e-book: 978-1-53618-849-3. $230.00

Smart healthcare has gradually gained its popularity because of the development of information technologies and computing paradigms such as internet of things (IoT), big data, Cloud computing and artificial intelligence. These technologies transform the conventional medical system into a smarter one by making healthcare more convenient, efficient, accurate, and more customized. Smart healthcare will lead to a revolutionized healthcare system that enables the participation of all people for the early prediction and prevention of diseases so that preemptive and proactive treatment can be delivered.

The aim of this edited book is to publish the latest research advancements in the convergence of automation technology, artificial intelligence, biomedical engineering and health informatics. This will help the readers to grasp the extensive point of view and the essence of the recent advances in this field. This book solicits contributions which include theory, case studies and computing paradigms pertaining to the healthcare applications. The prospective audience would be researchers, professionals, practitioners, and students from academia and industry who work in this field. We hope the chapters presented will inspire future research both from theoretical and practical viewpoints to spur further advances in the field. The entire book is the contribution of interdisciplinary expertise available in the esteemed Institution PSG College of Technology, an ISO 9001:2015 certified Government aided Institution, belonging to Department of Information Technology, Computer Science and Engineering, Electronics and Communication Engineering, Biomedical Engineering and Biotechnology. A brief introduction about each chapter is as follows.

Chapter 1 focuses on health informatics which provides an overview of the various types of data originating from the medical information.

Chapter 2 objective is to provide a ‘smart connected environment’ which includes storing, processing and exchange information seamlessly using technologies.

Chapter 3 deals with an intelligent healthcare system for automatic diagnosis of diseases based on IOT enabled cloud computing framework and deep learning.

Chapter 4 discuss about basic concepts of digital twin technology and implementation of digital twin in various health care domains.

Chapter 5 proposes a graph based framework for classification, feature selection method which uses the existing notion, histograms for extracting isotonic features from a data set.

Chapter 6 explains the significance of convolution neural network in medical image analysis.

Chapter 7 summarizes recent advances in AI tools applied in cancer diagnosis and research for disease prediction and biomarker discovery.
Chapter 8 explores DNA microarray data followed by the implementation of machine learning algorithms to obtain the highly predictive genes for classification. Chapter 9 uses various data structures such as hash tables and prefix-based search trees to efficiently query the EHR data present in the Blockchain. Chapter 10 focuses on agreeing upon a common symmetric cryptographic key generated from the ECG signal collected at different locations of a patient using linear prediction and error control coding techniques. We are grateful to the authors and reviewers for their excellent contributions for making this book possible.

Patient Satisfaction: Determinants, Psychological Implications and Impact on Quality of Life
Dielle Morneau
In series: Health Care in Transition
Publication Date: 10/16/2020
137 pp.
Softcover: 978-1-53618-613-0, $82.00
e-book: 978-1-53618-639-0, $82.00
Patient Satisfaction: Determinants, Psychological Implications and Impact on Quality of Life first provides an in-depth, evidence-based review of the patient outcomes associated with patient experience measures across a wide range of specialties and settings. The authors describe the instruments used to assess patient and family satisfaction, focusing on the presentation of various factors related to satisfaction in the field of child and adolescent psychiatry. Current literature on the factors which impact patient quality of life are explored and reviewed in the context of breast reconstruction, using assessment tools such as the BREAST-Q.

The Journey to Universal Health Insurance Coverage: What are the lessons for Uganda and the other LMIC?
Robert Basaza (Professor of Public Health and Health Economics, Uganda Christian University, Uganda), Prossy Kiddu Namyalo (Public Health Expert and Lecturer, Ndejje University, Uganda), Chrispus Mayora (Lecturer and Health Economist, Makerere University School of Public Health, Uganda) and Donald S. Shepard (Professor at the Schneider Institute for Health Policy, Heller School for Social Policy and Management, Brandeis University, MA, US)
In series: Health Care in Transition
Publication Date: 09/02/2020
250 pp.
Hardcover: 978-1-53618-323-8, $160.00
e-book: 978-1-53618-470-9, $160.00
Access to healthcare is a universal human right and universal health insurance is one of the instruments towards attainment of universal health coverage. Universal health insurance has been proven to reduce catastrophic episodes at the point of receipt of healthcare to millions of households. This book elaborates on the Uganda’s Journey to universal health insurance coverage and provides lessons that apply to other LMICs. The book elucidates Uganda’s health financing system and details the proposed national health insurance schemes. Besides the local achievements, reference is also made to global success stories of Rwanda, Ghana, Tanzania, China, among others. Practitioners in similar settings will find this book handy in designing or operating appropriate health financing mechanisms. This book will further contribute towards global development of universal health coverage and subsequently ensure healthy lives and promote wellbeing.
A Guide to Paediatric Red Blood Cell Disorders

Dr. Sachith Mettananda (Professor in Paediatrics and Consultant Paediatrician, Department of Paediatrics, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka), Dr. Duantida Songdej (Assistant Professor in Paediatrics and Consultant Paediatric Haematologist, Department of Paediatrics, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand) and Dr. Tharindi Suriapperuma (Lecturer in Paediatrics, Department of Paediatrics, Faculty of Medicine, University of Kelaniya, Sri Lanka)

In series: Recent Advances in Hematology Research
Publication Date: 11/04/2020
229 pp.
Hardcover: 978-1-53618-695-6. $160.00
E-book: 978-1-53618-745-8. $160.00

A Guide to Paediatric Red Blood Cell Disorders is a comprehensive text on common red blood cell disorders encountered in children. It is a useful guide to postgraduate doctors training in paediatrics and haematology, medical undergraduates, primary care physicians and practising clinicians. The book is divided into five sections. The first section provides a detailed understanding of the basic concepts and approach to red blood cell disorders in children. This section includes information on the structure and function of red blood cells and haemoglobin, epidemiology and aetiology of anaemia and clinical and laboratory evaluation of childhood anaemia. The next three sections will provide information on paediatric conditions that result in microcytic, normocytic and macrocytic anaemia, respectively. The final section will be on conditions leading to polycythaemia in neonates and children. Throughout the book, the emphasis is given to common conditions that are frequently encountered in clinical practice. However, rare but clinically important conditions have also been included. Each chapter is divided into subheadings to describe the epidemiology, aetiology, genetic basis, molecular pathology, pathophysiology, classification, clinical features, investigations, diagnosis, treatment, follow-up and prognosis of each disorder. At the end of each chapter, a section on recent advances provides information on promising novel developments and experimental approaches for treating these diseases. This book will help medical undergraduates to grasp concepts and understand the entire spectrum of red blood cell disorders in children. For practising clinicians, this will be a useful guide on how to approach a child with anaemia, which is one of the most common presentations to general practice, field clinics and hospitals. For postgraduate doctors training in paediatrics and haematology, the book will provide comprehensive information on how to manage common as well as complex red blood cell disorders in children. This book is concise, reader-friendly and written in simple English, which can be understood by non-native speakers. It will aid readers across the globe to grasp the concepts of paediatric red blood cell disorders easily and be knowledgeable and up to date in managing these patients.

Vaccines: Operation Warp Speed, Regulation and Safety

Oliver Huerta

In series: Immunology and Immune System Disorders
Publication Date: 01/13/2021
361 pp.
Hardcover: 978-1-53619-059-5. $230.00
E-book: 978-1-53619-096-0. $230.00

In recent months, the Coronavirus Disease 2019 (COVID-19) pandemic has spread globally, with the United States now reporting the highest number of cases of any country in the world. Currently, there are few treatment options available to lessen the health impact of the disease and no vaccines or other prophylactic treatments to curb the spread of the virus. Researchers and product developers are testing numerous types of vaccines—both in the laboratory and in some early-stage testing in humans. This book answers frequently asked questions about current efforts related to research and development of vaccines, their regulation, and related policy issues.
COVID 19

**Dr. Sujith Ovallath (Kannur Medical College, India)**

In series: *Infectious Diseases and Microbiology*

Publication Date: 10/30/2020

125 pp.

Softcover: 978-1-53618-691-8. $82.00

e-book: 978-1-53618-729-8. $82.00

Coronavirus disease 2019 (COVID 19) is a viral infection caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). The disease was first identified in 2019 in Wuhan, China, and has since spread globally into a pandemic. The outbreak was declared a Public Health Emergency of International Concern on January 30, 2020 by the World Health Organization. The disease has spread to almost 200 countries and continues to do so, resulting in huge mortalities and morbidities, as well as economic burden on the affected countries. The pandemic has resulted in global shutdown and has impacted many lives.

This book analyzes the epidemiology of COVID 19, the characteristics of the virus, its mode of spread, pathogenesis, pathology, clinical presentation, diagnosis, prevention, and prognosis. The impact of the disease on the health care system, its psycho-social implications, and its impact on the economy is also discussed in detail. This will serve as a reference manual for physicians, students, epidemiologists and researchers in the field. Knowledge about the infection is fast-evolving, hence readers are advised to review the latest guidelines, especially concerning the management of cases of COVID 19.

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

Sujanthy Rajaram, MD, MPH (Professor of Medicine, Sidney Kimmel Medical College of Thomas Jefferson University, Philadelphia, Pennsylvania, USA, Critical Care Medicine, Gagnon Cardiovascular Institute - Morristown Medical Center, Atlantic Health System, Morristown, New Jersey, USA). Jacqueline Darcey, MD (Assistant Professor of Medicine Sidney Kimmel Medical College of Thomas Jefferson University Director of Medical Education Department of Medicine, Morristown Medical Center, Morristown, New Jersey, USA AAtlantic Health System, Morristown, New Jersey, USA), Anthony Longo, MD (Department of Medicine, Morristown Medical Center, Morristown, New Jersey, USA) and Nicole Burak, MD (Department of Medicine, Morristown Medical Center, Morristown, New Jersey, USA Atlantic Health System, Morristown, New Jersey, USA)

In series: *New Developments in Medical Research*

Publication Date: 03/09/2021

442 pp.

Hardcover: 978-1-53619-238-4. $230.00


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 Pandemic: Questions, Answers and Hypotheses
A.K. Haghi (Professor Emeritus of Engineering Sciences, University of Guilan, Iran)
In series: Advances in Applied Science and Engineering
Publication Date: 10/16/2020
196 pp.
Softcover: 978-1-53618-565-2, $95.00
e-book: 978-1-53618-593-5, $95.00
Since the early 2020s, the entire world has been in panic and confusion due to the coronavirus that causes CoViD-19. To protect ourselves from the virus, national borders have been closed and people have been ordered to stay home. The world was practically isolated under martial law. The global lockdown caused a total social and economic disruption. After the events that have happened today, we need to be prepared for further changes that will soon affect our lives.
This book summarizes the Covid19 pandemic in general, warning us of the dangers it poses beyond the disease. The loss of freedom enjoyed by the western world could be at risk if governments do not moderate authoritarianism and follow the terrible example of countries that do not know or enjoy such freedoms. We save lives but preserve our lifestyle.

Understanding the Spread of Infectious Diseases
Andrew J. Hinerman
In series: Infectious Diseases and Microbiology
Publication Date: 12/02/2020
270 pp.
Hardcover: 978-1-53618-892-9, $195.00
e-book: 978-1-53618-917-9, $195.00
Outbreaks of infectious diseases—such as Ebola, Zika, and pandemic viruses—have raised concerns from Congress about how federal agencies use modeling to, among other things, predict disease distribution and potential impacts. Chapter 1 discusses emerging infectious diseases, in light of the recent coronavirus outbreak, and the modeling tools used to detect, predict, and understand the spread of such diseases. Chapter 2 examines the extent to which HHS used models to inform policy, planning, and resource allocation for public health decisions; the extent to which HHS coordinated modeling efforts; steps HHS generally takes to assess model development and performance; and the extent to which HHS has addressed challenges related to modeling.

Parasitology

Entamoeba: Species, Classification and Biology
Thomas L. Johnson
In series: Parasites and Parasitic Diseases
Publication Date: 10/30/2020
200 pp.
Softcover: 978-1-53618-506-5, $95.00
e-book: 978-1-53618-744-1, $95.00
Entamoeba: Species, Classification and Biology outlines the current knowledge about the global epidemiology, clinical manifestations, pathogenesis, available diagnostic tools and management of pathogenic Entamoeba species in humans.
The authors provide an overview of the various species belonging to the genus Entamoeba, including Entamoeba histolytica, Entamoeba dispar, Entamoeba gingivalis, Entamoeba coli, Entamoeba moshkovskii, Entamoeba invadens, Entamoeba polecki, Entamoeba hartmanni, Entamoeba suis, Entamoeba nuttalli, Entamoeba bangladeshi, Entamoeba struthionis and Entamoeba muris.
The general pathogenic factors of Entamoeba histolytica are described, particularly focusing on how these factors participate in establishing infection.
Additionally, an review of studies centered on the morphological, biochemical and genetic changes during programmed cell death of Entamoeba histolytica is provided.
Current knowledge on the identification, characterisation, structure, and function of the enzymes of serine biosynthesis is also summarized.
Antibiotics have vastly changed the way we fight diseases. History is replete with examples of infectious diseases that have killed millions of people worldwide in the past and continues to do so in the present. However, there is one major difference. In the past there were novel classes of antibiotics that were being discovered at regular intervals, and in the present we are running out of options. Moreover, whatever antibiotics we have, microbes have developed resistance, which could primarily be attributed to the injudicious usage of antibiotics, not only for humans but also for veterinary purposes. A previous report from World Health Organization (WHO, 2017) suggests that antimicrobial resistance is a serious hazard and antibiotics under clinical development may not be sufficient (or efficient enough) to treat these emerging resistant pathogens. That report had identified 51 antibiotics and 11 biologicals. Of those, only 12 were found to be active against WHO classified critical priority pathogens and only two of them were found to be active against more than one specific pathogen. Starting with the sulphonamides in the 1930’s to lipopeptides in the early 2000’s, research and development on novel antibiotics is usually a slow and painful process and currently it will suffice to say that it is on the decline. As per the Infectious Diseases Society of America (IDSA), we are facing what is known as an “antibiotic paradox” that is pushing against the development of novel antibiotics. Interestingly, though there are studies that keep reporting on antibiotics, most of these are on combinatorial use of antibiotics. What could be their effectiveness and more importantly what could be their biotoxicity in the long run, remains unknown. Microbial antibiotic resistance is not a new phenomenon and there are numerous studies that have demonstrated the various mechanisms underlying it. An interesting study by Indian Council of Medical Research (ICMR), has shown that commensals in the gastrointestinal tract of humans might be responsible for the increasing ineffectiveness of antibiotics, at least in Indians. This makes it clear that microbes will keep on producing resistance to antibiotics at a faster rate compared to our ability to develop them. Under these circumstances, natural compounds, primarily plant-based, have become valuable tools and could be our answer to not only effective antimicrobial principles, but also to antimicrobial resistance. These compounds are abundant in nature and there is already a very rich literature on their usage and efficacy based on the various traditional systems of medicine. These natural compounds have been shown to be effective against both Gram positive and Gram-negative pathogens and interestingly microbes have a limited chance (as far as studies show) of developing resistance towards them. This is primarily attributed to the fact that most of these compounds are used as polyherbal formulations. Another advantage in studying these natural compounds is that there is a better probability of hitting upon that ‘jackpot’ molecule or molecules for antimicrobial applications. Being relatively safe and inexpensive makes them very attractive areas for clinical research. This book, in line with others in the field, is a small attempt to highlight the developments related to the antimicrobial compounds from natural sources and their mechanisms of action, particularly against ESKAPE pathogens. This book, we believe, will serve as a small but important piece of source material for students and researchers interested in this particular area of research. The chapters are divided to showcase the relevance and importance of natural compounds as novel antimicrobials, inhibitors of antimicrobial resistance and immunomodulators and we hope that the topics will kindle the interest of young researchers in these lines. In the end, we are grateful and whole heartedly acknowledge the authors for their valuable contribution and reviewers for their valuable suggestions and critical review of the manuscripts.
Calcium Signaling and Nervous System: Overview and Directions for Research

Victor V. Chaban, PhD (Professor of Medicine, Charles R. Drew University of Medicine and Science, Los Angeles, CA, USA; Professor of Medicine, University of California Los Angeles, Los Angeles, CA, USA)

In series: Neuroscience Research Progress
Publication Date: 09/11/2020
107 pp.
Softcover: 978-1-53618-403-7, $82.00
e-book: 978-1-53618-421-1, $82.00

This book provides comprehensive insights into emerging trends on calcium signaling in the nervous system from triggering signal transduction neuronal pathways to regulation of brain functions. Calcium signaling is one of the major coupling mechanism linking external stimuli with intracellular processes. Normal calcium signaling is important for functioning of all cells particularly neurons coupled to control mechanisms of the body inducing intra- and intercellular signaling and triggering biochemical cascade to control metabolism, gene expression, cell differentiation and apoptosis.

The author, Dr. Victor V. Chaban is Professor of Medicine with dual appointment at Charles R. Drew University of Medicine and Science (CDU) and University of California Los Angeles (UCLA). Dr. Chaban completed his post-doctoral training in Neuroscience at UCLA and graduate studies in Clinical Research at CDU. He serves on National Institute of Health and several international study sections and holds U.S. Patents. Prof. Chaban is established expert, who contributed significantly to a better understanding of neuroplasticity and neurodegeneration associated with changes in calcium signaling.

Calcium Signaling and Nervous System: Overview and Directions for Research gives an up to date account of changes in intracellular Ca2+ associated with primary afferents sensitization, neuronal and glial reorganization, neuroprotection and neurodegeneration. This book is recommended to scientists, healthcare providers, students and patients.

Children and Young Adult Headache Disorders: A Clinical Guide

Sharoon Qaiser, MD (Director Children and Young Adult Headache Program, Kentucky Neuroscience Institute, Department of Neurology, University of Kentucky, Lexington, KY, USA) and Donita Lightner, MD (Director Children and Adult Neurofibromatosis Program, Kentucky Neuroscience Institute, Department of Neurology, University of Kentucky, Lexington, KY, USA)

In series: Neurology - Laboratory and Clinical Research Developments
Publication Date: 11/04/2020
275 pp.
Hardcover: 978-1-53618-776-2, $195.00
e-book: 978-1-53618-815-8, $195.00

“Doc, I am not worried about my seizures because my family at home and friends at school are there to help. When I have a seizure, it goes away but oh my headaches, I must live my life through these headaches and my life never stops during my headache and I must keep on doing things. Can you make these headaches go away”?
-Patient diaries

Everybody needs to hear that more than one million school days are missed in two weeks alone due to headaches and it is not school avoidance but a true medical disorder effecting our children. This is a challenging task to demystify subjective nature of ailment plagued with sense of familiarity. I felt this unmet need and this motivated me to write this book. This book describes historical journey from antiquity to present times, leading to our understanding of headache disorders. Children are not young adults, they may have different clinical presentation of similar disease. Many children have “non-headache” component of migraine equivalent syndromes which are either poorly recognized or under diagnosed. In this book, I focused on headache disorders in children and unique approach needed to recognize and manage these conditions. This book describes my health care philosophy i.e. managing common yet high morbidity causing conditions through
awareness and education. This book is written for health care providers and for any one who suffers from headache syndromes.

**Chronic Subdural Hematomas: Symptoms, Diagnosis and Treatment Options**
*Earl C. Fernandez*

In series: *Neurology - Laboratory and Clinical Research Developments*
Publication Date: 09/18/2020
116 pp.
Softcover: 978-1-53618-445-7. $82.00
e-book: 978-1-53618-486-0. $82.00

Chronic Subdural Hematomas: Symptoms, Diagnosis and Treatment Options provides a complete overview of the etiology, pathophysiology, clinical presentation, diagnostics and treatment of this disease.

The importance of anatomical landmarks is highlighted, as well as the role of inflammatory cascades, inflammatory factors, coagulopathies and hyperfibrinolysis in the maintenance of bleeding and its healing.

The incidence of chronic subdural hematomas is increasing gradually due to population aging and associated medication use, especially anticoagulants and antiaggregants. This condition also usually occurs following minor trauma, and in most cases the trauma is so minor that the patient may not have any recollection of the traumatic event. The authors discuss the main targets for surgical and non surgical chronic subdural hematoma treatment.

**Cranial Nerves: Anatomy, Function and Clinical Significance**
*Thomas M. Yi*

In series: *Neuroanatomy Research at the Leading Edge*
Publication Date: 12/04/2020
173 pp.
Softcover: 978-1-53618-823-3. $95.00
e-book: 978-1-53618-582-9. $95.00

Cranial Nerves: Anatomy, Function and Clinical Significance opens with a summary of the current data on the clinical anatomy and developmental anomalies of the first cranial nerve, the olfactory nerve. Following this, the authors provide an overview of the second cranial nerve, the optic nerve, which is a vital component of the visual pathway. The seventh cranial nerve, the facial nerve, which contains the somatic motor and visceral motor, as well as special sensory and general sensory fibers is discussed. The 10th cranial nerve, the vagus nerve, is explored in closing, focusing on its motor functions responsible for the innervations of the outer ear canal, pharynx, larynx, heart, lung, gastrointestinal tract, stomach, pancreas and liver.

**Horizons in Neuroscience Research. Volume 41**
*Andres Costa and Eugenio Villalba*

In series: *Horizons in Neuroscience Research*
Publication Date: 09/11/2020
223 pp.
Hardcover: 978-1-53618-443-3. $250.00
e-book: 978-1-53618-480-8. $250.00

This compilation opens with a review of the clinical and preclinical studies that reproduce type 1 diabetes, prediabetes and type 2 diabetes, along with an analysis of the complications at the central level, as well as cognitive impairment and its relation with dementia. Continuing, the authors review the typical neurocognitive deficits associated with alcohol exposure in pregnancy; the relationship between fetal alcohol spectrum disorder and attention-deficit hyperactivity disorder and autism spectrum disorder; and the combined effects of alcohol and drug abuse.

In addition, recent literature summarizing the main roles of sirtuin 2 in the central nervous system is addressed in an attempt to understand the relationship between sirtuin 2, senescence and neurodegenerative diseases.

The relationship between biological motion, emotions, and theory of mind in people with neurodevelopmental disorders is examined. Specifically, the authors use bottom-up and top-down investigations to systematically uncover behavioral and
neurological patterns of biological motion perception in people with Williams syndrome, autism spectrum disorder, and Down syndrome. One study deals with the definition of consciousness, the description of the neural substrates that have been associated with it, and the examination of the main interpretative models. In closing, theory of mind as an implication of empowerment is explored using empirical data on social competence development among children.

Horizons in Neuroscience Research. Volume 42
Andres Costa and Eugenio Villalba
In series: Horizons in Neuroscience Research
Publication Date: 11/04/2020
252 pp.
Hardcover: 978-1-53618-787-8. $250.00
e-book: 978-1-53618-802-8. $250.00

In this compilation, the authors review studies that have been carried out using c-Fos as an activity marker for spatial navigation, discussing how this tool has helped researchers to unveil the brain’s functioning. Brain regional ensembles in object novelty recognition are discussed as part of recognition memory. A broad review of neuroanatomical and functional pathways underlying these processes is provided, with special emphasis on the role played by the perirhinal cortex, mediodorsal thalamic nucleus, amygdala, and prefrontal cortex, among others.

The “Pro-Truth Pledge” is proposed as an intervention for the deterioration of truth in democracies around the globe, combining behavioral science research with crowdsourcing to help address this problem.

The recent proteomics discoveries of degenerative protein modifications and their role in aging and age-associated processes are examined, particularly focusing on how these interventions could extend lifespan and be applied as targeted therapies for neurodegenerative diseases. The authors go on to investigate the effects of various chemicals in the developing brain to raise awareness of the possible effects and outcomes of chemical exposure.

A case of auditory agnosia, a type of central deafness commonly seen in cases of bilateral temporal cerebral lesions, is discussed, and a literature review regarding this condition is provided.

Imaging and Multiomic Biomarker Applications
Yongxia Zhou, PhD (Imaging Scientist, University of Southern California, Los Angeles, CA, USA; Columbia University, New York, NY, USA)
In series: Neuroscience Research Progress
Publication Date: 01/20/2021
251 pp.
Hardcover: 978-1-53619-079-3. $160.00
e-book: 978-1-53619-086-1. $160.00

The well-known Alzheimer’s Disease Neuroimaging Initiative (ADNI) Center provides the most advanced, comprehensive, multiparametric and up-to-date biomarkers for mild cognitive impairment (MCI) and early Alzheimer’s disease (AD) projects, including neuroimaging, clinical assessments, biospecimens and genetic data. Recent developments in imaging techniques, including new molecular tracers for imaging disease burden and systematic multi-modal integration, have emerged to overcome the limitations of each single modality and individual-dependent variability. The MRI-based high-resolution structural and morphological changes in the brain, such as atrophy, and the abnormal activity/connectivity patterns of the hippocampus subfields and default mode network (DMN) modulation, together with the amyloid and tau neuropathological quantification using PET molecular tracers, could be used to predict brain changes and cognitive performance declines in early AD, including transitional MCI. Finally, a generalized and integrative model with multiple biomarkers could be built to target disease progression and symptom prediction as well as to optimize patient management.

Multiomics investigates metabolic, lipidomic, genomic, transcriptomic and proteomic perspectives by presenting an accurate biochemical profile of the organism in health and disease. The Alzheimer’s Disease Metabolomics Consortium (ADMC) in partnership with ADNI is creating a comprehensive biochemical database for patients in the ADNI1 cohort, consisting of eight metabolomics datasets. The vast majorities of biospecimen data provide rich biological information to the human brain at normal and dementia status. One of the purposes is to reveal the connections between disease and multiomics such as obesity, hypertension, cholesterol imbalance and inflammation risks that might lead to neurodegenerative disease. Multiomic biomarker developments in the dementia field have provided earlier clues to novel treatments that help correct metabolic dysfunction and delay disease progression. Furthermore, the assembling of multiomics-based biomarkers including metabolites and lipids, cholesterol biosynthesis, purine metabolism, lipoprotein,
bile acids, and genetics as well as their relation to the pathological amyloid and tau network could improve disease diagnosis sensitivity and reveal more diverse and complementary molecular pathways to allow for the advancement of early AD diagnosis and therapeutic prevention.

In this book, we report on the significant differences of multiple biomarkers from the ADNI database including neuroimaging, clinical assessments and multomic biospecimen/genetic data in MCI and early probable AD (pAD), and elucidate the interconnections among different metrics at various domains. Classification results with high accuracies (0.95-1) for each early dementia subtype including early MCI (EMCI), late MCI (LMCI) and pAD, and better prediction of clinical symptoms is achieved with these comprehensive biomarkers. Further longitudinal changes of imaging and neuropsychological biomarkers, and inter-correlations with baseline parameters are examined for a better illustration of disease progression association. Additionally, an analysis of the post-traumatic stress disorder biomarkers is performed with high classification accuracy. With illustrative and rigorous data analyses and confirmative results, this book provides readers with a full spectrum of biomarker research for early dementia diagnosis and treatment, and helps convey the technical development and data evaluation perspectives in advanced medical imaging and various disease application fields.

Laboratory Animals and Neurosciences

**Braulio Hernández Godínez** (Non Human Unit of APREXBIO S.A.S., de C.V. Ciudad de México, México; Neurophisiology Laboratory of Investigación Biomédica, Aplicada (INBIOMA) S.A.S. de C.V., Ciudad de México, México), **Martín García Servin** (Instituto de Neurobiología, Universidad Nacional Autónoma, de México, Campus Juriquilla, Queretaro, México) and **Alejandra Ibáñez Contreras** (Non Human Unit of APREXBIO S.A.S., de C.V. Ciudad de México, México; Neurophisiology Laboratory of Investigación Biomédica, Aplicada (INBIOMA) S.A.S. de C.V., Ciudad de México, México)

In series: Animal Science, Issues and Research
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357 pp.
Hardcover: 978-1-53618-462-4. $230.00
e-book: 978-1-53618-588-1. $230.00

Laboratory animals are fundamental in learning and teaching within the various areas of neuroscience research. This from its proper management, animal welfare, standardization of protocols, use of the best biomodel in experimentation. There are many different areas of study within neurosciences today. However, any use of any biomodel must be based on the context of the three Rs (Refinement, Reduction and Replacement).
The objective of this book is to make known through different chapters the use of different laboratory animals in standardized research lines applied to neurosciences in different contexts and applications in basic research.

Recent Developments in Neurodegeneration

**Roger M. Howe**

In series: Neurology - Laboratory and Clinical Research Developments
Publication Date: 11/20/2020

159 pp.
Softcover: 978-1-53618-859-2. $95.00
e-book: 978-1-53618-861-5. $95.00

Recent Developments in Neurodegeneration discusses the diverse functions of nitric oxide regarding redox regulation, the cellular energy pool, modifications in genetic material, neurogenesis, the effects on protein degradation mechanisms and functional consociation with glial cells.
The authors consider the latest evidence that demonstrates that Alzheimer’s disease-associated proteins and their genes play a key role in the post-ischemic development of neurodegeneration with dementia.
The main processes associated with secondary tissue damage following traumatic injury to the nervous system are reviewed.

In closing, a comprehensive investigation of the combination of tremor and olfactory perception characteristics among patients with Parkinson’s disease and essential tremor is presented.
Understanding and Treating Cerebral Small Vessels Disease

Alina Gonzalez-Quevedo, MD, PhD (Institute of Neurology and Neurosurgery, Havana, Cuba), Svetlana Dambinova, PhD, DSc (Emory Decatur Hospital, Emory Healthcare, Decatur, GA, USA) and Kerstin Bettermann, MD, PhD (Department of Neurology, Penn State College of Medicine, Hershey, PA, USA)

In series: *Neurology - Laboratory and Clinical Research Developments*

Publication Date: 12/22/2020

476 pp.

Hardcover: 978-1-53618-944-5, $270.00
e-book: 978-1-53619-018-2, $270.00

Cerebral small vessel disease (CSVD) silently affects a large part of the population, increasing in prevalence with age and with the presence of vascular risk factors. Its harmful effects on brain parenchyma increase the risk of stroke, cognitive decline and dementia, and it is responsible for a spectrum of symptoms that are much less obvious, such as unrecognized mild signs or symptoms of neurocognitive dysfunction, mild mood or behavioral disturbances, gait dysfunction, and a general decline in function generally attributed to normal aging. These consequences pose a heavy burden on patients, families and countries that need to be addressed.

Understanding and Treating Cerebral Small Vessel Disease provides an insight into a broad area of research in this field, focusing on topics that deal with the underlying pathophysiological mechanisms of CSVD, recent clinical and neuroimaging findings, biomarker developments, comorbidities, prevention strategies and emerging therapeutic options.

The contents are distributed in five sections that span these topics. Section I, “Pathophysiology and Subtypes of Cerebral Small Vessels Disease”, includes three chapters that deal with the prevalence of different forms of small-vessels disease in vascular cognitive impairment, and the pathophysiological mechanisms of CSVD.

Section II, “New Approaches for Diagnosis and Treatment of CSVD”, includes six chapters which deal with the microvascular assessment of CSVD through the study of retinal blood (chapter four), a global vision of brain MRI findings in CSVD (chapter five), and digital electroencephalographic changes and computerized analysis methods in CSVD (chapter six). Chapters seven, eight and nine approach the treatment of CSVD, from the assessment of advanced immunomodulatory therapy for CSVD to the use of non-pharmacological therapies such as transcranial magnetic stimulation and extracorporeal shock wave therapy. The targeting of key pathogenic mechanisms is also discussed in light of experimental data and clinical trials, as well as the introduction of neuroprotection in the treatment of symptomatic and asymptomatic CSVD.

Section III, “Potential Biomarkers for CSVD”, includes chapters ten—thirteen dedicated to the early detection of CSVD through brain MRI imaging and the development of alternative circulating biomarkers (brain specific proteins, inflammatory and oxidative stress biomarkers, autoantibodies). The application of these biomarkers in other conditions closely associated with small vessel neurovascular networks, such as migraine, is also discussed.

Section IV, “Cerebral Small Vessels Disease and Comorbid Conditions” is comprised of five chapters (fourteen—eighteen) which approach the relationship of CSVD with infectious diseases (viral, bacterial and parasitic infections), highlighting findings in COVID-19. Conditions related with the nervous system, such as cognitive impairment, schizophrenia and chronic alcohol consumption in association with the development of small vessel pathology in the brain are also discussed.

Section V includes chapter nineteen, which briefly summarizes the main topics presented in this book and offers a quick vision from the editors of future trends in microangiopathy diagnosis and treatment.

Understanding Dyskinesia

Jan Dvořák

In series: *Neurology - Laboratory and Clinical Research Developments*

Publication Date: 09/18/2020

201 pp.

Hardcover: 978-1-53618-502-7, $95.00
e-book: 978-1-53618-558-4, $95.00

Primary Ciliary Dyskinesia is a rare disease with a prevalence of 1:20,000 births (ORPHA244). Understanding Dyskinesia aims to give an overview of what primary ciliary dyskinesia is, the differences in patients’ clinical manifestations throughout their lives, its genetics, and diagnostic tests available for this disease. The authors present a systematic review of tardive dyskinesia, covering the clinical manifestations, epidemiology, etiology, and an update on the therapeutic approach. In addition, the acute effects of physical activity and exercise adaptation on different types of dyskinesia are assessed.
Breakfast: Nutrition, Consumption and Health Benefits
Petr Měchura
In series: Nutrition and Diet Research Progress
Publication Date: 10/02/2020
138 pp.
Softcover: 978-1-53618-500-3. $82.00
e-book: 978-1-53618-596-6. $82.00
Despite being one of the most important meals of the day, breakfast is also the most neglected meal of the day, and this practice increases progressively with age because of lack of time, organization, or individual’s preference. Breakfast: Nutrition, Consumption and Health Benefits discusses how a breakfast based on fruits, vegetables, and whole grains can lead to a more favorable lipid profile, contributing to diabetes prevention and control without the harmful effects of eating sugary industrialized foods. The authors advocate that evaluation of breakfast gluten-containing products and their counterparts without gluten is important for people with gluten-related disorders. Additionally, they discuss how visibility of the difficulties faced in the implementation of special menus for children with celiac disease in Brazilian public schools can contribute to making the Human Right to Adequate Food a reality for this group. In closing, the authors assess the importance of finding viable options with sensory and nutritional quality that can be part of the diet of individuals who restrict milk.

Gluten-Free Diets and Health
Hisham Castillo
In series: Nutrition and Diet Research Progress
Publication Date: 02/26/2021
178 pp.
Softcover: 978-1-53619-327-5. $95.00
e-book: 978-1-53619-345-9. $95.00
Over the past several decades, gluten-free diets have attracted wide public interest, in large part due to their efficacy in treating celiac disease. However, such diets present nutritional risks, as gluten-free products can be low in protein, dietary fiber, and other nutrients. Chapter One of this book discusses techniques for improving the nutritional value of gluten-free foods as well as their textural and sensorial features. The second chapter discusses gluten-free cheese bread enriched with essential fatty acids, and how such enrichment improves the overall quality of the food. Similarly, the third chapter explores the technological and sensory properties of gluten-free muffins made with chickpea flour and describes the effects of various muffin formulations. The final chapter describes gluten-free Mexican sweet bread and analyzes the physiochemical characteristics of taro flour and gluten-free muffins made with taro flour.

Healthy Lifestyles and Healthy Eating
Lena Wilson
In series: Nutrition and Diet Research Progress
Publication Date: 10/01/2020
321 pp.
Hardcover: 978-1-53618-399-3. $230.00
e-book: 978-1-53618-541-6. $230.00
Healthy Lifestyles and Healthy Eating opens with a study wherein a review is conducted to examine non-Hispanic blacks’ dietary patterns to determine the extent to which their dietary patterns conform to dietary recommendations. Next, the authors present conclusions and reflections about the role of motivation-related variables on healthy eating habits among elementary school students. Additionally, student engagement with Google Classroom as an online complementary tool in a hybrid school-based intervention to promote healthy eating among elementary school-aged children is explored and described. Some results of the EATMOT project are presented, including perceptions about healthy eating, sources of information about healthy diet and healthy motivations for food choice.
A subsequent study aims to determine the role that eating motives and risk perception of potential diseases may play in adolescents’ health-conscious eating behavior. The authors summarize the potential effect of moderate exercise on response to stressful situations, as well describe its neurobiological underlying basis in different periods of life. Pharmacy students’ attitudes towards dietary supplements use are assessed through a cross-sectional questionnaire survey taken by 117 pharmacy students in the Medical University of Plovdiv, Bulgaria. The growing evidence regarding the influence of gender on the effectiveness of multifactorial interventions to improve lifestyles is assessed. Evidence linking maternal lifestyle to the offspring’s long-term clinical outcomes is described, focusing on hypertension and cardiovascular disease risk, as well as discussing the role of epigenetic processes in metabolic syndromes.

Plants for Weight Loss – Myth and Reality

*Dr. Alexander V. Sirotkin (Professor, Faculty of Natural Sciences, Constantine the Philosopher University, Nitra, Slovakia)*

In series: *Nutrition and Diet Research Progress*

Publication Date: 10/30/2020

193 pp.

Softcover: 978-1-53618-700-7, $95.00

e-book: 978-1-53618-747-2, $95.00

This is a unique book which critically summarizes the current scientific knowledge concerning manifestations, mechanisms, consequences and prevention of dysfunctions of metabolism of fat, as well as the main known functional food and medicinal plants which can be and which cannot be used for prevention and treatment of obesity. The provenance, biologically active molecules, positive and adverse side-effects on health, influence on obesity and potential applicability of tea, chicory, Garcinia cambogia, Hoodia gordonii, chia, Irvingia gabonensis, apple cider vinegar, coffee, konjac/glucomannan, flaxseed, mulberry, oat, sweet and hot peppers, carob, cinnamon, plum, Cissus quadrangularis, Stevia rebaudiana, Yacon and ginger are described in details. In addition, less-known plants and plant molecules, as well as their combinations considered applicable for obesity treatments, are listed. It is demonstrated that more than half of the plant-based anti-obesity products available on the market are not properly clinically tested, or such tests, when performed, provided negative results. In addition, the author provides the reader with some practical advices and tips to combat obesity with healthy lifestyle. This book combines deep scientific analysis of physiological processes and popular form of their description. Such form enables to use this knowledge and advices for scientists, doctors, producers, distributors and consumers of functional food and medicinal plants, as well as for the common readers interested in healthy nutrition and lifestyle.

Vitamin Deficiency: Prevalence, Management and Outcomes

*Natalie Stewart and Dan Thomson*

In series: *Nutrition and Diet Research Progress*

Publication Date: 12/11/2020

134 pp.

Softcover: 978-1-53618-979-7, $82.00

e-book: 978-1-53618-996-4, $82.00

Vitamin Deficiency: Prevalence, Management and Outcomes first assesses the prevalence of vitamin D deficiency and summarizes published randomized controlled studies concerning the supplementation of vitamin D in pregnant women, reporting on the maternal and neonatal outcomes in Asia-Pacific, the United States, Europe, Africa, and the rest of the world. The functions of vitamin K and D are discussed, along with the links between the two vitamins, providing insight on the underlying mechanisms responsible for their role in osteosarcoma and identify future perspectives. The closing study highlights the vitamin K-dependent biological pathways which are associated with the prevention and treatment of bone metabolism disorders.
**Vitamins and Supplements**

The Diversified Benefits of Whey Protein  
**Zachary Hicks**

In series: *Nutrition and Diet Research Progress*  
Publication Date: 10/02/2020  
110 pp.  
Softcover: 978-1-53618-517-1. $82.00  
e-book: 978-1-53618-585-0. $82.00

The Diversified Benefits of Whey Protein provides an overview of the main benefits of using whey proteins as targeted delivery systems in encapsulation processes, considering prerequisite steps such as binding mechanisms. The authors discuss how, according to current scientific knowledge, whey protein can reduce blood pressure and the risk of hypertension due to the presence of individual bioactive peptides formed after hydrolysis. The effect of whey protein on appetite/satiety of healthy overweight and obese individuals is investigated through a questionnaire wherein subjects were asked to indicate their feelings on the taste, aroma and edibility of a test beverage.

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**OBSTETRICS AND GYNECOLOGY**

Fertility Preservation in Gynecological Cancer: Current Management and Novel Insights  
**Simone Garzon (Department of Obstetrics and Gynaecology, “Filippo Del Ponte” Hospital, University of Insubria, Varese, Italy)** and **Antonio Simone Laganà (Department of Obstetrics and Gynaecology, “Filippo Del Ponte” Hospital, University of Insubria, Varese, Italy)**

In series: *Obstetrics and Gynecology Advances*  
Publication Date: 02/10/2021  
317 pp.  
Hardcover: 978-1-53619-179-0. $230.00  

This book was written for the complex scenario of fertility-sparing management in gynecological cancer. In reproductive age women, appropriate counseling is mandatory in any cancer diagnosis, including discussing the long-term consequences of the different treatment options on fertility and the possibility of fertility preservation. However, women affected by gynecological cancer must consider that treatment options including hysterectomy and bilateral oophorectomy in most cases. Therefore, in gynecological cancer, the standard treatment often consists of an inevitable loss of fertility. The direct consequence is that fertility preservation management does not always result in the optimal treatment of the disease, which increases the risk of worsening oncologic outcomes.

This book discusses all the elements involved in managing these patients to provide a complete and detailed overview of fertility preservation management options in young women affected by gynecological cancers. Specifically, this book discusses the role of genetic assessment and counseling, the effect of anticancer treatments for gynecological cancer on fertility, classic fertility preservation techniques adapted to gynecological cancer, detailed and specific fertility preservation management for cervical, ovarian, and endometrial cancer, and the role of a multidisciplinary approach in these patients.
Pap smear screening in the United States was first implemented as an annual test in the late 1940s. Its widespread use for early detection of precancerous cells destined to proceed to invasive carcinoma for timely ablative treatment markedly reduced the morbidity and mortality rates of cervical cancer. No one should die of cervical cancer if every woman continued receiving proper annual Pap smear screening carried out by a team of cytology technologist, pathologist and gynecologist.

However, this teamwork broke down when cytology samples were sent to geographically distant centralized commercial laboratories for screening. Under such business atmosphere, cytology screeners, pathologists and gynecologists hardly speak to one another to discuss any potential diagnostic problems. Overwhelming numbers of unnecessary colposcopic biopsies have been performed on essentially healthy women when “false positive” cytology reports are sent to their gynecologists. However, it is the false-negative results which draw public attention while stories about Pap smear litigation cases are circulated around social media sites when follow-up tests unexpectedly reveal an invasive cancer during the patient’s annual screening.

Further chaos was created after human papillomavirus (HPV) infections were discovered by Dr. Harald zur Hausen to be one of the most important risk factors for developing cervical cancer. A handful of opportunists successfully persuaded the Food and Drug Administration to regulate their HPV assays as cancer tests and anti-HPV vaccines as cancer vaccines so that they can market these products by tapping into the public’s fear of cancer. Commercial HPV tests detect many reversible cytopathology changes with high viral loads per cell, but are not sensitive enough to detect high-grade precancerous cells with low viral loads per cell. Without performing DNA sequencing, none of these test kits can provide an accurate genotyping for follow-up of persistent HPV infections, a true cancer risk.

This book points out there is no factual evidence that HPV vaccination has prevented a single case of cervical cancer. Using reversible precancerous histologic changes as surrogate endpoints in clinical trials to support the claim of efficacy of HPV vaccination in prevention of cervical cancer is flawed. Since the HPV vaccine Gardasil relies on using residual HPV L1 gene DNA fragments bound to aluminum salt as the toll-like receptor 9 agonist to boost innate immune response, high levels of pro-inflammatory cytokines are generated in the vaccinees. These pro-inflammatory cytokines may cause serious adverse events in genetically and physically predisposed individuals.

Women consumers are advised to read this book before choosing the modalities for cervical cancer prevention to protect their own health and lives as well as those of their loved ones.

Preeclampsia: Diagnosis, Treatment and Management

Professor Michele Fichera (Obstetrics and Gynecology Unit, Department of General Surgery and Medical Surgical Specialties, University of Catania, Sicily, Italy)

In series: Obstetrics and Gynecology Advances
Publication Date: 10/01/2020
342 pp.
Hardcover: 978-1-53618-518-8. $230.00
e-book: 978-1-53618-632-1. $230.00

Preeclampsia is becoming an increasingly common diagnosis in the developed world and remains a high cause of maternal and fetal morbidity and mortality in the developing world. It is a multisystem progressive disorder of pregnancy characterized by the new onset of hypertension and proteinuria of ≥150 mg/day or of hypertension and significant end-organ dysfunction with or without proteinuria. It also presents with a variety of organ failures, including malfunction of kidneys, liver and lungs. It is estimated that about 5-7% of pregnancies are complicated by preeclampsia.

This disorder always resolves after delivery. In about 80% of cases, pregnancy ends with good maternal and fetal outcomes. However, these pregnancies are still at increased risk for maternal and/or fetal mortality or serious morbidity.
The remaining 20% of cases are at risk for preterm delivery and small gestational age infant. As regards the long-term consequences, women with preeclampsia are at high risk for cardiovascular, renal, and chronic hypertensive diseases. The exact pathophysiology of preeclampsia is poorly understood and, consequently, there are no well-established methods of primary prevention or of cost-effective screening.

Childbirth is the only known cure; however, the decision between delivery and expectant management depends on several factors, such as fetal gestational age, maternal and fetal status at time of initial evaluation, presence of labor or rupture of fetal membranes, and level of available neonatal and maternal services.

The aim of this book is to provide an overview of the latest developments about the physiopathology, diagnosis, and treatment of pre-eclampsia. Addressed to gynecologists, obstetricians, researchers and students, this text aims to become a reference for all operators who are interested in pregnancy complications and in the management and treatment of this specific disorder which is increasingly common in the population.

The Ovarian Reserve: Current Trends and Applications
Saad Ali Kamel S. Amer (Associate Professor and Consultant Gynaecologist, Division of Medical Science and Graduate Entry Medicine, School of Medicine, University of Nottingham, Derby, Derbyshire, United Kingdom)
In series: Obstetrics and Gynecology Advances
Publication Date: 12/30/2020
209 pp.
Hardcover: 978-1-53618-969-8, $160.00
e-book: 978-1-53618-981-0, $160.00

This is the first book that provides a comprehensive and in-depth account of the current state of knowledge on the ovarian reserve and its clinical applications in gynaecology and reproductive medicine. “Ovarian reserve” is a term commonly used to reflect the total number of remaining primordial follicles, which determines a woman’s fertility potential. Since its emergence in the late 1980s during the early days of assisted reproduction technology, the concept of ovarian reserve has continued to gain importance in clinical practice and research, as reflected by the exponentially growing number of publications on the topic. A wide range of ovarian reserve markers have been introduced over the years, starting with serum follicle stimulating hormone level in 1988 and most recently anti-Müllerian hormone in 2002. This book starts with a detailed background on the physiology of the ovarian reserve including early ovarian development, follicular dynamics, and the natural history of primordial follicles. This is followed by a comprehensive account of the various biochemical, sonographic, and dynamic markers and their current applications. A special chapter is devoted to anti-Müllerian hormone, which is the most extensively researched and widely used ovarian reserve marker. The role of anti-Müllerian hormone and its clinical utility in polycystic ovarian syndrome is presented in a separate chapter. The book then explores the clinical applications of ovarian reserve testing in various reproductive disorders, including early ovarian aging, diminished ovarian reserve (pathological and iatrogenic), poor ovarian response during assisted reproduction technology, and premature ovarian insufficiency.

Uterine Fibroids from Diagnosis to Treatment
Marco Mitidieri, MD (Sant’Anna Obstetric Gynecological hospital, SC4, Turin, Italy), Saverio Danese MD (Ginecologia e Ostetricia SC4, Città della Scienza e della Salute, Sant’Anna Hospital, Torino, Italy) and Elisa Picardo MD (Ginecologia e Ostetricia SC4, Città della Scienza e della Salute, Sant’Anna Hospital, Torino, Italy)
In series: Obstetrics and Gynecology Advances
Publication Date: 02/17/2021
156 pp.
Softcover: 978-1-53619-184-4, $95.00
e-book: 978-1-53619-284-1, $95.00

Uterine fibroids (UFs) are benign masses that develop from the smooth muscle cells and connective tissue of the wall of the uterus under the influence of genetic and/or hormonal stimuli. These benign tumors are postulated to arise from a single, genetically altered, mesenchymal cell under the influence of gonadal hormones namely progesterone and 17ß-estradiol.

The annual societal cost for fibroids is estimated up to 34 billion dollars, calculated through combined expenditures for medical management of symptomatic fibroids, lost work attributable to diagnosis of fibroids, and obstetrical complications of fibroids in Italy, for example, they affect 3 million women. Estimates say that 20 to 80% of women experience them throughout life, and are the most common form of benign cancer in childbearing age.
Various surgical and medical options are currently available to manage symptomatic uterine fibroids. The choice of the appropriate therapeutic approach for UFs depends on several factors, including women’s age, parity, childbearing aspirations and wish to preserve fertility, extent and severity of symptoms, size, number and location of myomas, risk of malignancy and proximity to menopause. This book reviews the diagnoses, management and treatment of uterine fibroids.

**ONCOLOGY**

**A Biochemical View of Head and Neck Cancers**

*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: *Cancer Etiology, Diagnosis and Treatments*

Publication Date: 03/04/2021

144 pp.

Softcover: 978-1-53619-370-1, $82.00

e-book: 978-1-53619-376-3, $82.00

This book addresses major problem in the management of patients with cancer of the head and neck. The authors have written six chapters of particular importance for head and neck cancer diagnosis, treatment, and rehabilitation. Chapter 1 describes treatment of patients with squamous cell carcinoma of the head. Chapter 2 presents treatment of patients with squamous cell carcinoma of the neck. Biochemical studies of head and neck cancer treatments are presented in Chapter 3. In chapter 4 biochemical studies of head and neck cancer biomarkers are presented. Photodynamic therapy (PDT) exploits light interactions and photosensitizers to induce cytotoxic reactive oxygen species. Photodynamic diagnosis (PDD) uses the phenomenon of photosensitizer emitting fluorescence to distinguish some tumors from normal tissue. PDT offers a therapeutic solution that has been found to be cost-effective compared to palliative major surgery or chemotherapy. However, despite the significant improvement noted in preclinical and clinical trials, PDT is still not considered the standard treatment option for head and neck cancer. Multiple photosensitizers have been studied and tumors have been treated in a variety of head and neck sites over the last 30 years. Photodynamic therapy is a palliative treatment option for head and neck squamous cell carcinoma patients which induces local inflammation and alters tumor cell morphology.

**A Comprehensive Textbook of Primary and Metastatic Tumors of the Skeletal System**

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In series: *Cancer Etiology, Diagnosis and Treatments*

Publication Date: 02/10/2021

243 pp.

Hardcover: 978-1-53619-104-2, $195.00

e-book: 978-1-53619-159-2, $195.00
This book is a comprehensive textbook of primary and metastatic skeletal system tumors which provide clinical, pathological and imaging data of the skeletal system tumors appropriate for all clinicians who are practicing in oncology wards, especially orthopaedic surgeons. In this book, we discuss the diagnosis and treatment of skeletal system tumors, their clinical signs, and symptoms and we also discuss their pathological aspects of the tumors. We conclude with important images such as plain radiographs, CT scans, MRIs, and bone scan. The most helpful data of each tumor is brought together in order to help patients and clinicians of this widespread part of medicine.

An Introduction to Cancer Therapy
Neville Charron
In series: Cancer Etiology, Diagnosis and Treatments
Publication Date: 09/18/2020
411 pp.
Hardcover: 978-1-53618-450-1, $230.00
e-book: 978-1-53618-587-4, $230.00
This compilation attempts to provide readers with brief and concise information on different types of cancer, their origins, and available treatment options.
Protein kinase inhibitors, currently in clinical practice and under research for potential clinical usefulness, are also reviewed.
Currently employed gene therapy strategies, obstacles, and challenges in cancer gene therapy are presented, focusing on the latest nanotechnological advancements in this field including gene transfer methods, vectors, and their current successful applications in cancer gene therapy.
Lastly, sulfamethoxazole is examined for its history of combating several microbial infections by affecting folic acid biosynthesis inhibiting dihydropteroate synthetase.

Horizons in Cancer Research. Volume 76
Hiroto S. Watanabe
In series: Horizons in Cancer Research
Publication Date: 09/24/2020
251 pp.
Hardcover: 978-1-53618-374-0, $250.00
e-book: 978-1-53618-483-9, $250.00
In Horizons in Cancer Research. Volume 76, the molecular drivers associated with prostate cancers at different stages which can be exploited as drug targets are discussed. This information will be useful for designing rational targeted therapeutic strategies for treatment of this disease. Following this, the authors discuss lung cancer early diagnosis with traditional and alternative approaches. In lung cancer, smoking exposure has been identified as the main causative agent in smokers. A critical appraisal of the different updated techniques in the mediastinal staging of lymph nodes in lung cancer is provided. The authors also provide an overview of colorectal cancer and Ca2+ signalling in cells, focusing their discussion on a specific component of the Ca2+ signalling machinery, the transient receptor potential cation channel subfamily V member 4 channel.
Breast cancer, a serious public health problem, is assessed, maintaining that women need accurate and effective information in order to attain early diagnosis.
Lastly, a simple technique to decreases cell-culture pH while maintaining sterile technique is described.

Horizons in Cancer Research. Volume 77
Hiroto S. Watanabe
In series: Horizons in Cancer Research
Publication Date: 11/04/2020
254 pp.
Hardcover: 978-1-53618-717-5, $250.00
e-book: 978-1-53618-728-1, $250.00
In this compilation, an overview of recent achievements in clinical and biosensor technology in the diagnosis of acute lymphoblastic leukemia is provided. Various aptasensors such as optical, electrochemical and mass-sensitive are presented along with a novel approach for the recognition of cancer markers by molecular imaging methods based on atomic force microscopy, single molecule force spectroscopy and topography and recognition imaging.
The authors review the strategies used to screen potential antimelanoma drugs, especially those involved in evaluating drugs in cancer cell lines, in vitro and in vivo, as well as in silico tests used for drug selection. Following this, a study is presented focusing on gastroenteropancreatic carcinoids tumors, rare slow-growing lesions that derive from primitive stem cells of the gut. The authors explore the influence of Traditional Formosan medicine on cancer therapy through a literature review and expert opinion. Three clinical experiences of using Formosan medicine for cancer therapy are discussed: acupuncture, herb, and Formosan medicine tongue diagnosis. The concluding research utilizes the extensive pipelines of the Vienna RNA package for 2D RNA structure prediction, and the result exposes a satisfactory illustration and narration of the predicted RNA structures.

**Horizons in Cancer Research. Volume 78**

*Hiroto S. Watanabe*

In series: *Horizons in Cancer Research*

Publication Date: 11/04/2020

275 pp.

Hardcover: 978-1-53618-773-1, $250.00  
e-book: 978-1-53618-827-1, $250.00

This compilation begins by discussing the common pediatric brain tumors, their key oncogenic drivers and signaling pathways. An update on the clinical trials against druggable targets is also provided. An outline of the metabolizing pathways in cancer and the mode of action of aerobic glycolysis in cancer cells is presented, also highlighting the roles of nanotechnology in energy-based cancer therapies. The authors review recent studies that characterize the specific mechanisms involved in mediating tocotrienol reversal of epithelial-to mesenchymal transition in malignant breast cancer cells. The cytotoxic effects of Mannich bases derived from kojic acid on A375 human malignant melanoma are discussed and MRC-5 human lung cell lines are investigated using a sulphorhodamine B assay. Additionally, the cytotoxic effects and mechanisms displayed by metformin are assessed, alone or in combination with other agents. A better understanding of metformin-induced metabolic changes could aid in the discovery of new drugs, enhancing the efficacy of current melanoma therapeutics. In closing, the authors explore the way in which physical activity and exercise are negatively correlated to most type of cancers, as exercise shares common underlying metabolic pathways with those of some bioactive food compounds, such as polyphenols.

**Horizons in Cancer Research. Volume 79**

*Hiroto S. Watanabe*

In series: *Horizons in Cancer Research*

Publication Date: 03/04/2021

210 pp.

Hardcover: 978-1-53619-330-5, $250.00  
e-book: 978-1-53619-359-6, $250.00

This compilation includes details about recent innovations in the field of cancer treatment as well as best practices for managing the disease in various forms. The first chapter deals with the potential anticancer properties of the plant Trigonella foenum-graecum, also known as fenugreek. Following this, the authors provide clinically relevant information on physical therapy for women with breast cancer as well as targeted therapy for metastatic triple-negative breast cancer. Then, the authors discuss the evolution of the field of systematic therapy for urothelial cancer, which ranges from chemotherapy to immune checkpoint inhibitor use. The final chapter highlights the chemo-preventive efficacy of phytochemicals in modulating the epigenetic mechanisms involved in the initiation and progression of cancer.
Plant Flavonoids Against Metastasis: New Concepts For Cancer Treatment
Katrin Sak (Dip.Nut.Med., Head of the NGO Praeventio, Tartu, Estonia)

In series: Cancer Etiology, Diagnosis and Treatments
Publication Date: 01/27/2021
385 pp.
Hardcover: 978-1-53619-102-8. $270.00
e-book: 978-1-53619-105-9. $270.00

Cancer poses a major threat to human health and is one of the leading causes of death worldwide. Today, we know that metastasis, a multistep process whereby tumor cells spread from the site of origin to distant organs, is responsible for most cancer mortality. In fact, more than 90% of cancer-related deaths are attributed to tumor metastasis. Unfortunately, there are no therapies currently available to specifically target metastasis of any human cancer types, and patients with distant metastases ultimately die from their disease. Current conventional treatment modalities are focused on the removal of tumors by surgical resection and/or the killing of malignant cells using cytotoxic chemotherapeutic drugs or ionizing radiation, with no substantial inhibitory effects on the migratory and invasive abilities of cancer cells. Moreover, emerging evidence has shown that these standard treatment modes can unexpectedly increase the motility and invasiveness of surviving tumor cells, inducing or accelerating metastases formation and aggravating malignant progression. This paradoxical phenomenon can help us to understand why, despite the technological advancements in surgical procedures and drug delivery methods, the overall survival rate of numerous cancer types has barely changed over the past several decades, remaining unacceptably poor. Due to the insufficiency of existing therapies in improving the prognosis of cancer patients, new effective treatment options are urgently needed. To this end, the focus must be moved from a simply cytotoxic approach to a metastasis-preventing strategy, substituting the question of why cancer forms and how to kill it for the question of why tumors spread and how to prevent metastasis.

In this book, a conceptually new approach to cancer management is presented, by focusing not on the killing of transformed neoplastic cells, but blocking the spread of tumor cells to distant organs, thereby restricting malignant progression and targeting the main cause of cancer-related mortality. Plant-derived flavonoids might be ideal candidates for novel antimetastatic agents, as they are non-toxic and possess the capacity to inhibit multiple steps of metastatic cascade. These polyphenolic phytochemicals act through regulating a number of metastasis-associated signaling cascades in different tumor cells, and also modulate diverse components of tumor microenvironments and attenuate the formation of tumor-specific angiogenesis. Moreover, the combination of certain flavonoids with surgical resection, chemotherapy or radiotherapy may result in the abolishment of the metastasis-promoting effects of these conventional therapeutic modalities, providing novel treatment options for combating cancer in the future. It is expected that the development of flavonoids for antimetastatic drugs and their inclusion in further cancer treatment strategies can substantially improve the prognosis of patients with various types of malignancies in a time when cancer incidence is predicted to continuously increase throughout the world.

This book should be read by anyone who is interested in innovative advances in cancer care. Due to its systemic approach to cellular and molecular processes of metastatic cascade, this book might serve as a useful contemporary textbook for medical colleges and universities for studies of cancer development, progression and dissemination.

ORTHOPEDICS

The Fundamentals of Spine Surgery
Tim Bachmeier

In series: Surgery - Procedures, Complications, and Results
Publication Date: 10/23/2020
150 pp.
Softcover: 978-1-53618-570-6. $82.00
e-book: 978-1-53618-741-0. $82.00

The Fundamentals of Spine Surgery first aims to investigate the efficacy of several therapeutic modalities in the modern treatment of spinal pathologies. Following this, the authors aim to estimate fusion by 3D CT scan in XLIFs applied in adult lumbar deformities, evaluating the clinical results related to fusion.

The safety and effectiveness of minimally invasive-transformaminal lumbar interbody fusion in the treatment of lumbar degenerative spondylolisthesis is evaluated, highlighting the steps and technical procedures of this operation as well as its short and long-term outcomes.
In the closing study, the authors compare the effectiveness of spino-pelvic parameters in minimally invasive posterior lumbar interbody fusion and traditional posterior open approach in the treatment of a prospective randomized series of high-grade adult isthmic spondylolisthesis.

OTOLARYNGOLOGY / AUDITORY AND SPEECH

Deafness: Current Perspectives and Research Developments
Paul R. Pettit
In series: Otolaryngology Research Advances
Publication Date: 11/04/2020
219 pp.
Hardcover: 978-1-53618-752-6. $160.00
e-book: 978-1-53618-800-4. $160.00
Deafness: Current Perspectives and Research Developments presents the theoretical foundations for miscue analysis, its utilization with diverse and bilingual students, and prior research conducted with deaf and hard-of-hearing individuals. The authors focus on a significant challenge to improving the reading achievement of deaf and hard-of-hearing individuals: finding non-biased assessments and compiling test pools of sufficient size in order to identify meaningful patterns. The viability of vibrotactile stimulation as an alternative to complement and foster linguistic development in the profoundly deaf, particularly those with a prelingual age of onset, is examined.

The challenges, opportunities, and goals of researchers and clinicians working in the field of deafness and autism spectrum disorder are explored, emphasizing the need for training more culturally and linguistically competent deaf and hearing adults to conduct research and intervention with deaf children. In an effort to improve validity, the authors re-design a previous cross-sectional study to measure resilience when deaf/hard of hearing or blind/low vision students entered high school as well as when they exited, usually four years later, and compare the two data points. The first known project conducted within the United States to evaluate the use of assistive technology for healthcare interactions between student pharmacists and simulated deaf/hard of hearing patients is also discussed.

Understanding Auditory Processing Disorders in Children
Dr. Jay R. Lucker (Director of the Five-Year Accelerated Master’s Degree Program in Speech-Language Pathology, Department of Communication Sciences and Disorders, Howard University, Washington, DC, USA)
In series: Audiology and Hearing Research Advances
Publication Date: 12/22/2020
198 pp.
Hardcover: 978-1-53618-168-5. $160.00
e-book: 978-1-53618-924-7. $160.00
The field of auditory processing disorders is filled with many publications which may be confusing to someone trying to learn about this topic. The typical approach to auditory processing taken by authors is either viewing such processes as involving only the auditory system, or not differentiating between auditory processes and other processes such as sensory processing, language understanding, or cognitive/thinking factors.

Understanding Auditory Processing Disorders by Dr. Jay R. Lucker presents a comprehensive, integrated approach identifying how auditory processing involves many systems—not merely the auditory system—and describing how different types of auditory processes involve specific systems. Understanding this multisystem approach to auditory processing helps to identify what is going on with children who have problems processing what they hear when hearing loss is not the primary contributing factor. For educators, this book helps them better understand how auditory processing disorders can affect a child educationally, as well as provides recommendations for accommodations that teachers and other professionals can use to make understanding what is spoken in class lessons, conversations, and verbal interactions with adults and children easier. This book clarifies what is needed for the appropriate evaluation of auditory processing to better understand what systems may be malfunctioning and affecting children’s abilities to appropriately process and understand what they hear.
For speech-language pathologists and occupational therapists who may provide treatment for children with auditory processing disorder problems, this book identifies some specific treatments that have evidence-based research associated with improving different factors that contribute to auditory processing disorders. For audiologists, this book provides a better understanding of how the testing of auditory processing can be more successful in identifying what appropriate accommodations and treatments are needed based on the specific type of auditory processing disorder the child has.

**PAIN MANAGEMENT**

**Childhood and Adolescence: Perspectives of Pain**
Donald E. Greydanus, MD (Department of Pediatric and Adolescent Medicine, Western Michigan University School of Medicine, Kalamazoo, MI, USA) and Joav Merrick, MD, MMedSci, DMSc (Medical Director, Health Services, Division for Intellectual and Developmental Disabilities, Ministry of Social Affairs and Social Services, Jerusalem, Israel; Division of Adolescent Medicine, IK Dr Chaim Sheba Medical Center, Tel Aviv University, Ramat Gan, Israel; National Institute of Child Health and Human Development, Jerusalem, Israel; Division of Pediatrics, Hadassah Hebrew University Medical Centers, Mt Scopus Campus, Jerusalem, Israel; School of Public Health, Georgia State University, Atlanta, Georgia, USA)

In series: Pediatrics, Child and Adolescent Health
Publication Date: 10/01/2020
292 pp.
Hardcover: 978-1-53618-416-7. $195.00
e-book: 978-1-53618-633-8. $195.00
Marijuana (cannabis) remains a controversial drug in the 21st century, even though the plant has been known to human beings for at least 10,000 years with hemp-woven clothing material recorded in ancient China in 8,000 BCE and hemp foods in ancient China in 6000 BCE. It has been used for cancer pain, neuropathic pain and spasticity with multiple sclerosis, and other indications such as chronic pain and also in epilepsy management and current research is evaluating the anti-epileptic role. The potential role of specific cannabinoids for medical benefit will be revealed as the 21st century matures. However, potential dangerous adverse effects from smoking marijuana are well known and should be clearly taught to a public often confused by a media-driven, though false message and promise of benign pot consumption. In this book we will review not only cannabis, but pain and disorders causing pain in children and adolescents.

**Interventional Techniques for the Management of Sacroiliac Joint Pain**
Nomen Azeem, MD (Florida Spine & Pain Specialists, Riverview, FL, USA), Ajay Antony, MD (The Orthopedic Institute, Gainesville, FL, USA), Miguel Attias, MD (Ohmedica PA Joint and Spine Health Specialists, St. Petersburg, FL, USA), Michael Esposito, MD (Florida Pain Institute, Melbourne, FL, USA), Navdeep Jassal, MD (Spine & Pain Institute of Florida, Lakeland FL, USA) and Michael Hanes, MD (Jax Spine and Pain Centers, Jacksonville, FL, USA)

In series: Pain Management - Research and Technology
Publication Date: 11/25/2020
108 pp.
Softcover: 978-1-53618-767-0. $82.00
e-book: 978-1-53618-864-6. $82.00
As the growing prevalence of chronic low back pain continues to burden our healthcare system, identification and treatment of the appropriate source of pain is critical. There may be up to a million patients annually with low back complaints that have sacroiliac joint conditions likely to cause or contribute to the pain. There is an unmet need for a comprehensive clinically focused, fast reference on sacroiliac joint pain treatment. The book is structured into eight chapters that include a robust overview of anatomy, physiology, patient selection, and both conservative and advanced
treatments. As the body of evidence compiles for the utilization of minimally invasive techniques for the treatment of low back pain to in lieu of major back surgery, this book provides options that may benefit patients with low back pain with the use of both established and novel treatments. As the healthcare industry continues to invest in research and development of cutting-edge treatments for pain control, this book discusses in detail the most current treatment options available. Written by high profile, nationally recognized experts in the field of interventional pain management, Interventional Techniques for the Treatment of Sacroiliac Joint Pain is one of the first manuals of its kind to provide a focused and comprehensive approach to the effective treatment of sacroiliac joint pain.

**PEDIATRICS**

Tropical Pediatrics: A Public Health Concern of International Proportions, 3rd Edition

*Richard R. Roach MD (Department of Medicine, Western Michigan University, Homer Stryker MD School of Medicine, Kalamazoo, Michigan, USA), Donald E. Greydanus, MD (Department of Pediatric and Adolescent Medicine, Western Michigan University, Homer Stryker MD School of Medicine, Kalamazoo, Michigan, USA), Dilip R. Patel, MD (Department of Pediatric and Adolescent Medicine, Western Michigan University Homer Stryker MD School of Medicine, Kalamazoo, Michigan, 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: *Pediatrics, Child and Adolescent Health*

Publication Date: 12/14/2020

572 pp.

Hardcover: 978-1-53618-604-8. $310.00

e-book: 978-1-53618-928-5. $310.00

Tropical medicine is a branch of medicine focusing on disorders usually found in subtropical and tropical areas of the world. Tropical pediatrics is a branch of tropical medicine focusing on children and adolescents in these areas. The current process of global warming and the widespread issue of international travel are bringing these conditions to many places of the globe. This third edition of Tropical pediatrics highlights selective concepts of tropical pediatrics that are of importance to clinicians caring for children and adolescents. This book is dedicated to clinicians around the world who care for these precious patients growing up in often remote corners of globe. It should be remembered that sometimes these issues become important to civilized corners of the world as well. Issues of clean water for the world’s population are also considered.

**PHARMACOLOGY**

A Closer Look at Antibiotic Resistance

*Victor Tsunoda*

In series: *Microbiology Research Advances*

Publication Date: 03/04/2021

268 pp.

Hardcover: 978-1-53619-277-3. $195.00

e-book: 978-1-53619-319-0. $195.00

Bacterial infections have become more difficult, and sometimes impossible, to treat due to antibiotic resistance, which occurs when bacteria develop the ability to defeat the available drugs designed to kill them. According to the Centers for Disease Control and Prevention, each year, 2 million Americans become sick with antibiotic-resistant
infections, and of that, about 23,000 die. This book examines the challenges related to antibiotic resistance, the development and use of diagnostic testing to identify antibiotic resistance, the development of treatments for resistant infections, and appropriate antibiotic use.

A Comprehensive Chemical and Pharmacological Review of Cosmetics
Abdul Kader Mohiuddin (Secretary and Treasurer, Dr. M. Nasirullah Memorial Trust, Tejgaon, Bangladesh)
In series: Pharmacology - Research, Safety Testing and Regulation
Publication Date: 10/01/2020
463 pp.
Hardcover: 978-1-53618-571-3, $270.00
e-book: 978-1-53618-647-5, $270.00
The first finding of cosmetics comes from Ancient Egypt, some 6,000 years ago. The worldwide market for cosmetics now stands at more than $500 billion and is anticipated to raise, $750 billion by 2025, growing at the rate of 6%. Growth in global economies, changes in lifestyle, increased competition for skin and sun care products, due to varying weather conditions, are encouraging the growth of the cosmetics market. Rising interest in natural, herbal, and biodynamic skin care products creates new opportunities for manufacturers to innovate and develop new products in line with consumer preferences. Cosmetic hazards and regulations are therefore discussed in detail to give readers a clear idea.

A Comprehensive Guide to Non-Steroidal Anti-Inflammatory Drugs
Suleyman Kaplan, PhD (Full Professor and Head of Department, Department of Histology and Embryology, Faculty of Medicine, Ondokuz Mayas University, Samsun, Turkey)
In series: Pharmacology - Research, Safety Testing and Regulation
Publication Date: 02/10/2021
529 pp.
Hardcover: 978-1-53619-128-8, $310.00
e-book: 978-1-53619-215-5, $310.00
A Comprehensive Guide to Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) begins by describing the general characteristics, classification, pharmacokinetics, pharmacodynamics, clinical uses and adverse effects of NSAIDs. The adverse effects of NSAIDs, drug interactions and their clinical applications in neurological diseases, headaches, and cerebrovascular diseases are discussed. These drugs are also often used in dermatology, especially in the treatment of dermatosis. Extensive information concerning NSAIDs and dermatological diseases is provided. A broad perspective on the role of NSAIDs in infectious diseases is also provided.

The next chapter discusses findings concerning the effects of NSAIDs on bone and tendon healing, together with cellular and molecular factors. The authors suggest that NSAIDs may be a risk factor for tissue healing. Diclofenac sodium (DS), widely used in urology clinics, exhibits dose-dependent side effects on various systems. This chapter suggests that nanoparticle technology can be applied to the oral form of DS in order to reduce its side-effects. The effects of NSAIDs on the reproductive systems of both sexes are also evaluated. Both genders make extensive use of NSAIDs during infertility treatment.

Another chapter focuses on how DS affects spermatogenesis. The authors suggest that DS causes histopathological changes in the testes by disrupting the nutrition of testicular cells and impairing complete testis functions. Men wishing to have children should therefore use this drug with caution. The authors also review the effects of NSAIDs on prostatitis, benign prostatic hyperplasia and prostate cancer.

In the following chapter, the authors examine the role of NSAIDs in gynaecology and obstetrics. Advances in the use of NSAIDs and melatonin in reproductive medicine for both sexes are discussed. The authors describe the biological roles of
NSAIDs and melatonin in human reproduction, diseases, pregnancy, and assisted reproductive treatment. The subsequent chapter highlights the side-effects of NSAIDs on the gastrointestinal system. This book goes on to assess how DS affects the nervous system in the light of molecular and cellular analysis. The authors first explore the dose-dependent effects of DS on the nervous system. They then examine the potential neuroprotective/neurotoxic effects of DS on the nervous system, including the spinal cord, brain, cerebellum and peripheral nerves. The effects of DS on the adult hippocampus are assessed based on experimental studies. The purpose of this section is to highlight the relationship between oxidative stresses and the role of antioxidants in reducing DS toxicity. The importance of melatonin administration against pre- and postnatal DS toxicity in the nervous system is evaluated in several chapters. Recent findings suggest that prenatal exposure to NSAIDs causes an alteration in the morphology of optic nerve fibres based on stereological, histological and electron microscopic analysis. The authors evaluate histomorphometric results from light and electron microscopic analysis of the effects of prenatal DS exposure on male fertility. Numerous studies have shown that all elements of the male system are affected by this exposure. Lastly, the authors specifically focus on Sertoli cells and suggest that prenatal DS exposure produces toxic effects on Sertoli cell morphology.

Handbook of Novel Drug Delivery
Dr. Balram Ambade (Associate Professor & Head of Department, Department of Chemistry, National Institute of Technology, Jamshedpur, Jharkhand, India), Dr. Rajendra Kumar Jangde (Assistant Professor, University Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur (C.G.), India) and Sulekha Khute (University Institute of Pharmacy, Pt. Ravishankar Shukla University, Raipur (C.G.), India)
In series: Pharmacology - Research, Safety Testing and Regulation
Publication Date: 02/15/2021
110 pp.
Softcover: 978-1-53619-075-5, $82.00
e-book: 978-1-53619-091-5, $82.00
This book presents advances in the field of novel drug delivery, focusing on novel molecules with potential to transform the treatment and prevention of wound healing. However, such potential is severely compromised by significant obstacles to the delivery of these drugs in vivo. Sophisticated drug delivery and targeting can offer substantial advantages to conventional drugs, such as increased efficiency, handiness, and the potential for line extensions and market expansion. A simple, accessible, and easy-to-read handbook, Handbook of Novel Drug Delivery is the first book to provide a comprehensive introduction to the principles of advanced drug delivery systems.

Lipid Nanoparticles: Advances in Research and Applications
Sabine Ziegler
In series: Pharmacology - Research, Safety Testing and Regulation
Publication Date: 10/09/2020
112 pp.
Softcover: 978-1-53618-653-6, $82.00
e-book: 978-1-53618-658-1, $82.00
Lipid Nanoparticles: Advances in Research and Applications provides a review of the main types of lipid-based drug nanoparticles such as nanoemulsions, self-emulsifying drug release systems, liposomes, lipid nanocapsules, solid lipid nanoparticles, and nanostructured lipid carriers. The authors describe the advantages of using solid lipid nanoparticles in the treatment of infectious diseases that affect various organs located in areas of the body which are difficult to treat with common pharmaceutical formulations. Recent findings regarding solid lipid nanoparticles and their implications in breast cancer are summarized. Additionally, the therapeutic efficacy of solid lipid nanoparticle for overcoming multi-drug-resistance in breast cancer is highlighted.
Emotionality, Intimacy and Trauma of Intellectually Disabled Clients with Self Harm, Aggression, Disturbing Behaviors and/or Emotional Fluctuation (SADE): Humanistic Interpretation and Intervention
Kam-shing Yip (Professor, Department of Applied Social Studies, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong)

In series: Psychiatry - Theory, Applications and Treatments
Publication Date: 11/16/2020
217 pp.
Hardcover: 978-1-53615-280-7. $160.00
e-book: 978-1-53615-281-4. $160.00

Intellectual disabilities have long been a concern for both practitioners and academics alike. With the introduction and advocacy of concepts to the public in recent decades, and the normalization and valorization of intellectual disabilities, humanistic concern has become the dominant trend in providing interventions and services for people with these issues.

Today, various ideas for societal inclusion of those with intellectual disabilities have been introduced. However, many practitioners and academics have criticized these ideas as idealistic, and in many ways, inapplicable for actual social inclusion of people with intellectual disabilities.

The situation is particularly serious regarding those intellectually disabled individuals presenting various forms of self-harm, aggression, disturbing behaviors, and emotional fluctuation (SADE: S = Self harm, A = Aggression, D = Disturbing behaviors, E = Emotional fluctuation). In many instances, social exclusion, labelling, punishments, deprivation of rights, physical restraints, as well as psychiatric medications are commonly used in controlling intellectual disabled clients with SADE.

A thorough understanding of intellectually disabled clients has revealed that their self-harm, aggression, disturbing behaviors, and emotional fluctuations (SADE) are closely related to their unfulfilled needs, developmental traumas, abuse, neglect, and abandonment in their lives. These individuals have problems in expressing their views and emotions, as well as having severe attachment needs.

Based on the writers’ substantial experience, clinical practice, and supervision in working with intellectual disabled clients with SADE, this book is the first to formulate and consolidate the communication, emotionality, intimacy, and trauma based interpretation and intervention for intellectually disabled clients with SADE. This book provides methods for effective, humanistic, normalized, and integrated recovery of these individuals.

Trauma-Informed Care: Addressing Cultural Sensitivity of the Women Veterans with Post-traumatic Stress Disorder Related to Military Sexual Trauma in the Veterans Administration and Civilian Health Care Systems
Shemya Vaughn, PhD (Department of Counselor Education and Rehabilitation, Fresno State University, Fresno, CA, USA; The Sexuality & Disability Institute, Licensed Professional Counselor, Eureka, CA, USA), Barbara McEntee (Prineville, OR, USA) and Leslene della-Madre (Sebastopol, CA, USA)

In series: Military and Veteran Issues
Publication Date: 03/09/2021
382 pp.
Hardcover: 978-1-53619-210-0. $230.00
e-book: 978-1-53619-299-5. $230.00

Trauma-informed care: Addressing cultural sensitivity of the women veterans with posttraumatic stress disorder related to military sexual trauma in the Veterans Administration and civilian health care systems is a book born from the mind of a woman veteran. Providing a space for women to write about and for women veterans who receive services for military sexual trauma and posttraumatic stress disorder. This book is a call to action to Veterans Affairs, the Veterans Health Administration and the civilian health care system to provide trauma-informed care where our US women veterans sometimes go for treatment. Above all, Trauma-informed care: Addressing cultural sensitivity of the women veterans with posttraumatic stress disorder related to military sexual trauma in the Veterans Administration and civilian health care systems gives voice to the millions of women veterans who feel they have no voice when interacting with healthcare systems.
Addiction and Substance Abuse

Drug Addiction, Trauma and Mental Illness: Interpretation and Intervention
Kam-shing Yip (Department of Applied Social Sciences, Hong Kong Polytechnic University, , Hung Hom, Kowloon, Hong Kong, China)
In series: Mental Illnesses and Treatments
Publication Date: 12/14/2020
199 pp.
Hardcover: 978-1-53614-020-0. $210.00
Research and clinical experiences show that people engaging in drug addiction for some years usually embrace severe mental illnesses including schizophrenia, borderline personality disorder, depression and post-traumatic stress disorder. Schizophrenia usually occurs in patients with prolonged use of amphetamine and hallucinogens. Borderline personality disorder commonly happens in female addicts who have experienced abandonment and childhood abuse. On the one hand, drug addiction can be used to cope with symptoms of severe mental illness. On the other hand, prolonged drug addiction can also induce severe mental illness. A close look into individuals with chronic drug addiction usually review that they encounter suffering, hardship and traumas. There are two types of traumas encountered by people with drug addiction. The first one is trauma before drug addiction and substance abuse. Many of them may have suffered through abuse, oppression and abandonment in their lives. Another one is drug led traumas because of psychosocial deprivation and medical problems induced by chronic addiction. In this book, apart from describing a comprehensive model in understanding and interpreting the complexity of trauma, mental illness and drug addiction, this model is applied and illustrated in clients with borderline personality disorder and schizophrenia, drug addiction and those who have experience different forms of trauma. Related psychosocial interventions are also thoroughly discussed.

The Knotted Cord: An Update on Transgenerational Alcohol
Kieran D. O’Malley (Child and Adolescent Psychiatrist, Slievemore Clinic, Stillorgan, Co. Dublin, Ireland)
In series: Alcohol and Drug Abuse
Publication Date: 12/22/2020
349 pp.
Hardcover: 978-1-53617-859-3. $230.00
This book a follow up to the original The Knotted Cord published by Nova Science in 2014. It is written as a conversation between myself in 2014 and then in 2019. The conversation is structured around the chapters of the initial book. Thus Ireland’s toxic romance with alcohol, the stigma of transgenerational alcohol and the ethical dilemma of diagnosing and managing Neurodevelopmental Disorder prenatal alcohol exposure offer the beginning thrust to the book showing what has changed in the intervening five years and what has not changed. Overall the book is a critical and academic update on the complexities of understanding transgenerational alcohol and its impacts on societies worldwide. Management has clearly been placed in a Systems of Care paradigm, which is consistent with the 2014 book. However the intervening five years have produced a new clinical instrument, the Early Childhood Service Intensity Instrument (ECSI).

The challenge of approaching transgenerational alcohol and its exposure offer the beginning thrust to the book showing what has changed in the intervening five years and what has not changed. The clinical emphasis on mothers and children under five years of age has become the entry into decreasing the impact of transgenerational alcohol. At the moment, the teratogenic effect of alcohol on the developing fetus remains frozen in being only related to a dysmorphic face. This is far from the truth as this prenatal acquired brain injury causes a mainly hidden, non-IQ, non-Face driven Global neurodevelopmental disorder, now more correctly diagnosed as Neurodevelopmental Disorder prenatal alcohol exposure, NDPAE, DSM 5 Code 315. Lastly, the challenge of approaching transgenerational alcohol and its impacts is a challenge to traditional medical practices of child and adult care. This disconnected model of care does not fit as medical, nursing, addiction and social workers need to move out of their silos and communicate with health professionals across the age range and accept this ‘orphan’ condition.
**Child and Adolescent Psychiatry**

**Child and Adolescent Psychodynamic Psychotherapy**

Stylianos Christogiorgos, MD, PhD (Associate Professor of Child Psychiatry, School of Medicine, National and Kapodistrian University of Athens, Athens, Greece; Hellenic Association of Child and Adolescent Psychoanalytic Psychotherapy, Athens, Greece) and Georgios Giannakopoulos, MD, PhD (Assistant Professor of Child Psychiatry, School of Medicine, National and Kapodistrian University of Athens, Athens, Greece)

In series: Psychiatry - Theory, Applications and Treatments
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362 pp.
Hardcover: 978-1-53619-261-2. $230.00
e-book: 978-1-53619-313-8. $230.00

This edition is an attempt to present the reader with a lucid and concise, yet comprehensible text that outlines the key components that are required for practicing psychodynamic psychotherapy of children and adolescents. There is a brief exposition of the oeuvre of the three main successors of Sigmund Freud’s prodigious work, and their significant contribution to the formation of both the theory and technique of child and adolescent psychodynamic psychotherapy. In addition, there is a description of the key parameters of psychodynamic approach for the therapy of the most-often attested conditions in childhood and adolescence. Special reference is made to particular issues that have a bearing on practicing child and adolescent psychodynamic psychotherapy in the present day. Throughout this book and where it was deemed necessary, the inclusion of informative (yet appropriately disguised) clinical material, originating from the authors’ broad clinical experience, significantly enriches its content. The book’s chapters are written with clarity, whilst its topics are informed by state-of-the-art theorization and supported by selected both recent and seminal references. The content of this book will be invaluable to the readers who need a careful description of the fundamentals of contemporary psychodynamic approaches to the comprehension and therapeutic treatment of children and adolescents’ psychopathology, including the specificities, challenges and questions raised accordingly. Notwithstanding any omissions, it is its authors’ belief that the book in question deserves a place in the library of anyone with a genuine interest in child and adolescent psychodynamic psychotherapy.

**PUBLIC HEALTH**

**Coronavirus Disease: From Molecular to Clinical Perspectives**

Yildiz Dincer, PhD (Istanbul University - Cerrahpasa, Cerrahpasa Medical Faculty, Department of Medical Biochemistry, Istanbul, Turkey)

In series: Public Health in the 21st Century
Publication Date: 03/09/2021
310 pp.
Hardcover: 978-1-53619-296-4. $230.00
e-book: 978-1-53619-311-4. $230.00

The world is experiencing an unprecedented challenge due to coronavirus disease (COVID-19) pandemic. In December 2019, a novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Hubei province of China. It rapidly spread, resulting in an outbreak of COVID-19. Although the majority of the infected individuals exhibit mild to moderate respiratory illness and recover without requiring special treatment, older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer may rapidly progress to acute respiratory distress syndrome, septic shock, coagulation disorders, multi-organ failure, and death. The course of COVID-19 is usually mild in children. However, in rare cases, children can be severely affected, and clinical manifestations may differ from adults. Some children present the multisystem inflammatory syndrome that is similar to incomplete Kawasaki disease or toxic shock syndrome. There is no specific treatment and vaccine for COVID-19. Due to the high infectivity rate of COVID-19, the unexpected and rapid influx of large numbers of patients, especially patients who need intensive care, have caused great pressure on the health care systems worldwide. The worldwide spread of COVID-19 caused fear, anxiety, depression, panic attacks, and a general decrease in overall wellbeing in the population. Healthcare professionals who occupy the front line during pandemics are
Medicine and Health

at increased risk concerning their physical and mental health. The outbreak of COVID-19 negatively affected all aspects of life including education, trade, and tourism. Our knowledge of this novel virus is limited. However, many ongoing clinical trials are evaluating potential treatments and vaccines. A better understanding of the pathogenesis of COVID-19 will provide important insight into its management and reduce the mortality rate. Based on the latest global scientific data and clinical experiences of the authors, this book gives the readers an overview of COVID-19 pathogenesis and transmission routes, current diagnostic and treatment strategies, the clinical course of the disease in children and elderly patients, the genetic background of differences in the incidence of new SARS-CoV-2 infection, the impact of the COVID-19 pandemic on patients with chronic diseases such as diabetes, cancer, cardiovascular diseases, chronic respiratory diseases, antioxidant therapy to limit tissue damage, molecular approaches in COVID-19 treatment, and vaccine studies.

COVID-19: From Health, Education, Economic, to Science and Technology in South East Asia and India

Asep Bayu Dani Nandiyanto (Universitas Pendidikan Indonesia, Bandung, Indonesia), Tryastuti Irawati Belliny Manullang (Universitas Pendidikan Indonesia, Bandung, Indonesia), Rina Maryanti (Universitas Pendidikan Indonesia, Bandung, Indonesia), Amir Machmud (Universitas Pendidikan Indonesia, Bandung, Indonesia), A. Ana (Universitas Pendidikan Indonesia, Bandung, Indonesia) and Asnul Dahar bin Minghat (Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia; University College of Islam Melaka, Malaysia)

In series: Public Health in the 21st Century
Publication Date: 12/22/2020

399 pp.
Hardcover: 978-1-53618-903-2. $230.00
e-book: 978-1-53618-992-6. $230.00

A major crisis is happening in the world today. It all started in December 2019, when an outbreak of coronavirus disease 2019 (COVID-19) caused by novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) began in Wuhan City, Hubei Province, China. The World Health Organization (WHO) declared the outbreak a public health emergency of international concern. Despite all preventive steps taken by government and health agencies, rising death tolls seem inevitable. The confines of social distancing have driven society toward a sudden and rapid change in all aspects of life, and we are forced to embrace this change as the new “normal”. Research conducted in these uncertain times allows us to identify, and analyze the challenges to finding effective strategies and solutions. This book provides current theoretical perspectives, studies, practices, and innovations that will contribute to society during the COVID-19 pandemic, especially in Southeast Asia and India. The current work can be used as a reliable reference, as rapid circulation of credible information, transparent case identification, data sharing, unhindered communication, and peer-reviewed research are most needed during this period of uncertainty.

E-Cigarettes: Perspectives, Regulation and Health Effects

René Ebersbach

In series: Smoking and Tobacco Use
Publication Date: 09/18/2020
152 pp.
Softcover: 978-1-53618-375-7. $82.00
e-book: 978-1-53618-428-0. $82.00

E-Cigarettes: Perspectives, Regulation and Health Effects reviews the current literature relevant to college students and e-cigarette use, with emphasis on the perceived risks and benefits of use, and discusses how this information may be applied to future interventions in this population.

E-cigarettes are battery-operated devices, vape pens, e-hookah, e-cigars, e-pipes, or other electronic nicotine delivery systems. They are designed to heat a liquid solution that emulates smoking using a smoke-free technique. Ongoing studies of nicotine salts and by-products such as N-nitrosonornicotine and nicotyrine and their physiological effects are also reviewed.

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Epidemics: Detecting, Predicting and Preventing
Edward Paige
In series: Public Health in the 21st Century
Publication Date: 12/11/2020
148 pp.
Softcover: 978-1-53618-976-6, $82.00
e-book: 978-1-53619-025-0, $82.00
This compilation first describes several methods for glycoengineering the COVID-19 virus to present multiple a-gal epitopes for the amplification of a-gal vaccine efficacy against SARS-CoV-2 infections. Following this, the authors discuss myopia, the most common ocular disorder worldwide. It is the leading cause of visual impairment in children, and its prevalence is increasing rapidly.
In closing, the authors analyze the importance of the detection and prevention of wheat stripe rust epidemics in Argentina within the context of an integrated management of the disease.

More Prescription for Change: Case Studies for Applications of Strategy and Strategic Intervention in National and International Health Systems in Response to a COVID Pandemic
Laure Paquette, PhD (Professor Emerita of Political Science at Lakehead University, Thunder Bay, Ontario, Canada)
In series: Public Health in the 21st Century
Publication Date: 02/10/2021
194 pp.
Hardcover: 978-1-53619-097-7, $160.00
e-book: 978-1-53619-163-9, $160.00
This book illustrates the use of strategy by national and international groups using fictional case studies. The cases are fictional in the sense that the information provided was not collected using the methodology used for previous case studies about states or groups of states. Instead, the author combined characteristics and information as she saw necessary in order to make the example clear to the reader. The case studies include: an infra-national group strategizing to cope with a phenomenon, an individual, another infra-national group, a supranational group, a government or state, and a group of government or states. It also includes the study of a phenomenon, here COVID-19. The present book also differs from previous case studies to the extent that the various components of the strategy are not clearly identified. This will allow the self-taught strategist to use them to test their own skills at strategic analysis.

Handbook of Pulmonary Rehabilitation
Paraschiva A. Postolache, M.D., Ph.D. (Associate Professor, “Grigore T. Popa” University of Medicine and Pharmacy, Faculty of Medicine, Medical Specialties Department and Head of the Respiratory Rehabilitation Clinic, Rehabilitation Clinical Hospital, Iasi, Romania) and Darcy D. Marciniuk, MD (Associate Vice-President Research University of Saskatchewan, Professor of Medicine, Division of Respirology, Critical Care, and Sleep Medicine, Royal University Hospital, Saskatoon, SK, Canada)
In series: Pulmonary and Respiratory Diseases and Disorders
Publication Date: 12/10/2020
409 pp.
Hardcover: 978-1-53618-812-7, $230.00
e-book: 978-1-53618-905-6, $230.00
In the last three decades, Pulmonary Rehabilitation (PR) has become a cornerstone in the comprehensive management of Chronic Obstructive Pulmonary Disease (COPD) and other chronic respiratory diseases in adults and children, supported by solid physiological bases and wide scientific evidence, with randomized controlled trials, meta-analysis and several
guidelines. PR programs are customized to the needs of each patient and carried out by a multidisciplinary team of healthcare specialists (medical specialists in medical rehabilitation and pulmonology, functional explorations, geriatric physicians, nurses, physiotherapists, nutritionists, psychologists, respiratory therapists, occupational therapists, bioengineers, pharmacologists, in collaboration with a family doctor and pharmacists). As a comprehensive intervention, PR involves good collaboration and communication between team members, thus ensuring maximum comfort and benefit to the patient. PR programs improve the quality of life of patients by increasing their degree of independence and reducing the number of exacerbations, the days of hospitalization due to them, and costs. PR has the ability to reduce symptomatic burden, in particular dyspnea, and muscle deconditioning. In turn, it can increase exercise capacity, reduce anxiety and depression, and improve patients' psycho-emotional status and social reintegration. PR is the standard of care for patients with chronic lung diseases motivated to participate in the rehabilitation program to become more physically active and more independent, being an integral part of clinical management and maintaining health.

**Practical Guide for Pulmonary Rehabilitation: The Essential Source for Pulmonary Rehabilitation Programs**

Liana Pradan, MD (Department of Respiratory Medicine, Lister Hospital, Stevenage, UK), Florin Mihaltan, MD, PhD (Department of Pneumology, “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania) and Vishal Bansal, MD, PhD (Department of Physiology, Vallabhbhai Patel Chest Institute, University of Delhi, Delhi, India)

In series: *Pulmonary and Respiratory Diseases and Disorders*

Publication Date: 01/27/2021

386 pp.

Hardcover: 978-1-53619-045-8. $230.00
e-book: 978-1-53619-125-7. $230.00

This book provides up-to-date knowledge on almost all aspects of the multidisciplinary approach to pulmonary rehabilitation. The book advises on how to open a pulmonary rehabilitation program, how to evaluate the chronic lung patients for their fitness level, to prescribe exercises, how to tackle aspects like end-of-life care and provides information about telemedicine rehabilitation in the COVID-19 era. The book also covers subjects of interest like the history and future of pulmonary rehabilitation, smoking cessation, physiology of the skeletal muscle, airways clearing, medication, oxygenotherapy and special consideration for elderly patients with comorbidities.

There are evidence-based explanations regarding all these aspects that will benefit respirologists who have an interest in pulmonary rehabilitation, physiotherapists, occupational therapists, doctors in training, respiratory nurses, and family medicine physicians.

Furthermore, the contributors are professionals with experience in pulmonary rehabilitation in major rehabilitation centers around the world who are known for their research, teaching and publishing on the international arena.

**SPECIAL TOPICS**

**Advances in Health and Disease. Volume 25**

Lowell T. Duncan

In series: *Advances in Health and Disease*

Publication Date: 09/11/2020

247 pp.

Hardcover: 978-1-53618-444-0. $250.00
e-book: 978-1-53618-484-6. $250.00

Advances in Health and Disease. Volume 25 first offers nurses, emergency-care doctors, psychiatrists, and other personnel involved in the multidisciplinary assessment, management and treatment of intoxicated patients in the emergency department setting an overview of the literature on psychomotor agitation associated with alcohol or drug abuse.

Next, this compilation explores the commonly neglected aspects of oral health in school children, such as dental caries, pain, dental trauma, developmental anomalies and malocclusion.

The authors discuss hemolysis in blood samples, a problem that is commonly found in laboratories. This has a potential impact on the quality of blood tests, completion time or turn around time, and creates discomfort for patients due to repeated sampling.
The available research on the effect of yoga in managing the “ominous octet” of type 2 diabetes is summarized in an effort to ensure the evidence-based practice of therapeutic yoga in a clinical setting. The effects of age and gender on cystatin C levels are investigated, challenging the glomerular filtration rate equations for healthy cases. The closing study explores how deficiencies such as zinc, folic acid and vitamin B12, as well as an immune deficiency syndromes, may cause a sprue-like enteropathy.

**Advances in Health and Disease. Volume 26**

Lowell T. Duncan

In series: Advances in Health and Disease

Publication Date: 10/16/2020

267 pp.

Hardcover: 978-1-53618-605-5, $250.00
e-book: 978-1-53618-801-1, $250.00

Advances in Health and Disease. Volume 26 opens with a deep insight into the effects of probiotics on humans, animals and plants, the proposed mechanism of action and their applications. Following this, the authors focus on the pathophysiology of iron metabolism and hepcidin, their regulation with ferroportin, matripatase-2, as well as the factors involved in causing iron-refractory iron deficiency anemia. A review is provided on interleukin 6, a small glycoprotein and pleiotropic cytokine produced during chronic inflammation by monocytes, fibroblasts, endothelial cells, lymphocytes, keratinocytes, astrocytes and several malignant cells. The authors examine the protection of people and the environment from radiation in the event of nuclear accidents, maintaining that in disasters with widespread contamination, the protection system must rely on experts’ ethical values.

To achieve global commitments on the prevention of mother-to-child transmission of HIV, the concluding study necessitates enhancing different intervention measures, including strengthening laboratory facilities in different health institutes for early detection.

**Advances in Health and Disease. Volume 27**

Lowell T. Duncan

In series: Advances in Health and Disease

Publication Date: 10/09/2020

257 pp.

Hardcover: 978-1-53618-684-0, $250.00
e-book: 978-1-53618-897-0, $250.00

Advances in Health and Disease. Volume 27 first discusses how the nanotechnology field has received considerable attention in medical sciences because of the unique characteristic features of nanoscale materials. The authors go on to discuss biofilm, a structured community of bacterial cells enclosed in a self-produced polymeric matrix adherent to an inert or living surface. Work-related musculoskeletal disorders are discussed, as they are an important occupational health problem in industrialized countries and industrially developing countries. More specifically, the high prevalence of work-related musculoskeletal complaints in dentists is discussed, as the past two decades have witnessed a sharp rise in the incidence. The authors briefly review the research on how healthy aging is being studied by researchers, providing a community-based participatory research framework for defining healthy aging from their own work utilizing concept mapping methodology. The closing study focuses on obstructive sleep apnea syndrome, a sleep breathing disorder in which the airway is blocked by intermittent relaxation of the throat muscles.
Advances in Health and Disease. Volume 28
Lowell T. Duncan
In series: Advances in Health and Disease
Publication Date: 10/28/2020
272 pp.
Hardcover: 978-1-53618-737-3, $250.00
e-book: 978-1-53618-766-3, $250.00
Advances in Health and Disease. Volume 28 opens with a focus on meningoencephalitis, a broad term encompassing inflammation of the brain as well as the overlying meninges, and the authors review its different causes, diagnostic methods and treatment.
A general overview of the COVID-19 virus among the human population is provided, after which the underlying clinical manifestations and effects on those living with HIV are addressed.
An overview is also provided on Cushing’s syndrome, a rare disorder caused by pathologic cortisol overproduction with a wide spectrum of clinical signs and symptoms such as weight gain, irregular periods, depression, and anxiety.
The authors describe propofol use and administration during drug-induced sleep endoscopy, a technique that plays an important role in detecting dynamic anatomical variations in obstructive sleep apnea patients.
Following this, musculoskeletal changes due to prolonged usage of screen touch devices are defined, described, and classified, along with validated diagnostic assessment tools.
The results of genetic association studies of multifactorial oral and dental conditions such as dental caries, periodontal diseases, developmental enamel defects, and apical periodontitis are discussed.
The procedure for performing a safe and reproducible standard cholecystectomy is carefully defined, considering all tips and tricks.
The closing study focuses on miscarriage, the most frequent obstetric complication affecting about 15% of all pregnancies.

Advances in Health and Disease. Volume 29
Lowell T. Duncan
In series: Advances in Health and Disease
Publication Date: 11/20/2020
266 pp.
Hardcover: 978-1-53618-777-9, $250.00
e-book: 978-1-53618-867-7, $250.00
Advances in Health and Disease. Volume 29 begins with a focus on Aeromonas species, Gram-negative rods belonging to the family Aeromonadaceae.
Next, the authors discuss the implications of gut microbiota in children with autism spectrum disorders, assessing the hypothesis that there is a relationship between emotional state and gut microbe abundance through the microbiota–gut–brain axis.
The many ways mitochondrial functions are compromised in the diseased state of the kidney are explored, targeting mitochondrial quality control as a promising therapeutic option for treating kidney dysfunctions.
Continuing, this compilation aims to set a new path for vaping through electronic cigarette or vaping associated lung injury analysis in terms of use, regulation and research.
One study attempts to explore parents’ perceptions of cerebral palsy, particularly the implications of cerebral palsy on the family in Italy.
Following this, the authors report on the role of the registered nurse advanced practitioner and registered nurses in the initiation, development and structuring of a child/family-centered pediatric neurosurgery healthcare system.
The concluding review focuses on tumor lysis syndrome, a high mortality complication accompanied by metabolic disorders seen after massive cell destruction as a result of spontaneous or cytotoxic treatment.
Advances in Health and Disease. Volume 30
Lowell T. Duncan
In series: Advances in Health and Disease
Publication Date: 11/20/2020
272 pp.
Hardcover: 978-1-53618-856-1, $250.00
e-book: 978-1-53618-914-8, $250.00
This compilation discusses Aspergillus species, important infectious agents in transplant recipients with high morbidity and mortality rates. Aspergillus fumigatus is the most frequently isolated species and inhalation of the spores is the most common transmission path. The authors explore the effects of different vitamin B therapies (with a special focus on the complex of vitamins B1, B2, B3, B5, B6, and B12) on peripheral nerve regeneration after injury and immediate surgical repair. Following this, the experimental models of nerve injury are described, including pre-existing injury, early-onset nerve injury and neurological symptoms, and the increasing risk for neurological diseases.

One study focuses on celiac disease, an autoimmune disorder of the gastrointestinal tract triggered by exposure to dietary gluten in genetically susceptible individuals with human leukocyte antigen DQ2/DQ8 molecules on antigen presenting cells. Non-invasive wireless body sensor networks that image the human brain during mobile activities are studied in the context of the treatment of neurological disabilities and brain-controlled prosthetic limbs. The current literature on the potential effects of nutrition for modifying gut microbiota and incidents of both early and late onset non-communicable diseases is discussed in closing.

Advances in Health and Disease. Volume 31
Lowell T. Duncan
In series: Advances in Health and Disease
Publication Date: 01/13/2021
261 pp.
Hardcover: 978-1-53619-009-0, $250.00
e-book: 978-1-53619-094-6, $250.00
This compilation reviews the current knowledge on tick-borne diseases in Southeast Asia and identifies the gaps in information that will direct future investigations. Following this, the effects of moderate hypothermia for different durations on the intensity of blood free radical processes and erythrocyte osmotic fragility are studied in rats. The authors summarize the different molecular methods for the detection and genotyping of Noroviruses and Sapoviruses, two genera in the Caliciviridae family that cause acute intestinal gastroenteritis, a disease usually associated with diarrhoea and/or vomiting. Information about infant and parental factors with respect to paternal involvement in infant sleep is provided, particularly focusing on parental psychosocial functioning, the sleep behaviors of parents and the quality of relationship with their infant at bedtime. Information related to the health benefits of physical activity during pregnancy and lactation is also provided, as evidence is currently inconsistent. The closing study focuses on scleroderma renal crisis, a complication of systemic sclerosis with high morbidity and mortality characterized by a sudden and marked increase in systemic blood pressure and rapidly progressive oliguric renal failure.

Advances in Health and Disease. Volume 32
Lowell T. Duncan
In series: Advances in Health and Disease
Publication Date: 02/24/2021
206 pp.
Hardcover: 978-1-53619-212-4, $250.00
e-book: 978-1-53619-285-8, $250.00
This compilation begins by exploring some socio-anthropological aspects of hypertension, namely the disparity between medical and patients’ understanding of the disease and how this difference affects medical management, self-care and prevention of disease, the process of coping with suffering and other factors. Chapter 2 reviews the current status of various techniques applied in nano-encapsulation of vitamin E in the food, pharmaceutical and cosmetic industries and the versatile advantages nano-
encapsulation of vitamin E provides for site-specific targeted delivery and effective absorption along cells. Chapter 3 discusses the medical imperative of ensuring pain relief for children facing the end of life, provides information about palliative pain management and summarizes the current literature on the subject. Following chapters present data on the impact of education and reading habits on linguistic processing abilities and other cognitive constructs relating to healthy aging, discussions of ethical dilemmas associated with pediatric palliative care including parents’ decision making and medical futility, and a review of the recommended treatment for multidrug resistant tuberculosis (MDR-TB) with strategies to prevent transmission and treatment failure. Also, the compilation includes a chapter exploring the oral and dental manifestations of Paget’s disease, a bone remodeling disease in which increased bone resorption occurs followed by excessive deposition of structurally inorganized and weaker bone, and a quantitative analysis of the mortality rates due to Parkinson’s disease in the USA from 1976 to 2017.

**Advances in Medicine and Biology. Volume 167**

*Leon V. Berhardt*

*In series: Advances in Medicine and Biology*

*Publication Date: 09/18/2020*

*262 pp.*

*Hardcover: 978-1-53618-410-5, $250.00*

*e-book: 978-1-53618-439-6, $250.00*

This compilation opens with a review of the current knowledge regarding the impact of endocrine disruptors on human health, as well as the mechanisms contributing to it. The authors emphasize the evidence of aquaporin modulation by hypoxia and erythropoietin, as these water channels are increasingly valued as potential biomarkers of disease, as well as pharmacological targets for the treatment of brain and renal injuries, cardiovascular disorders and cancer. Later, the safety and tolerability of adalimumab demonstrated in pivotal phase III clinical trials is examined, along with long-term follow up data from open-label extensions and the ESPRIT registry. Adalimumab for the treatment of ankylosing spondylitis and peripheral spondyloarthritis is also discussed.

The authors go on to study the types, causes, effect and problems related to polycystic ovary syndrome. The closing study deals with the relationship between reactive oxygen species and male fertility, providing some futuristic approaches for better research in the field.

**Advances in Medicine and Biology. Volume 168**

*Leon V. Berhardt*

*In series: Advances in Medicine and Biology*

*Publication Date: 10/01/2020*

*252 pp.*

*Hardcover: 978-1-53618-454-9, $250.00*

*e-book: 978-1-53618-600-0, $250.00*

The role of CYP2D6 in the pharmacokinetic and/or pharmacodynamic differences in opiates and opioid consumers is discussed, as well as the associated genetic implications and consequences in the scope of clinical and forensic toxicology. Studies conducted on postmortem pharmacogenetic cases are investigated, and the benefits of CYP2D6 profiling during forensic investigations are discussed. The authors discuss recent advances in the split crest technique, underlining the importance of soft tissue management, especially at the level of the upper jaw where bone augmentation may be sufficient to install dental implants, but soft tissue grafting is necessary to achieve adequate aesthetic results.

Hyaluronan or hyaluronic acid, an extracellular polysaccharide usually found associated with the cell surfaces, is explored.

The subsequent article deals with the various stages, pathology, etiology and recent treatments associated with rheumatoid arthritis.

Additionally, a comparative survey of current cardiovascular imaging practices/methodologies is provided, including magnetic resonance imaging (MRI), positron emission tomography (PET), computed tomography (CT), and ultrasonography.

The closing study highlights the fundamentals of pharmaceutical gels, their morphological and rheological properties, formulation considerations, and analytical and stability aspects.
Advances in Medicine and Biology. Volume 169
Leon V. Berhardt
In series: Advances in Medicine and Biology
Publication Date: 10/9/2020
240 pp.
Hardcover: 978-1-53618-607-9, $250.00
e-book: 978-1-53618-669-7, $250.00
Advances in Medicine and Biology. Volume 169 begins with a focus on psoriasis, a chronic inflammatory skin disease that displays autoimmune traits with strong genetic predispositions. Often, psoriasis is associated with significant physical or psychosocial burden, poor quality of life and significant long-lasting impairments. Following this, the authors discuss matrix metalloproteinases, multi-domain proteins with activities regulated by tissue inhibitors of metalloproteinases. Cryptorchidism, a congenital pathological condition characterized by the failure of testes to descend to the scrotum, is also discussed. Exposure to environmental toxicants, pesticides, pharmaceuticals and drugs of abuse can lead to altered reproductive parameters like histopathology of reproductive organs, sperm morphology, altered hormone level, oxidative stress and inflammation. As such, the subsequent study deals with different toxicants and their routes of exposure. The role that endometriosis, polycystic ovary syndrome, endometrial polyps and uterine fibroids may play in female infertility is examined. The authors present three cases of twin pregnancy with complete hydatidiform mole and a coexisting normal fetus. The course of pregnancy, ultrasound findings, and histological and immunohistochemical characteristics are described along with the p57 status. In the closing study, the mode of action, indications, contraindications, side effects, drug-drug interactions and pharmacokinetic parameters of secnidazole are discussed in detail.

Advances in Medicine and Biology. Volume 170
Leon V. Berhardt
In series: Advances in Medicine and Biology
Publication Date: 11/04/2020
274 pp.
Hardcover: 978-1-53618-712-0, $250.00
e-book: 978-1-53618-748-9, $250.00
Advances in Medicine and Biology. Volume 170 begins by presenting the latest evidence that Alzheimer’s disease-related proteins and their genes play a role in post-ischemic brain damage, and that an ischemic episode is an essential and leading provider of Alzheimer’s disease development. The authors go on to review the pathophysiology, symptoms, epidemiology, analysis, and treatment of Alzheimer’s disease. Important issues when appraising and interpreting studies on fertility awareness methods used for avoiding pregnancy are described, and correct clinical applications of fertility awareness methods for contraception are also discussed. The basic molecular pathology of human cancers is discussed, as well as rising technologies for tumour characterization and the role of molecular profiling in identifying potential targets for individualised treatment. Additionally, an overview of the various modalities for assessing the liver functional reserve in patients undergoing hepatic resection is provided. Lastly, data on the linearization of somatic growth plots in humans and rats is discussed, showing the existence of at least two ontogenetic transitions: juvenile and pubertal.

Advances in Medicine and Biology. Volume 171
Leon V. Berhardt
In series: Advances in Medicine and Biology
Publication Date: 11/04/2020
261 pp.
Hardcover: 978-1-53618-736-6, $250.00
e-book: 978-1-53618-850-9, $250.00
This compilation begins by examining the use of propofol for end of life sedation. As the use of this medication in end-of-life care is uncommon, providers may lack practical experience and resources that are specific to this specialized application.
Following this, the authors describe the role of sperm DNA integrity in miscarriage, including a review of the available DNA fragmentation assays and treatment options for high levels of DNA fragmentation. Mental health literacy is reviewed, particularly focusing on possible reasons for the current illiteracy and aiming to determine how literacy be achieved in the mental health field. The evidence demonstrating that seasonal influenza infection is an additional risk factor for acute vascular events, including both acute myocardial infarction and ischemic stroke, is explored. Some challenging cases of total hip arthroplasty are reviewed in light of recent literature, including: multiple failed hip arthroplasties in a young noncompliant patient, dysplastic hips with insufficient bone stock, acetabular wall defect in an elderly patient, unavoidable intra-operative complications and septic hip complication in childhood.

The transversus abdominis plane block, a block in which a local anaesthetic drug is deposited in the plane between two abdominal wall muscles, is surveyed as a promising modality for analgesia. The authors discuss molecular epidemiology in the field of infectious diseases, which points to the detection of genetic polymorphisms based on measures of genetic heterogeneity among strains of microorganisms of clinical importance. In the closing review, a comprehensive look at the current state of knowledge with regard to molecular networks of polymorphisms based on measures of genetic heterogeneity among strains of microorganisms of clinical importance.

The influence of ancestry in pharmacogenomics is discussed from the past to the present, focusing working with NASA on the aforementioned space biology research projects. This compilation includes information regarding the logistics and personal experiences of two separate National Aeronautics and Space Administration (NASA) space missions, Rodent Research-IV and Cell Science-02, as well as for preliminary experiment verification tests and launch simulation testing. Additionally, the authors delve into an International Space Station National Lab Principal investigator’s experiences while working with NASA on the aforementioned space biology research projects.

The influence of ancestry in pharmacogenomics is discussed from the past to the present, focusing on ethnic distinct populations and how specific mutations observed in these populations may play an important role. The authors explore the way Aeromonas hydrophila has demonstrated involvement in the nutrient cycles of the aquatic environment and may be considered a potential biotechnological tool in biofactory of nanoparticles, bioleaching or bioremediation.

The concluding study focuses on rotavirus A, a major pathogen associated with gastroenteritis of children aged under five which contributes to childhood morbidity and mortality in developing countries.

Advances in Medicine and Biology. Volume 172
Leon V. Berhardt
In series: Advances in Medicine and Biology
Publication Date: 11/04/2020
252 pp.
Hardcover: 978-1-53618-772-4. $250.00
e-book: 978-1-53618-784-7. $250.00
Advances in Medicine and Biology. Volume 172 first discusses the advances in formulations for dermal delivery of alpha-tocopherol. Alpha-tocopherol is the major biologically active homolog of vitamin E in human skin, especially the epidermis, and acts as an important antioxidant. Next, the three components that collaboratively engage in the blood epididymal barrier are reviewed, and their individual contribution to protection of the spermatozoa from the immune system is discussed. This compilation includes information regarding the logistics and personal experiences of two separate National Aeronautics and Space Administration (NASA) space missions, Rodent Research-IV and Cell Science-02, as well as for preliminary experiment verification tests and launch simulation testing. Additionally, the authors delve into an International Space Station National Lab Principal investigator’s experiences while working with NASA on the aforementioned space biology research projects.

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The concluding study focuses on rotavirus A, a major pathogen associated with gastroenteritis of children aged under five which contributes to childhood morbidity and mortality in developing countries.
The impact of urgency on the temporal organization of prehospital interventions is assessed, analyzing the impact of the characteristics of the patient, the paramedic and the working environment on the sequence and duration of prehospital interventions.

The authors shed light on prehospital work by examining how paramedics experience encounters with persons in crisis through a qualitative research approach.

Additionally, they aim to assess the association between estimated pulse wave velocity and metabolic biomarkers in patients with albuminuria through a subsequent study.

The concluding study focuses on thoroughly revealing the various hallmarks of apoptosis and the overall mechanism which connects these hallmarks.

**Advances in Medicine and Biology. Volume 174**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*

Publication Date: 12/22/2020

297 pp.

Hardcover: 978-1-53618-921-6. $250.00
e-book: 978-1-53619-021-2. $250.00

Advances in Medicine and Biology. Volume 174 first provides a systematic review of the synthetic route and biological activities associated with 1,2,4-oxadiazole, 1,2,5-oxadiazole and 1,3,4-oxadiazole derivatives.

The authors discuss recent advances in understanding the enantioselective separation and biological activities of the naturally occurring chiral compounds of essential oils. Subsequently, orthobiologics are discussed in the context of their potential in the management of early osteoarthritis, particularly focusing on the treatment of cartilage injuries.

Another study aims to improve our understanding of the pathological mechanisms of choroidal neovascularization and approaches how to address the issue in central serous chorioretinopathy.

An overview of the lignocellulolytic enzymes secreted by *A. fumigatus* during biomass conversion is provided, focusing on the quantitative expression of cellulolytic, hemicellulolytic, and ligninolytic enzymes and their synergistic mechanism during biomass degradation.

The closing report reviews the current literature on metabolic syndrome, exploring the mechanisms proposed to better understand the role of environmental, genetic, and epigenetic aspects in the pathogenesis of this condition.

**Advances in Medicine and Biology. Volume 175**

*Leon V. Berhardt*

In series: *Advances in Medicine and Biology*

Publication Date: 02/10/2021

218 pp.

Hardcover: 978-1-53619-083-0. $250.00
e-book: 978-1-53619-229-2. $250.00

In the first chapter, the authors intend to carry on a critical review of the different methods and approaches to determine the biomechanical output of joint stiffness, designated as dynamic joint stiffness by the authors. The second chapter summarizes several preceding articles on invasive procedures applied with questionable clinical indications in the former Soviet Union. The aim of the third chapter is to give information about how to use tacrolimus, in which type of glomerulonephritis and what are the treatment results, especially remission and relapse rates. In the fourth chapter, a ten-week experiment was conducted to assess the effect of supplementing *Synechococcus sp.* and *Synechocystis sp.* on the growth performance, haematology, serology and disease resistance in *Oreochromis mossambicus*. In the final chapter, discussions of the special properties of endothelial cells and their ability to generate the thrombotic microangiopathic syndrome and ARDS are undertaken based upon current knowledge of the capillary endothelial cells. Attempts are made to address the current pathophysiology of non-idiopathic thrombotic microangiopathy.
Globally, more than one billion people suffer some form of disability and may require assistive devices for their functioning. Only 5 to 10% of them can access some level of rehabilitation services. Assistive technology is essential while providing rehabilitation services to people with disabilities or health impairment.

The first edition of this book will help professionals working in habilitation and rehabilitation services, and the chapters cover various aspects of assistive technologies. The first chapter shares existing evidence on assistive technologies (ATs) that aid in rehabilitation intervention among children and adolescents with neurodevelopmental disorders. It provides the reader with a selective overview of the newest empirical contributions available in the literature on the use of AT-based interventions for enabling adaptive skills and reducing challenging behaviors in children with neurodevelopmental disabilities.

The second chapter highlights the ViEW, a computer-based assistive technology for visual impairment. ViEW (Vision Enhancement for the World) is a portable device that uses a computer vision technique to extract textual information. The product can notify the nearest objects surrounding an individual with vision loss and read aloud with audio. The product will aid in teaching students at schools for the blind.

The third and fourth chapters explain the existing classification for ATs for visual impairment and various devices that can be used to perform daily living tasks. This chapter is designed for people working in eye care services, teachers, trainers in schools for the blind, community-based visual rehabilitation workers, or other interested persons.

Chapter five presents advanced information and communication technologies (ICT) that may be used in bathroom safety without compromising personal privacy. Bathroom safety is extremely important, especially for older persons living independently at home. The chapter reviews trends in ICT development and presents state-of-the-art solutions for safe bathing, bath accident detection and prevention.

Chapter six describes the applications of assistive software products in children with autism spectrum disorders, where researchers deal with multiple factors to get closer to creating a model for children with autism for use in creating interactive apps.

Chapter seven sheds light on the newest contributions in virtual-reality (VR) based intervention in neurodegenerative diseases (Alzheimer’s and/or Parkinson’s diseases, amyotrophic lateral sclerosis or multiple sclerosis). The outcomes in the majority of VR based interventions were positive. The final chapter critically reviews the use of ATs and other relevant literature on the patient-centered design of ATs, which will ultimately help adoption pathways.

In this book, we have brought together research from international clinicians, practitioners, and researchers from various backgrounds and communities. Some of the papers were presented at the annual Stop Youth Suicide conference in...
neurosurgeons in particular are explored. COVID-19 patients are preventable, treatable or permanent, or if they have long-term effects on the patient’s cardiovascular status. The second chapter examines the future of Internet healthcare on the foundation of a traditional model in the age of COVID-19. Next, the pros and cons of telemedicine, including the ways in which virtual telemedicine platforms rationalize and address the costs, accessibility, and quality of care that affect healthcare management are explored. The authors of the fourth chapter look at the legal ethical dilemmas related to the care of COVID-19 patients through telemedicine. And finally, the role of telemedicine in COVID times for neurologists and neurosurgeons in particular are explored in detail.

Clinical Training in Undergraduate Medical Education

Sabri Kemahli (Professor of Pediatrics, Faculty of Medicine, Yeditepe University, Istanbul, Turkey; College of Medicine, Alfaisal University, Riyadh, Saudi Arabia)

In series: Education in a Competitive and Globalizing World

Publication Date: 11/04/2020

403 pp.
Hardcover: 978-1-53618-616-1. $230.00
e-book: 978-1-53618-687-1. $230.00

This book is intended to serve the needs of clinical educators in medical schools, especially in clinical clerkships. The bulk of the literature written about undergraduate medical education is on the pre-clerkship phase. Clinical clerkship phase is as important as the previous phase and it is intended to be mostly a hands-on experience and training for the students. Most of this training is by exposure to the clinical activities where the students are required to take part in, contribute to and learn during the continuing clinical activities. It is an exciting but a difficult time for the students. They have to learn the basics and sometimes the details of clinical skills, procedures and in many cases they are expected to perform as a young doctor. They are expected to make good differential diagnosis in the busy clinical environment. Considering all these, clinical education should be organized in a systematic way to allow the students grasp the necessary clinical knowledge, skills and attitudes as they experience the complexities and uncertainties of clinical environment.

The book provides information about basic concepts of clerkship organization and assessment with various models. Equally important is the clinical skills training which starts in the early phases of medical schools. Three chapters have been devoted to this topic. The organization of clerkships employing various approaches and methods are discussed extensively. Community-based education, use of university and affiliated hospitals, learner-centred clinical education, use of flipped classrooms and integrating basic sciences in clinical clerkships are discussed in separate chapters.

As assessment drives learning, the basic principles and the organization of assessment and evaluation including continuous assessment have been covered in three chapters.

Believing that more emphasis should be given to interprofessional education, evidence-based medicine, mentoring and providing feedback in the context of organizing clerkships they have been discussed extensively in separate chapters.

We hope it will be of help to clinician teachers as well as medical educators involved in clinical training.

COVID-19 and the Rise of Telemedicine: Benefits and Challenges

Christina B. Willis

In series: Public Health in the 21st Century

Publication Date: 01/29/2021

118 pp.
Softcover: 978-1-53619-081-6. $82.00
e-book: 978-1-53619-201-8. $82.00

This book focuses on the benefits and challenges of telemedicine in the age of and when treating COVID-19. Telemedicine can be considered to play a major part in COVID-19 patients’ management, because it provides a quick and precise diagnosis that is obtained without unnecessary exposure of the medical personnel. The first chapter focuses on arrhythmias in COVID-19 patients. It is mandatory to assess whether arrhythmias in COVID-19 patients are preventable, treatable or permanent, or if they have long-term effects on the patient’s cardiovascular status. The second chapter examines the future of Internet healthcare on the foundation of a traditional model in the age of COVID-19.

Next, the pros and cons of telemedicine, including the ways in which virtual telemedicine platforms rationalize and address the costs, accessibility, and quality of care that affect healthcare management are explored. The authors of the fourth chapter look at the legal ethical dilemmas related to the care of COVID-19 patients through telemedicine. And finally, the role of telemedicine in COVID times for neurologists and neurosurgeons in particular are explored in detail.
Extracorporeal Membrane Oxygenation: Types, Medical Uses and Complications
Michael S. Firstenberg, MD (Director of Research and Special Projects, William Novick Global Cardiac Alliance, Cardiothoracic and Vascular Surgery, The Medical Center of Aurora, CO, USA)

Publication Date: 01/20/2021
377 pp.
Hardcover: 978-1-53618-915-5, $230.00
e-book: 978-1-53619-064-9, $230.00

Extra-corporeal membrane oxygenation (ECMO) is an innovative therapy that is used to support the physiologic needs of a patient during illnesses associated with acute severe respiratory and/or cardiac failure. ECMO is used in those life-threatening situations in which the oxygenation, ventilation, and circulatory support needs of the patient cannot be adequately maintained with a maximal conventional ventilator or pharmaceutical support. Essentially, ECMO is a simple pump circuit that can be used to support the role of failing lungs or hearts while therapies are aimed at organ recovery. While simple in concept and theory, this text illustrates the complexities associated with clinical use. The use of ECMO has evolved substantially overall the years—in part due to broader and growing applications, a better understanding of the technologies and how they can be used (especially in the context of long term human-ECMO circuit interactions), objective tools for patient selection, management protocols, and, most importantly, a growing body of evidence-based science and literature that demonstrates the effectiveness of this highly invasive, resource-intensive, and complex tool.

The goal of this text is to draw from established thought leaders and experts around the world and present a comprehensive review of the rapidly-evolving and expanding literature regarding the spectrum of applications for ECMO. While by no means is this implied to be the final and exhaustive text on this topic, it does aim to be as comprehensive and up-to-date as possible which is, in itself, a challenge given how quickly this field is evolving.

This text is aimed at students and providers, at all levels, who might have interest or be involved in the care of these critically ill patients. Chapters focus on how programs can be structured, the specific details of patient selection, management, and expanding roles of ECMO. Both basic and sophisticated concepts are presented with the goal that all may learn. We also present an objective assessment of some of the evolving challenges and limitations to ECMO in the context of the increased utilization and expansion of this therapy, combined with “sicker” patients, and the ongoing journey towards improved outcomes while offering a salvage therapy to patients who might otherwise die.

Immunizing the Human Body: The Role of Non-Descript and Traditional Edible Green Leaves
Dr. A.B. Sharangi (Professor and Former HOD, Plantation, Spices, Medicinal & Aromatic Crops, Faculty of Horticulture, BCKV-Agricultural University, Mohanpur, Nadia, WB, India), Dr. S. K. Acharya (Professor and Former HOD, Department of Agricultural Extension, BCKV-Agricultural University, Mohanpur, Nadia, WB, India) and Dr. Suddhasuchi Das (Plantation, Spices, Medicinal & Aromatic Crops, Faculty of Horticulture, BCKV-Agricultural University, Mohanpur, Nadia, WB, India)

Publication Date: 02/05/2021
251 pp.
Hardcover: 978-1-53619-136-3, $195.00
e-book: 978-1-53619-161-5, $195.00

The entire human civilization is now facing the disastrous impact of the pandemic. It seems to pose an apocalyptic consequence unless there is a vaccine in existence. Out of so many options, one option is creating immunity in the absence of a real vaccine. So immunizing human health and life can be and would be the most important option in combating COVID-19. Now the question is how to build up this hard immunity.

The present book takes into account accumulated facts, information and technology to describe green vegetables as a fresh source and booster of human immunity free from application of pernicious chemicals in the form of pesticides, fertilizers etc. The food should be strong enough to contribute to one’s immunity. The authors hope that this book will create a long-lasting impact, away from the classical way of building immunity.
The main varieties of scientific misconduct are fabrication, falsification, misquoting and plagiarism. Considering the “improvement” of fraudulent skills, scientists, editors, and authorities must jointly combat the misconduct. Also, it is important that whistleblowers must be protected from revenge. The response to scientific misconduct requires national and international bodies to provide leadership and guidelines. Whistleblowers need a safe, confidential place to report misconduct. The quality of research and hidden conflicts of interest should be taken into account deciding which studies are to be included into reviews. Forged publications and speculative theories have been used for promotion of drugs, dietary supplements and treatments without proven effectiveness. Marketing of placebos in the guise of evidence-based medications seems to be on the increase. Patients can be misinformed not only by the advertising but also by publications supposed to be scientific. Furthermore, it has become usual practice to disregard published criticism in spite of personal communications and debates at conferences. Some scientists seem to make use of critical comments without citing them, or just continue publications ignoring the criticism. The same scientists continue working sometimes in cooperation with renowned researchers; and it is possible that some later articles are more reliable than earlier ones. However, it is insufficient to hope that reliable publications would be shortly confirmed while forgeries would fall into oblivion. Fake papers are misleading for research and practice, cost time and money. Wrong concepts are persisting and reappearing, which may result in useless experimentation and application of invasive methods without sufficient indications. An international cooperation of bona fide scientists, editors and authorities is needed to eradicate the scientific misconduct and fraud in medicine. The book contains an overview of misconduct in medical research and practice mainly from the former Soviet Union. Ample documentary evidence is provided as illustrations.
This trust exists only to the extent that the patient feels confident that he or she occupies the doctor’s central focus at every medical encounter, and that this focus is being used to derive a full measure of healthful benefit. This is the beginning and end of the doctor’s work and is best accomplished by every doctor understanding and maximizing each element of the doctor—patient relationship. These elements of the doctor—patient relationship are carefully dissected in this book, and then illustrated with consequent and true case histories of patients. The science to these elements – for example, the methods of clinical reasoning – are succinctly described, but always the elements are artfully illustrated by descriptions of their real-life application to human beings. That these cases celebrate the grace and courage and resiliency of individual patients is no accident, as a doctor’s patients represent worthy brothers and sisters, fellow travelers walking the lonesome valley of an individual human life, affected by both illnesses and triumphs of all sorts. Their stories offer practical insights for all readers, not just for physicians or prospective physicians, and I hope some of them make you smile.

Because of the burgeoning complexities of medicine and the social contexts in which medicine is practiced, multiple physicians are often involved in the care of a patient, something which has become quite evident in the recent Covid 19 pandemic. However, each physician involved in the care of a patient at a particular moment in time has the responsibility to understand and respect the ideals of the doctor – patient relationship, to maintain and fortify it, even if the next visit is with yet another, different physician, thus enabling the doctor – patient relationship to be the vehicle that transports the patient some distance down a path towards feeling better, a path towards a medical outcome that is helpful, sometimes healing, and always hopeful.

We live in a time when there are powerful and complex forces undermining the doctor – patient relationship, the most important of which is the lack of available medical care for poor people, preventing them from having the benefit of the doctor – patient relationship in the first place. We have seen this vividly in the aftermath of Covid 19; none of the patients who ended up dying alone in the Old Soldier’s Home in Massachusetts or piled up and hidden in nursing homes in New Jersey or New York City had a good doctor. There are other forces undermining the doctor – patient relationship that are not so brutally apparent but threaten both patients and their doctors; we would do well to identify and combat these, together.

The History of Extra-Corporeal Membrane Oxygenation (ECMO): From Start to COVID
Michael S. Firstenberg, MD (Director of Research and Special Projects, William Novick Global Cardiac Alliance, Cardiothoracic and Vascular Surgery, The Medical Center of Aurora, CO, USA)
In series: Medical Procedures, Testing and Technology
Publication Date: 01/27/2021
226 pp.
Hardcover: 978-1-53618-961-2, $160.00
e-book: 978-1-53619-040-3, $160.00
The history of extra-corporeal membrane oxygenation (ECMO) reflects a true medical success story that has been the result of tremendous dedication, perseverance, teamwork, and years—if not decades—of hard work by countless providers, students, and advocates. This book, the final in a series of three on ECMO, traces the history of extra-corporeal support from the early years when therapy was offered as a last attempt at salvaging those patients who had lost almost all hope of survival, to the modern era and the role of ECMO in the contemporary management of critically ill patients, especially during the COVID-19 pandemic. The chapters illustrate how the technical aspects of ECMO have evolved, as well as the growing role of patient selection and team-based management. Although the role of ECMO for COVID-19 is still evolving, the chapters addressing this topic can serve as a foundation for the many complex systematic issues, beyond just the bedside care of ECMO patients, that must be acknowledged.

Jorge Agustín Nicolás Ruiz de Santayana y Borrás, also known as George Santayana, has been credited with the quote: “Those who cannot remember the past are condemned to repeat it,” [George Santayana (1905) Reason in Common Sense, p. 284, volume 1 of The Life of Reason] a concept that clearly resonates with those involved in ECMO program development, patient selection and management. As such, the primary goal of this text is to help scholars of all levels better understand where we have been and where we are going.

The Practice and Principles of Extra-Corporeal Membrane Oxygenation (ECMO)
Michael S. Firstenberg, MD (Director of Research and Special Projects, William Novick Global Cardiac Alliance, Cardiothoracic and Vascular Surgery, The Medical Center of Aurora, CO, USA)
In series: Medical Procedures, Testing and Technology
Publication Date: 01/27/2021
369 pp.
Hardcover: 978-1-53618-960-5, $230.00
As demonstrated in the first book, the management of patients with profound respiratory failure or cardiogenic shock has evolved significantly over the years with advances in diagnostic and therapeutic options. While the mortality for these often-overlapping problems remains high, progress in the multi-disciplinary approach to these complex clinical problems has improved survival substantially. The focus of this second book is to explore some of the advanced topics and current literature regarding the management of patients requiring extra-corpooreal membrane oxygenation (ECMO). As illustrated in the spectrum of topics discussed, ECMO is not only a complex therapy in itself, but the challenges, problems, and complications that arise in this unique area of medicine require engagement by many diverse disciplines. While there are many physiological issues such as organ protection, management of circuit complications, and optimal lung and cardiac protection for recovery, the use of ECMO also introduces a variety of legal and ethical challenges, particularly end-of-life issues (including brain death) in patients for whom recovery, despite extra-corpooreal support, is most likely futile. Each of the chapters, written by world-renowned experts in the field, highlights a different important aspect in understanding the complex dynamics of extra-corpooreal support and its impact on human pathophysiology. While many of the topics discussed involve sophisticated concepts, each chapter was written with the goal of providing a comprehensive review suitable for any level of training and experience. Many of the topics discussed highlight the state-of-the-art literature along with expert experiences and perspectives as we try to learn more about the overlapping art and science of a field of medicine that has only recently been accepted as a mainstream treatment option. Students of ECMO, ranging from early stage healthcare providers to master physicians, will benefit from the insights presented.

**Use of Nursing Models and Theories from a Sexuality Perspective**

**Martha Ofelia Valle Solis (Universidad Autónoma de Nayarit, Mexico)**

In series: *Nursing - Issues, Problems and Challenges*

*Use of Nursing Models and Theories from a Sexuality Perspective*

- **Publication Date:** 03/09/2021
- **Hardcover:** 978-1-53619-180-6, $230.00
- **e-book:** 978-1-53619-308-4, $230.00

The book presents research studies where models and theories of nursing from the perspective of sexuality were used. Theory is essential to explain and understand nursing practices. Likewise, it favours planning, predicting and evaluating the outcomes of care. Therefore, the theoretical approach is a useful tool for reasoning, critical thinking and, in addition, it helps nurses to be able to use and manage all the information about the patient and to manage the practice of care in an orderly and effective way.

The use of conceptual models of nursing in care ensures that all nurses share a common language and similar conceptions regarding the nursing, person, health, environment and care paradigms that characterize the professional role. Here, a reflection is posed about what still, and even though it is a very important topic, maintains the dichotomy between nursing practice and nursing theory.

The book is aimed at undergraduate and graduate students in the area of health, as well as at health professionals interested in using such models or theories related to human sexuality in different age groups.

**SURGERY AND SURGICAL SPECIALTIES**

**A Comprehensive Guide to Esophagectomy**

**Wade Nolan**

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

*A Comprehensive Guide to Esophagectomy*

- **Publication Date:** 11/20/2020
- **Softcover:** 978-1-53618-822-6, $82.00
- **e-book:** 978-1-53618-852-3, $82.00

A Comprehensive Guide to Esophagectomy first discusses the benefits of different anastomotic techniques, procedures for improving healing, methods to assess gastric conduit perfusion, and methods for the detection and management of the cervical anastomotic leak after esophagectomy. The authors review previous literature on minimally invasive esophagectomy, particularly reports that have focused on thoracoscopic esophagectomy with mediastinal lymph node dissection, describing recent advances in robot-assisted minimally invasive esophagectomy for esophageal cancer. The concluding study focuses on hybrid laparo-thoracoscopic esophagectomy, with the concept of widening the operation area of the laparoscopic transhiatal approach, reducing the operation area of the right thoracoscopic approach and eventually aiming for radical laparo-thoracoscopic transhiatal esophagectomy without blunt dissection.
Encyclopedia of Surgery (22 Volume Set)
Andreas Lehrer and Kristin Mueller
In series: Surgery - Procedures, Complications, and Results
Publication Date: 12/03/2020
8281 pp.
Hardcover: 978-1-53618-329-0, $3,450.00
e-book: 978-1-53618-388-7, $3,450.00
Encyclopedia of Surgery organizes researchers from around the world in surgery and related disciplines and maintains an up-to-date reference work for readers worldwide.

Regenerative Plastic Surgery
Pietro Gentile, MD, PhD (Researcher and Professor of Plastic and Reconstructive Surgery, University of “Tor Vergata”, Rome, Italy; Technical Consultant of the Ordinary Court of Rome, Rome, Italy)
In series: Plastic and Reconstructive Surgery
Publication Date: 12/22/2020
148 pp.
Softcover: 978-1-53618-988-9, $95.00
e-book: 978-1-53619-012-0, $95.00
Regenerating damaged organs and tissues, an act that once was considered magic, is currently entrusted to the surgeons who have allowed us to move from replacement and reconstructive plastic surgery to regenerative plastic surgery, through autologous and allogeneic cell-based therapies and growth factors.
The enthusiasm for regenerative plastic surgery and for the treatment of some pathologies addressed by it, such as breast reconstruction, hemifacial atrophy, burns, scars, and aesthetic improvements such as breast and buttock augmentation, face rejuvenation and hair regrowth, has led the author, Professor Pietro Gentile, to rigorously investigate the possible new minimally invasive strategies based on adipose-derived stem cells, human follicle stem cells and growth factors contained in platelet-rich plasma. This book reports on the latest knowledge regarding the treatment of soft and bone tissue defects. Therefore, the goal of this text is to introduce and definitively establish this new and interesting field of plastic surgery, called regenerative plastic surgery.

Spine Surgery: Overview and Controversies
Vladimir Katuch, MD, Ph.D (Assistant Professor and Vice Chairman, Department of Neurosurgery, University Hospital and Medical Faculty of Safarik University, Kosice, Slovakia)
In series: Surgery - Procedures, Complications, and Results
Publication Date: 11/04/2020
220 pp.
Hardcover: 978-1-53618-753-3, $160.00
e-book: 978-1-53618-795-3, $160.00
The possibilities of surgical treatment of spinal disorders have expanded enormously in recent years. Movement conservation, reduction of access routes, and the use of microscope and endoscope have reduced risks and significantly improved the chances of success. However, only by knowing and mastering the various conservative and minimally invasive surgical techniques can one work on individual treatment for the patient.
This book reviews important literature about spinal disorders, describes surgical anatomy of the spine, etiology, pathology, clinical signs, imagine methods of the spinal diseases, and specific techniques of the spinal procedures. The chapter about cervical and lumbar degenerative disc disease will bring new knowledge in the possible therapy, including endoscopic and minimally invasive surgical procedures. The chapter about infections of the spine gives new information about conservative and surgical treatment as well as postoperative complications. The possibilities in surgical treatment in spine tumors will be written in a separate chapter. This chapter provides quite an extensive coverage of tumors related to the spine, and information on their management and treatment, including operative
techniques and approaches with spine stabilization. Spinal trauma chapter brings together information on state-of-the-art clinical imaging, including multidetector CT and high-field MRI techniques and the pathophysiology, neurologic evaluation, medical management, surgical treatment, and postoperative assessment of spine trauma and spinal cord injury. Techniques for spinal procedures include the most common types of instrumented procedures such as anterior cervical disectomy and fusion, cervical arthroplasty, occiput C1, and C2 instrumentation, lumbar microdisectomy, lumbar arthroplasty, posterior, transforaminal and anterior lumbar interbody fusion, and indications and techniques of revision spine surgery.

Transplantation

The Technology of Head Transplantation

Sergio Canavero and Xiaoping Ren (Heaven/Gemini Global Initiative Turin, Italy)

In series: New Developments in Medical Research
Publication Date: 10/30/2020
216 pp.
Softcover: 978-1-53618-458-7, $95.00
e-book: 978-1-53618-500-4, $95.00

In 1970 American neurosurgeon Robert White and his team carried out the first full head transplant in living monkeys. However, the resulting chimera was left tetraplegic and died a few days later.

Fifty years on, the technology to perform a human cephalosomatic anastomosis is finally available.

In this groundbreaking book, the pioneers of this new medical frontier bring together an international team of scientists to reveal for the first time the entire body of animal and human research and experimentation that made this breakthrough possible.

Readers – professionals, journalists, educated laypersons- will get unadulterated access to the published and unpublished body of evidence that has shocked the world since 2013. Only a deep appreciation of this technology can inform the ethical debate that has raged since 2013.

Above all, the possibility of extending life raises profound dilemmas. This book brings clarity to the current debate and provides the instruments to make an informed decision on the most sensitive of subjects: overcoming death.

WOMEN'S HEALTH

Postpartum Depression: A Clinical and Research Update

Flávia de Lima Osório, PhD (Professor and Researcher, Department of Neurosciences and Behaviour, Medical School of Ribeirão Preto. São Paulo University, Ribeirão Preto, São Paulo, Brazil; National Institute for Science and Technology (INCT-TM, CNPq), Brasília, Distrito Federal, Brazil) and Rocio Martin-Santos, PhD (Senior Consultant in Psychiatry, Department of Psychiatry and Psychology, Hospital Clínic, University of Barcelona, The August Pi i Sunyer Biomedical Research Institut (IDIBAPS), CIBER en Salud Mental, Barcelona, Spain; National Institute for Science and Technology (INCT-TM, CNPq), Brasília, Brazil)

In series: Women's Issues
Publication Date: 12/30/2020
335 pp.
Hardcover: 978-1-53618-768-7, $230.00
e-book: 978-1-53618-965-0, $230.00

Perinatal psychiatry is a new area of research developed in the last 15 years, focusing on the study of women’s psychopathology in this stage of life. This book is an update of recent clinical research in this field, including: epidemiology and risk factors, the role of genetics and epigenetics, personality factors and coping strategies, mother-infant bonding, and paternal perinatal depression, as well as current and novel treatments for perinatal depression and trajectories of postpartum depression.
The Thin Pink Line: Regulating Reproduction
Carol Lynn Curchoe Burton, PhD (Newport Beach, CA, USA)
In series: Obstetrics and Gynecology Advances
Publication Date: 02/15/2021
140 pp.
Softcover: 978-1-53619-150-9, $95.00
e-book: 978-1-53619-191-2, $95.00
The Thin Pink Line: Regulating Reproduction is a critical exploration of historical perspectives to modern controversial topics in gynecology; from birth control to sterilization, to episiotomies and the “husband stitch,” to “educational” pelvic exams, shackling laboring convicts, gender affirming surgery, human embryo research, assisted reproduction and much more. This book poses questions for us to consider about the current and future reproductive ethical decisions. Does reproductive health need more or less regulation? Who should be deciding? The Thin Pink Line: Regulating Reproduction is a brave and honest look at where we have been, so we can figure out where we want to go. The Thin Pink Line: Regulating Reproduction is intended to educate a wide audience of womynx, men, femmes, gender non-conforming folks, uterus owners, and everyone in between. It has a specific intersectional focus on the impact that the current reproductive regulatory framework has on disenfranchised groups, such as people of color, LQBTQ individuals, and the lower socioeconomic strata.

EXCEPTED PUBLICATIONS

Neuroscience

Attention-Deficit Hyperactivity Disorder: Diagnosis, Prevalence and Treatment
Brian M. Kyser
In Series: Neurology - Laboratory and Clinical Research Developments
Expected Publication Date: 06/10/2021
112 pp.
Softcover: 978-1-53619-443-2 $ 82.00
e-book: 978-1-53619-469-2 $ 82.00
This monograph comprises three chapters, each focusing on a different aspect of Attention-Deficit/Hyperactivity Disorder (ADHD). Chapter One presents an overview of diverse pharmacological therapies and differences in the mechanisms of action of psychostimulants, non-psychostimulants, and other treatments for ADHD. Chapter Two evaluates the effects of practical interventions for students with ADHD pursuing higher education. Chapter Three describes how multimedia formats, which simultaneously provide visual and verbal information, can help students learn by taking advantage of “dual processing,” wherein information is processed through two channels instead of through a single channel. This approach to teaching is speculated to be particularly beneficial for students with ADHD.

Joint Imaging Applications in General Neurodegenerative Disease
Yongxia Zhou, PhD (Imaging Scientist, University of Southern California and Columbia University, USA)
In Series: Neuroscience Research Progress
Expected Publication Date: 05/15/2021
186 pp.
Softcover: 978-1-53619-435-7 $ 95.00
e-book: 978-1-53619-478-4 $ 95.00
Multiple advanced neuroimaging applications in various neurodegenerative diseases including Parkinson’s disease (PD), frontotemporal dementia (FTD), vascular dementia (VaD) and autism spectrum disorder (ASD) are covered in this book. Relatively novel techniques such as integrated PET/MRI and independent component analysis (ICA)-based dual regression (DR) methods were developed to capture multi-level molecularfunctional and structuralmicrostructural as well as high-order inter-network coordination abnormalities. For instance, both PET dopamine transporter and striatal binding ratio reductions in the caudate and putamen were found in PD, consistent with the diffusion tensor imaging (DTI) fractional anisotropy (FA) reduction and fMRI voxel-mirrored homotopic correlation (VMHC) in the substantia nigra (swallow tail sign signature of PD). Furthermore, dopamine storage and pathway labeled with the vesicular monoamine transporter tracer identified decreased densities in the bilateral mesial temporal cortex, caudate, orbitofrontal cortex, left frontal and occipital cortices, consistent with the morphological atrophy, functional connectivity and conductivity deficits in PD. Similarly in FTD patients, the advanced MRI methods such as ICA-DR, VMHC, voxel-based morphometry (VBM) as well as PET tracer for amyloid accumulation and FDG glucose uptake identified typical brain atrophy, structural dis-connectivity, glucose hypometabolism, higher neuropathological burden, lower interhemispheric correlation as well as
disrupted intra- and inter-network modulation in the orbitofrontal and anterior temporal cortices together with insular and frontoparietal networks, with the cerebellum and dorsolateral attentional network as typical compensations. Functional and structural abnormalities had further been elucidated in the VaD dependent participants and autistic children. For instance, both lower FA and VMHC, brain atrophy and functional connectivity deficits, demyelination, axonal degeneration and white matter integrity damage in several white matter tracts were present in the dependent compared to independent participants in VaD data cohort. Increased neuronal activity with higher global fractional amplitude of low frequency fluctuation (fALFF) in the conventional and slow-wave sub-band was confirmed with less efficiency of systematic integration in VaD dependent group. Moreover, in ASD compared to controls, regional gray matter volume and cortical thickness in all four brain lobes increased, whereas white matter volume were decreased in addition to the lower temporal, visual and superior frontal but higher inferior and dorsolateral prefrontal cortical functional connectivities exhibited in ASD. The differences in each type of disease could also be revealed with the same imaging method based on either unique region or distinct brain circuit inter-connection, using VMHC, ICA-DR, DTI, VBM, fALFF and graph-theory based small-world analysis.

In this book, we have developed and generalized conventional and advanced imaging methodologies to several common neurodegenerative diseases. For instance, we have identified the unique imaging signature for each disease type and the underlying neuropathological mechanism connections with conductivity, structural and microstructural connectivity, intra- and inter-network correlation, systematic integration and efficiency analyses. Our objective, comprehensive and confirmative results indicated great potential in utilizing these quantifications for accurate disease classification and staging. With solid imaging evidence, thorough analysis and generalized applications, this book should capture the interests of readers in the broad fields of brain science, disease diagnosis and effective treatment.

### Psychiatry

**Innovations in Psychiatry**

*Souprano Mitra, MD (Resident Psychiatry, Broncare Health System, Icahn School of Medicine at Mount Sinai, NY, USA), Urmi Chaudhuri (PhD Student Isenberg School of Management, University of Massachusetts, Amherst, MA USA) and Panagiota Korenis, MD (Program Director and Vice Chair of Education, Icahn School of Medicine at Mount Sinai and Albert Einstein College of Medicine, NY, USA)*

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

Expected Publication Date: 06/05/2021

186 pp.

Softcover: 978-1-53619-365-7 $ 95.00

e-book: 978-1-53619-438-8 $ 95.00

This book will present the most up to date and concise information related to psychiatric innovations and is especially written for those looking for a quick and easy reference guide. Conveniently formatted to present the most current and up to date concepts and ensure that you are prepared for your psychiatry shelf, PRITE™, psychiatry boards and recertification exams. It will quickly become your go to reference material for psychiatric technological innovations.

### Special Topics

**Advances in Health and Disease. Volume 33**

*Lowell T. Duncan*

In Series: *Advances in Health and Disease*

Expected Publication Date: 05/15/2021

242 pp.

Hardcover: 978-1-53619-368-8 $ 250.00

e-book: 978-1-53619-483-8 $ 250.00

This volume comprises 9 chapters, each concerning a recent advancement in health and disease. Chapter 1 critically appraises the current literature related to pediatric obesity and asthma, summarizes the evidence on the impact of excess body fat on the pulmonary system in pediatric asthma patients, and discusses possible mechanisms as well as effective public health strategies for reducing the increasing obesity trend and mitigating asthma risk. Chapter 2 details the nutritional and bioactive composition of *lactuca sativa*, commonly called lettuce, including its antioxidant, cholesterol-lowering, cardioprotective, neuroprotective, anti-diabetic, anti-inflammatory, anti-proliferative, and anti-cancer properties. Chapter 3 attempts to shed light into the pathogenetic mechanisms connecting metabolic syndrome and nonalcoholic fatty liver disease (NAFLD) to the emergence and progression of hepatocellular carcinoma, emphasizing the evolving epidemiological profile of this type of cancer. Chapter 4 is also about lettuce and provides another perspective on the nutritional composition and health benefits among different varieties of the vegetable. Chapter 5 deals with the health promoting effects of onions (*allium cepa* L.), including their insulin secretagogue effect, hypoglycemic influence, hypolipidemic action, antioxidant effect, cardioprotective effect, gallstone prevention, cancer preventive potential, and digestive stimulant action, all of which are scientifically validated. Chapter 6 remarks on the difficulties associated with...
diagnosing rare diseases and describes several systems-level interventions that can be expected to limit the diagnostic delays experienced by patients with rare diseases and the frustration associated with years or decades of untreated symptoms. Chapter 7 describes the prevalence and effects of iron deficiency and anemia as well as treatment options for these conditions. Chapter 8 once again focuses on lettuce, this time exploring the nutritional and anti-cancer effects of carotenoids from different varieties of lettuce. Finally, Chapter 9 describes an application for the diagnosis of hypothermia in forensic practice wherein the color difference between blood in the left cardiac chamber and blood in the right cardiac chamber can be examined using a CO-oximeter.

**Advances in Medicine and Biology. Volume 176**
**Leon V. Berhardt**
In Series: *Advances in Medicine and Biology*
Expected Publication Date: 06/15/2021
254 pp.
Hardcover: 978-1-53619-367-1 $ 250.00
e-book: 978-1-53619-481-4 $ 250.00
This compilation comprises 8 chapters, each of which details a recent advancement in medicine and biology. Chapter 1 describes innate immune responses and their role in controlling infections, including the relationship between innate and adaptive immune responses during infections. Chapter 2 focuses on the structural characteristics of transforming growth factor beta (TGF-β) and its diverse biological activities in cancer signaling pathways and presents current information about the role of TGF-β in cancer cell signaling. Chapter 3 summarizes several preceding articles on invasive procedures applied with questionable clinical indications in the former Soviet Union. Chapter 4 provides information about the physical properties, isomerism, synthesis and reactions of thiadiazole, with emphasis placed on the current studies of various syntheses of thiadiazole compounds and their important biological properties. Chapter 5 evaluates the antifungal activity of the leaf ethanolic extract of *Persea americana*, popularly known as avocado, and its modulatory potential in association with fluconazole to verify its action on Candida micromorphology as well as its chemical characterization. Chapter 6 explores the step-by-step role of TGF-β during the process of wound healing. Chapter 7 describes hypophosphatasemia, a rare pathophysiological condition that causes various diseases, and includes new information about hypophosphatasemia that has assisted with the diagnosis of Kikuchi Fujimoto disease and can help to predict the outcome of cardiac surgery and septic shock. Finally, Chapter 8 summarizes the evolution of digital holography, including the latest results on visualizing and distinguishing different types of blood cells.

**Advances in Medicine and Biology. Volume 177**
**Leon V. Berhardt**
In Series: *Advances in Medicine and Biology*
Expected Publication Date: 05/03/2021
248 pp.
Hardcover: 978-1-53619-491-3 $ 250.00
e-book: 978-1-53619-509-5 $ 250.00
This compilation comprises 6 chapters, each detailing a recent advancement in medicine and biology. Chapter 1 deals with tuberculosis (TB), describing current knowledge of disease pathogenesis, epidemiology of TB and drug-resistant TB, evolution and molecular mechanisms of drug resistance, fitness compensatory mechanisms and laboratory methods for the diagnosis of susceptible and drug-resistant TB. Chapter 2 details the use of B cell-targeted therapy for treatment of autoimmune and chronic inflammatory diseases. Chapter 3 concerns peptic ulcer disease and the various therapeutic approaches used to treat ulcers or lesions in the gastrointestinal tract. Chapter 4 discusses the efficacy of in vitro cultures of *Astragalus* for biomass and secondary metabolite production. Chapter 5 describes the B lymphocyte activation factor (BAFF), a potent cell-survival factor expressed in many hematopoietic cells. Finally, Chapter 6 presents a review of the literature to determine the relationship between non-alcoholic fatty liver disease, non-alcoholic steatohepatitis and hepatocellular carcinoma to establish a guideline for monitoring patients.

**Mobile Health: Advances in Research and Applications**
Dr Gaurav Gupta (Assistant Professor, Yogananda School of AI Computers and Data Science, Shoolini University, Solan, H.P. India), Dr Nagesh Kumar (Assistant Professor Yogananda School of AI Computers and Data Science, Shoolini University, Solan, H.P., India), Dr Yashwant Singh (Associate Professor Central University, Jammu. J&K, India) and Dr Varun Jaiswal (Assistant Professor, BioNano Technology, Department of Food & Nutrition Gachon University, Republic of Korea)
In Series: *Health Care in Transition*
Expected Publication Date: 06/10/2021
340 pp.
Smart health technologies continue to gain research interest across the globe in this digital era. Researchers are focusing on advancements in healthcare systems to make human life better. Also, such advancements help in early disease diagnosis and prevention of the worst diseases. Designing smart healthcare systems is possible only because of recent developments in artificial intelligence, machine learning and IoT technologies. Though mHealth refers to all mobile devices which can communicate data, mobile phones are presently the most popular platform for mHealth delivery. Ninety-four percent of the world population owns/uses a mobile phone, making mobile phones an optimal delivery platform for mHealth interventions. mHealth may catalyse the healthcare delivery model from a historical/episodic model into a tangible/patient-centric model. mHealth is being viewed progressively by many as an essential technology metaphor to achieve rich, vigorous patient engagement, ultimately achieving a patient-centric paradigm change.

This book will discuss diverse topics to explain the rapidly emerging and evolving mobile health and artificial perspective, the emergence of integrated platforms and hosted third-party tools, and the development of decentralized applications for various research domains. It presents various applications that are helpful for research scholars and scientists who are working toward identifying and pinpointing the potential of as well as the hindrances to mHealth. The wide variety in topics it presents offers readers multiple perspectives on a variety of disciplines.

The aim of this edited book is to publish the latest research advancements in the convergence of automation technology, artificial intelligence, biomedical engineering and health informatics. This will help readers to grasp the extensive point of view and the essence of recent advances in this field. This book solicits contributions which include theory, case studies and computing paradigms pertaining to healthcare applications. The prospective audience would be researchers, professionals, practitioners, and students from academia and industry who work in this field. We hope the chapters presented will inspire future research from both theoretical and practical viewpoints to spur further advances in the field. A brief introduction about each chapter follows.

Chapter 1 focuses on the role of Internet of Things (IoT) technologies in healthcare which provides an overview of the various types of IoT devices and data generating equipment for medical information.

In Chapter 2, the objective is to provide a brief discussion about the advantages and disadvantages of using IoT based technologies in healthcare such as wearable devices.

Chapter 3 deals with important aspects of data science for healthcare systems, which includes various algorithms for decision support system algorithms.

Chapter 4 discusses various innovative technologies like digital twins for healthcare and medical diagnosis.

Chapter 5 discusses research investigating the long-term effects of pregnancy and lactation on the female body.

Chapter 6 summarizes recent advances in machine and deep learning techniques for smart healthcare applications.

Chapter 7 explores the research insights on using an artificial neural network with a wrapper-based feature selection to predict heart failure.

Chapter 8 presents a review on context-aware mobile healthcare for smart health services in nursing homes.

Chapter 9 focuses on certain machine learning methods that can help in early prediction of pandemics.

Chapter 10 explores techniques and methods based on machine learning for malaria diagnosis.

Chapter 11 is a complete discussion about mobile health technology to improve health-related quality of life of chronic disease patients in emerging economies.

We are grateful to the authors and reviewers for their excellent contributions for making this book possible.

**Surgery and Surgical Specialties**

**Surgeon’s Perspective on Dialysis Patient**

Maria Frankovicova (University Pavol Jozef Safarik, Professor of Surgery; Chief of Department of Vascular Surgery, East Slovak Institute of Cardiovascular Diseases, Medical Faculty of Safarik University, Kosice, Slovakia)

In Series: Surgery - Procedures, Complications, and Results

Expected Publication Date: 05/20/2021

375 pp.

Hardcover: 978-1-53619-262-9 $ 230.00
e-book: 978-1-53619-314-5 $ 230.00

Every year a large number of chronic patients undergo dialysis at dialysis departments in the Slovak Republic. Each one of them is connected to the artificial kidney 100 to 160 times. The most valuable property of these patients is a quality and long-term functioning arteriovenous fistula since it is one of the essential conditions for successful dialysis. The surgeon who creates arteriovenous access must thoroughly examine the patient before the operation, properly evaluate the vascular system and choose the most favorable way of the vascular access for long-term hemodialysis. Patients with chronic renal failure have impaired hemostasis, several of them have diabetes and their vascular system is affected by atherosclerosis. Determination of the operational plan and optimal vascular access is strictly individual and depends not only on the vascular system of the patient but also on the general condition, age and prognosis of the disease. A quality arteriovenous fistula should conform to the requirements of the simplest and the shortest operation as possible, using local anesthesia. 

Underestimation of any fact can result in the creation of many non-functional AV fistulas. AV fistulas operations for the purpose of long-term hemodialysis are an integral part and one of the most problematic issues of Vascular Surgery. There
are more and more patients who are in the long-term hemodialysis program. The average age of patients is increasing. All these factors have resulted in the need to create more and more AV fistulas because their usability is limited. The correct operational tactics, individual approach to the patient and precise surgical technique of the vascular surgeon contributes to the improvement of the quality of life of sick patients, of whom only a small percentage is so lucky that the disease is cured by successful kidney transplantation.
SCIENCE AND TECHNOLOGY
Agricultural Economics and Resource Management

COVID 19: Agricultural and Food Issues
Kristian Goldschmidt
In series: Agriculture Issues and Policies
Publication Date: 10/09/2020
371 pp.
Hardcover: 978-1-53618-561-4. $230.00
e-book: 978-1-53618-635-2. $230.00
As COVID-19 has spread throughout the United States, it has reduced domestic economic activity and disrupted domestic and international supply chains for goods and services, including food and agricultural products. These disruptions have produced an immediate and very strong demand shock on the U.S. food supply chain. This book looks at current agricultural and food issues including: appropriations, trade, disaster assistance, food safety and security and loan programs.

Land Management

Non-Market Valuation of Agriculture, Pasture and Forest Lands affected by Public or Private Investments
Majlinda Çakalli (Department of Economics and Rural Development, Agriculture University of Tirana, Tirana, Albania)
In series: Agriculture Issues and Policies
Publication Date: 02/10/2021
180 pp.
Hardcover: 978-1-53619-139-4. $160.00
Infrastructure, energy or other large-scale public or private projects require acquisition, easement or rental of agriculture, pasture or forest land. Beside the specific country’s laws and regulations, investors have to follow various benchmarks applied by funding institutions as international standards. Together, these standards are designed to assure that adverse impacts on people, their rights, livelihoods, culture and environment are avoided or at least minimized, mitigated, offset and/or compensated. For these purposes, these projects are planned in remote rural areas, where there is a lack of land market because of limited transactions. A critical issue in this process is a fair economic valuation of agriculture, pasture or forest land using non-marked based valuation methods for compensation purposes.

This scientific monograph proposes some simple yet solid methods to value agriculture, pasture or forest land which could be applicable by the local or central administration without necessarily requiring on complex methodologies requiring data which are generally not available. More importantly, such methodologies are also difficult to understand by the landowners making the public consultation process non-transparent. The methods applied have been tested with success in several large-scale projects involving acquisition, easement or rental of land parcels in different soil and climatic conditions belonging to thousands of owners. A series of template will help the valuator to integrate all the variables and standardize data presentation. It can serve as a reference to comply with land easement and acquisition strategies and aforementioned international standards, for example, the Performance Requirements of the European Bank for Reconstruction and Development (EBRD), Performance Standards of the International Finance Corporation (IFC).
Opportunities and Challenges of Smallholders and Smallholding

Donát Horváth

In series: Agriculture Issues and Policies
Publication Date: 02/05/2021
332 pp.
Hardcover: 978-1-53619-135-6, $230.00
e-book: 978-1-53619-203-2, $230.00

Smallholder farms or smallholdings comprise livestock and livestock, livestock and crops and crops farming systems. It involves nutritional inter-relationships of integration and interdependency between livestock and crop systems and crop and crop systems. There are an estimated 500 billion smallholder farms worldwide supporting livelihoods of about 2 billion people, most of who are in Sub-Saharan Africa and Asia. Smallholders make more than 60% of agricultural producers supplying local and international food markets, and employ about 70% of farming communities in Sub-Saharan Africa and Asia. However, these farming systems experience financial, technological, infrastructural, market access, environmental and policy and institutional framework challenges. Considering the importance of smallholder farming systems, attempts should be geared towards mitigating the challenges and promoting productivity and sustainability of these farming systems. This is expected to lead to improved food and nutrition security and food safety and translate to improved livelihoods of smallholder farmers and increased income from agriculture products. The authors’ of this book focus on the challenges and opportunities of smallholders and smallholding systems all over the world.

Agricultural Engineering

Handbook of Technical Terms of Soil and Water Engineering

Mohammad Albaji (Department of Irrigation and Drainage, Faculty of Water & Environmental Engineering, Shahid Chamran University of Ahvaz, Ahvaz, Iran), Lamya Neissi (Department of Irrigation and Drainage, Faculty of Water & Environmental Engineering, Shahid Chamran University of Ahvaz, Ahvaz, Iran) and Soroor Hendali (Department of Soil Science, Faculty of Agriculture, Shahid Chamran University of Ahvaz, Ahvaz, Iran)

In series: Environmental Science, Engineering and Technology
Publication Date: 02/10/2021
384 pp.
Hardcover: 978-1-61324-110-3, $230.00

This book is designed as a text for undergraduate soil and water engineering courses and as preliminary reading for postgraduate courses in soil and water engineering. It is hoped that it will also be of value to specialists, experts and engineers already in the field and to students preparing for the M.Sc. and PhD examinations. The texts and exercises are based on my lecture courses to undergraduate water science engineers augmented by material prepared for extramural short courses. Wherever possible, illustrations have been used to clarify the texts. The purpose of this book is to bring together and integrate in a single text the subject matter that deals with soil and water engineering. The book is divided into 24 chapters and is intended for students, researchers, and professionals working on various aspects of soil and water engineering. Various soil and water subjects have been discussed in the chapters.
Crops

**Hordeum vulgare: Production, Cultivation and Uses**

*Naveen Eslem*

In series: *Agriculture Issues and Policies*

Publication Date: 02/15/2021

167 pp.

Softcover: 978-1-53619-137-0, $95.00

e-book: 978-1-53619-248-3, $95.00

Chapter 1 looks at the planting techniques of barley noting that the bidirectional planting technique had a significant effect on growth and yield of barley. Chapter 2 provides information about the molecular approaches and mutation breeding in barley. Late spring frosts and drought are the most important abiotic stress factors that definite the yield and quality performance of spring barley genotypes in breeding programs. For this purpose, the authors of Chapter 3 used in their study a total of 25 spring barley genotypes, including 20 advanced line and 5 standard varieties. The next chapter looks at the composite of barley and the health effects it has. The last chapter, the author performs a study that investigates the effects of the short-term application (1 and 5 days) of arsenic, cadmium, and lead (15μM, 30μM, and 60μM mixtures) on the phenolic contents of a barley species that was registered by the Trakya Agricultural Research Institute in 2014.

**Oryza sativa: Production, Cultivation and Uses**

*Herman N. Kearns*

In series: *Agriculture Issues and Policies*

Publication Date: 02/17/2021

198 pp.

Hardcover: 978-1-53619-112-7, $160.00

e-book: 978-1-53619-256-8, $160.00

Chapter 1 focuses on some of the steps needed to increase the rate of growth in rice production especially for meeting the demands of population growth. Chapter 2 discusses the various conventional approaches used for rice improvement. Chapter 3 examines the role of SSR markers in breeding and improvement of rice. Following the finding that Microbispora are the dominant genus of Actinobacteria in rice (Oryza sativa L.) plants grown in a Vertisol soil from Yanco, NSW, Australia, the authors of Chapter 4 decided to test the hypothesis whether this observation was rice cultivar- or soil-dependent. Four rice cultivars grown in four agricultural soils were subjected to comparative assessment of their root and shoot endophytic actinobacterial population diversity, employing a classical culture-dependent approach as well as 16S rRNA gene PCR T-RFLP as the culture-independent method. Chapter 5 focuses on many issues pertaining to the development of temperate and cold-tolerant rice varieties suitable for cultivation under irrigated conditions in Kashmir valley and the hills around it. We discuss the issues, the progress, and the way forward for rice research in this very significant Himalayan region where rice is a staple food. The last chapter deals with the present distribution of the pest, adult description, host plants, life history, ecology, its association with various plant pathogens, damage and effect on yield, natural enemies and management practices.

**Sweet Potatoes: Growth, Development and Harvesting**

*Lucas Courtois*

In series: *Agriculture Issues and Policies*

Publication Date: 10/02/2020

128 pp.

Softcover: 978-1-53618-611-6, $82.00

e-book: 978-1-53618-638-3, $82.00

Sweet Potatoes: Growth, Development and Harvesting introduces the potential benefits of sweet potato as a promising food crop for processing into baked foods and snacks, thus reducing production costs and providing economic efficiency for sweet potato producing countries. The development of flour from sweet potato through the application of special technology, particularly bioprocessing (fermentation) and physical treatment, is discussed. The concluding study evaluates the agronomic performance of eight selected sweet potato cultivars obtained from Embrapa Hortaliça’s germplasm bank, including
Brazlândia Branca, Brazlândia Rosada, Brazlândia Roxa, Beauregard, BRS Amélia, BRS Cuia, BRS Rubissol and Princesa.

**Zea mays L.: Cultivation, and Uses**

*Sarah Dunn*

In series: *Agriculture Issues and Policies*

Publication Date: 02/09/2021

103 pp.

Softcover: 978-1-53619-181-3. $82.00

e-book: 978-1-53619-204-9. $82.00

Zea mays L. is a potential producer of cereal crops and the dominant primary energy source of feed for monogastric animals, such as poultry. The first chapter in this book aims to determine the potential of phytase-producing endophytic bacteria, as an invisible avail for Zea mays L. High phytate levels in maize seeds is a problem encountered when used as raw material in poultry feed. The second chapter of this book focuses on the physical traits, chemical composition, and their relationship with wet-milling properties and nutritional quality parameters of maize hybrids of different maturity groups and various endosperm types (dent, semi-dent and flint). Finally, Mesoamerican cultures are generally regarded as advanced societies that, among other contributions to humanity, are known to have domesticated cultivated plants as Zea mays. Maize is one of the staple foods of the Mexican population and the practice of nixtamalization of maize seeds before Spanish conquest in 1521, is fundamental in the preparation of dough for tortillas. The last chapter examines the effect of salicyclic acid in maize bioproductivity.

**Farming**

**Farmers and Farming: Practices, Management and Challenges**

*Frederikke Poulsen*

In series: *Agriculture Issues and Policies*

Publication Date: 10/02/2020

177 pp.

Softcover: 978-1-53618-463-1. $95.00

e-book: 978-1-53618-598-0. $95.00

Farmers and Farming: Practices, Management and Challenges opens with a focus on livelihood, which refers to the way people make a living. Livelihoods are the means people use to support themselves, to survive and to prosper. Next, the authors aim to analyze the socio-economic features of farmers involved in organic cultivation, exploring landholding patterns in the northern part of Karnataka state.

They also explore how gender-based farming systems analysis could be used to simulate the effects of a change in agricultural practices on gender relations, either with the aim to do no harm or with the objective to achieve more gender equality. In closing, an overview on the potential and setbacks of intercropping in maintaining crop yields in changing climate in smallholder farmers in ESA set-up.

**Horticulture**

**Vitis: Biology and Species**

*António Manuel Jordão (Professor of Oenology, Polytexnic Institute of Viseu, Agrarian Higher School, Chemistry Research Centre, Food and Wine Lab, Vila Real, Viseu, Portugal) and Renato V. Botelho (Research Group in Fruit Crops and Post-Harvest Department of Agronomy State University of Mid-Western of Parana, Brazil)*

In series: *Horticulture, Viticulture and Viniculture*

Publication Date: 09/02/2020

395 pp.

Hardcover: 978-1-53618-308-5. $230.00

e-book: 978-1-53618-424-2. $230.00
The vine is one of the oldest plants on the planet, whose remote fossils date back more than 120 million years ago. It has been part of human civilization since ancient times, with many indications of its use for consumption and cultivation in various archaeological and historical sites. Until today, the vine is very present in modern society, with great socioeconomic and cultural importance in many countries. The taxonomy of the genus Vitis has been the subject of a lot of discussion, however it is generally considered to comprise two distinct sections: Muscadinia and Euvitis. It is clear that genus Vitis shows an impressive genetic variability for many agronomic characteristics being strongly conditioned by the climatic and soil conditions where the plants are implanted.

Thus, written by a group of international viticulture researchers, “Vitis: Biology and Species” is a book that provides up-to-date reviews, overviews and summaries of current research on the most recent developments in Vitis species characterization, biology and composition. This book is composed by thirteen chapters that provide current research on different topics of recent knowledge about native grape varieties from different origins, the impact of different climatic and soil conditions on vine management, the description of the main grapevines disease and their control, grape varieties composition and the use of modern digital technologies on viticulture. By reading this book, readers can find an excellent description of the state-of-the-art information and perspectives regarding to the most recent studies on the different dimensions of Vitis plants production. This new book is an important publication, which will be of great use to winegrowers, vine and wine scientists, students and other professionals that might be interested in reading and learning about some fascinating areas of vine research and discovery the most recent tendencys of vine biology and species.

Sustainable Soil Fertility Management

Hanuman Singh Jatav (Assistant Professor, Department of Soil Science and Agriculture Chemistry, Sri Karan Narendra Agriculture University, Jobner, Jaipur (Rajasthan) India), Dr. Satish Kumar Singh (Professor, Department of Soil Science and Agricultural Chemistry, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi, India), Dr. Vishnu D. Rajput (Academy of Biology and Biotechnology, Southern Federal University, Rostov-on-Don, Russia) and Dr. Tatiana Minkina (Academy of Biology and Biotechnology, Southern Federal University, Rostov-on-Don, Russia)

In series: Agriculture Issues and Policies
Publication Date: 02/10/2021

342 pp.
Hardcover: 978-1-53619-055-7. $230.00

Sustainable Soil Fertility Management mainly focuses on issues related to soil management at the field level, which is a prime concern for crop production that may be improved by adopting several sustainable management practices. Soil fertility is the capability of soil to sustain plant growth and optimize crop yield. This can be enhanced through the use of organic and inorganic fertilizers. Several techniques are suggested that enhance soil fertility and crop production while minimizing environmental impact. Soil fertility can be further improved by incorporating cover crops that add organic matter to the soil, which leads to improved soil structure and promotes a healthy, fertile soil, by using green manure or growing legumes to fix nitrogen from the air through the process of biological nitrogen fixation; and by microbes. Fertile soil contains all the major nutrients necessary to sustain basic plant nutrition (e.g., nitrogen, phosphorus, and potassium), as well as other nutrients needed in smaller quantities (e.g., calcium, magnesium, sulfur, iron, zinc, copper, manganese, boron, molybdenum, nickel). The book focuses on global strategies with a possible solution for managing the fertility of soil. The book covers soil science, soil fertility, crop production, soil sustainability, and soil management with a modern scientific approach that is helpful for researchers, the scientific community, academicians, business farmers and policymakers.
Special Topics

Agricultural Research Updates. Volume 30
Prathamesh Gorawala and Srushti Mandhatri
In series: Agricultural Research Updates
Publication Date: 10/16/2020
241 pp.
Hardcover: 978-1-53618-719-9. $250.00
e-book: 978-1-53618-721-2. $250.00

Agricultural Research Updates. Volume 30 provides a detailed update on the production of salt-tolerant plants through molecular breeding and genetic engineering. Future prospects and concerns, along with the importance of novel techniques elucidating the genetic basis of salt-tolerance are also discussed.

Next, a holistic framework for understanding and assessing the governance sustainability of Bulgarian agriculture is presented. This new approach is tested through a large-scale study for assessing the governance sustainability of a country’s agriculture at national, sectoral, regional, eco-system and farm levels.

The authors go on to study the influence of abiotic factors such as temperature and water potential on the growth of E. turricum on different crop residues used in rotations with maize under no-till system cultivation.

In addition, strategies for minimizing food waste proposed by different organizations and countries that face the common challenge of achieving the participation of all sectors of society are analyzed.

Later, male organ development in Brassica oleracea contributing the embryology of the Brassicaceae family is investigated, along with the beginning, advanced and final stages of programmed cell death in anther cell walls by cytochemical, biochemical and molecular processes.

Two investigations were carried out in northwest Italy in an effort to highlight the importance of tannin quantity and quality on pastures, particularly focusing on the way this can affect milk quality during the grazing season due to changes in nutritional composition.

The closing study focuses on Cannabis sativa L., or hemp, an annual, dioecious plants distributed especially in the northern hemisphere. Hemp plant contains at least 113 different phytocannabinoids and a diverse class of psychoactive compounds.

Agricultural Research Updates. Volume 31
Prathamesh Gorawala and Srushti Mandhatri
In series: Agricultural Research Updates
Publication Date: 12/02/2020
243 pp.
Hardcover: 978-1-53618-881-3. $250.00
e-book: 978-1-53618-919-3. $250.00

This compilation opens with a review of water productivity throughout the world, which may be a useful tool for water users and governments to establish their programs and strategies.

The authors present the main technical aspects of modern surface irrigation systems, their capabilities for reducing water demand, and challenges for increasing water productivity.

Additionally, the agronomic production, nutritional composition, human health benefits, nutritional breeding, and marketing opportunities regarding kale are reviewed.

Two investigations were carried out between March and May of 2017. Subsequently, the histological factors of salt tolerance in arbuscular mycorrhizal fungi inoculated strawberry plants are evaluated.

The authors provide an overview of the functionality of milk components in chocolate as well as the applications of milk powders in the manufacture of chocolate.
This compilation opens with a review of the past and present literature related to conservation tillage practices in durum wheat production and analyses the problems that arise from conservation tillage practices. Additionally, drought and salt tolerance are evaluated at an early stage of plant development in a collection of nine cultivated durum wheat cultivars (Triticum durum Desf.), using plants grown under hydroponic conditions. The role of linear discriminant analysis and related chemometric methods in combination with liquid chromatography for the characterization, classification and authentication of foodstuffs and beverages is addressed. The authors investigate the prevalence of Campylobacter jejuni and its toxin genes, namely the cytotoxicity distending toxin gene, in selected vegetables that are commonly consumed raw in Kuala Terengganu, Malaysia. The Campylobacter jejuni isolated from selected vegetables is characterized against 10 types of antibiotics from six classes commonly used in clinical and agricultural settings, namely aminoglycosides, fluoroquinolones, glycopeptides, macrolides, beta-lactams, and tetracyclines. The closing paper discusses the case of the kwebo, a low-cost, multi-purpose farm structure designed to be typhoon-resistant yet easy to construct, making use of prefabricated structural elements and construction aids.

Chapter one discusses the current information about the changes in chickpea’s nutritional value and health benefits given by its components after applying different kinds of food processes. In the second chapter, the authors suggest a holistic framework for defining, evaluating and improving the governance of agroecosystem services in Bulgaria. The interdisciplinary Theory of Ecosystem Services and the New Institutional Economy are adapted, and an attempt is made to define the governance of agroecosystem services, to identify its agents, forms and mechanisms, to formulate an adequate criterion for evaluating its efficiency, and to characterize the stages for its analysis and improvement. The aim of the third chapter was to develop a new “ready-to-eat” semi-solid CF product by using HHP at 600 MPa and 50°C for 15 or 25 min combined with final microwave heating prior to consumption. Eight combinations with a formulation that includes raw or toasted CF, with or without lemon juice, were evaluated using physicochemical (color and protein content, mechanical and rheological behavior), microbiological and sensory analyses. Subtropical Scientific Centre scientists (Sochi, Russia) have a task to select the most promising peach varieties of early, average and late maturation that are grown in the region. The timing of fruit maturation depends on the climatic conditions of the area, so in chapter four authors gave a brief description of the varieties, based on their maturation time in the humid subtropics of Russia. Chapter five, the authors discuss how they came to the conclusion that using the plant growth regulators in okra may be an effective strategy for improving growth, yield, and quality production. In the last chapter, authors perform a study using anadenanthera colubrina var. cebil (leguminosae) to determine that the dynamic integration of the species biology, spatial ecology, and historical demographic events will provide valuable tools for a multi-scale understanding of gene dispersal processes and their consequences on genetic variability distribution.
Agricultural Research Updates. Volume 34
Prathamesh Gorawala and Srushti Mandhatri

In series: Agricultural Research Updates
Publication Date: 02/17/2021
244 pp.
Hardcover: 978-1-53619-260-5. $250.00
e-book: 978-1-53619-290-2. $250.00

This compilation begins by analyzing seed development in sunflowers, exploring in detail the molecular activity of sunflower seeds throughout their three phases of development. Chapter Two describes the nutraceutical values of Fenugreek, an annual herb native to southern Europe and Asia which is used in medicinal and nutritional contexts. Chapter Three discusses the necessity of pest management in agriculture and the negative consequences of pesticides, including health and environmental effects as well as the emergence of resistance in pests, and how innovations in the development of bio-pesticides can address these problems. Chapter Four presents the use of nanomaterials for production, protection, and quality improvement in Cucumis melo, a species of melon that has been developed into many cultivated varieties. Chapter Five also deals with Cucumis melo and discusses how breeding based on advanced molecular sequencing techniques can improve fruit quality. Finally, Chapter Six reviews the physiological and biochemical effects of Zinc stress on radish (Raphanus sativus L.), an economically important vegetable crop worldwide.

Climate Change and Agricultural Issues
Colin Buckland

In series: Agriculture Issues and Policies
Publication Date: 12/10/2020
285 pp.
Hardcover: 978-1-53618-971-1. $195.00
e-book: 978-1-53619-004-5. $195.00

Maintaining the health of our planet for future generations is of paramount importance, but so is feeding the billions of people that populate the earth today and in the years ahead. These topics and how they interact is complex and are discussed in this book.

Chemistry

Advances in Chemistry Research. Volume 67
James C. Taylor

In series: Chemistry Research Summaries
Publication Date: 03/04/2021
245 pp.
Hardcover: 978-1-53619-338-1. $250.00
e-book: 978-1-53619-375-6. $250.00

In the first chapter of this compilation, the author reviews the sorption properties of magnetite with respect to hexavalent chromium ions and the possibility of its use as a sorbent for removing these toxic ions from contaminated aqueous solutions. In the second chapter, the authors summarize the importance of oxadiazole in medicinal chemistry for the management of various diseases. The third chapter discusses the developing technology of carbon capture and storage, a technique to reduce the impact of greenhouse gases, and how ionic liquids can be leveraged in this context. Following this, the authors describe how methanol to gasoline processes, specifically those using zeolites and zeolite-based catalysts, provide a viable alternative route for gasoline production. The final chapter proposes a revision of the standard model of photosynthesis based on new understanding generated through gravitational mass spectroscopy.
Biochemistry

A Closer Look at Glycation
Nadeem Ahmad Ansari, PhD (Department of Biotechnology, Faculty of Engineering and Technology, KMC Language University, Lucknow, U.P., India)

In series: Biochemistry Research Trends
Publication Date: 03/04/2021
254 pp.
Hardcover: 978-1-53619-176-9. $195.00
e-book: 978-1-53619-243-8. $195.00
This well-planned, logically structured and user-friendly book provides a useful insight into the world of non-enzymatic glycation from its early stages to an advanced level, with an eye on glycating agents, their enhancers and inhibitors. All chapters are of equal interest but the chapters on dietary AGEs and effects of AGEs on bone cells provide novelty in the area of glycation. These chapters also describe characterization of the glycation and its role in different types of age-related complications and diseases. A chapter on synthetic and plant-based natural inhibitors of glycation is also presented.

Biochemistry and Biochemists: Who Were They and What Did They Discover?
Manuel F. Varela (Professor, Eastern New Mexico University, Science Department, Portales, New Mexico, USA), Ann F. Varela (Instructor, Eastern New Mexico University, Math and Science Department, Portales, New Mexico, USA) and Michael F. Shaughnessy (Eastern New Mexico University, School of Education, Portales, New Mexico, USA),

In series: Biochemistry Research Trends
Publication Date: 09/11/2020
319 pp.
Hardcover: 978-1-53618-493-8. $230.00
e-book: 978-1-53618-529-4. $230.00
The book Biochemistry and Biochemists: Who Were They and What did they Discover is an series of twenty five reviews regarding the top twenty five biochemists of the last two hundred years. The book chronicles the work and discoveries of research scientists from various parts of the world (Severo Ochoa of Spain, John Earnest Walker of Great Britain, Luis Leloir of France, Jens Skou of Denmark as well Masayusa Nomura of Japan). Some of these biochemists did foundational work (Albert Szent-Gyorgyi in the realm of vitamin C ) and others did exemplary work into some of the most important realms of their time ( such as Dorothy Hodgkin and her explorations into the structures of penicillin and insulin ). Enzyme kinetics was explored and researched by Maud Menten and Leonor Michaelis.

The lives and explorations of these individuals as well as relevant anecdotes regarding their lives are explored in this book. For example, Jakub Karos Parnas, a well known scholar and researcher died in the famous Lyubyanka Prison in Moscow, although the exact cause of his death may never be known. Luis Leloir was born in the shadow of the Arc de Triomphe in Paris and went on to achieve greatness and crucial insights in sugar metabolism and glycogen biosynthesis. Some of these researchers investigated things as simple as water ( and their transporation into and out of cells ) and others offered such profound ideas such as Albert Kluyver and his comments that “all organisms do biochemistry”. In a sense, all students of biochemistry as well as chemistry would do well to learn about these biochemists, their discoveries and a bit about their lives- as many led many challenging lives- such as escaping from the Germans in World War II. Each of the biochemists here in this text had something to offer the realm of science and many were rewarded with the highest honor imaginable- the Nobel Prize- and some of them succeeded in their chosen field of endeavor- even though they may have failed Anatomy and Physiology four times!

Investigations into DNA, ATP and these realms also are highlighted in this book as these fundamental concepts are obviously of critical importance in the realm of biochemistry. This book is first a serious exploration into the discoveries of these biochemists while at the same time an interesting examination of the lives, and loves and trials and tribulations of these biochemists who literally changed the face of biochemistry over the years.
**Fermentation and Culturing**

**Beer: From Production to Distribution**

*Armand Legault*

In series: *Fermented Foods and Beverages in a Global Age*

Publication Date: 09/18/2020

161 pp.

Softcover: 978-1-53618-414-3. $95.00

e-book: 978-1-53618-474-7. $95.00

This compilation provides a critical review of a tailor-made concept for the production of beer with high biological value, reviewing the changes in phenolic capacity and antioxidant activity of malt and hops as the main phenolic component sources in beer. A conceptualization and characterization of craft beer and a full description of the “craft beer revolution” phenomenon is provided, elucidating the increasing consumption of this beverage. A concluding study assesses the antioxidant activity of beer mainly due to endogenous phenolic compounds with high bioavailability, Maillard reaction products and sulfites.

**Food Science and Technology**

**Antioxidant Properties and Health Benefits of Green Tea**

*Nishant Rai, PhD (Professor, Department of Biotechnology, Graphic Era (Deemed to be University), Dehradun, Uttarakhand, India) and Jigisha Anand, PhD (Assistant Professor, Department of Biotechnology, Graphic Era (Deemed to be University), Dehradun, Uttarakhand, India)*

In series: *Food and Beverage Consumption and Health*

Publication Date: 01/27/2021

207 pp.

Hardcover: 978-1-53619-044-1. $160.00

e-book: 978-1-53619-122-6. $160.00

Derived from leaves of evergreen herb *Camellia sinensis*, green tea is known for its significant human health benefits. Once primarily consumed in Asia and North Africa, green tea is becoming increasingly available around the world with an increase in its average annual growth. There has been a tremendous change in the consumption pattern of green tea, a prime drive of which is the increasing knowledge about and marketing of its health benefits. The most notable health benefit of green tea is its powerful antioxidant potential, which helps prevent cellular damage from certain oxidation reactions in the body at the molecular level.

Green tea is attributed to health claims which include the prevention of skin cancer, lower blood pressure, the prevention of cardiovascular diseases, neurodegenerative and kidney disorders, diabetes, respiratory distress, the inhibition of clinical and opportunistic microbial infections, and many more. The rich presence of polyphenols in green tea is likely responsible for its multiple health benefits. In vitro and in vivo epidemiological evidence suggests the importance of green tea polyphenols in exerting antioxidant activities which confer medicinal and food value. Major polyphenols found in green tea include the catechins, such as epigallocatechin gallate, epigallocatechin, epicatechin 3-gallate, epicatechin, and epicatechin gallate. These catechins have shown promise in the promotion of cardiovascular health, the prevention of cancer, skin protection, the reduction of high cholesterol levels, diabetes, impaired immune function, diarrhoea, fatigue and infection. There is a highly significant relationship between phenolics, flavonoids and the antioxidant activity of green tea, while the amount of phenolic, flavonoids and antioxidants are the parameters depicting the quality of tea according to their biological properties. This book is an informative forum highlighting research on the antioxidant activity of green tea pertaining to its health benefits. The book is organised into seven chapters that provide a comprehensive review of the antioxidant activity of green tea and its associated health benefits. The book outlines useful information and improves the fundamental knowledge regarding the processing of green tea, its chemical components, their role as antioxidants and usefulness as nutraceuticals.
Cajanus cajan: Cultivation, Uses and Nutrition
Donald S. Wilkes

In series: Food Science and Technology
Publication Date: 02/09/2021
164 pp.
Softcover: 978-1-53619-134-9, $95.00
e-book: 978-1-53619-223-0, $95.00

Pigeon pea (Cajanus cajan (L.), among legumes, has an important role in the diet of many people in the world. It is one of the oldest food crops. It is the sixth most important legume crop. Pigeon pea is rich in protein, carbohydrates, and dietary fiber, and a rich source of other bioactive components. Pigeon pea is a good source of dietary fiber and is low in fat, which helps in the maintenance of body weight and reduces the risk of cardiovascular diseases. Cytoplasmic male-sterility (CMS) refers to the condition in plants where they fail to produce functional pollen. In Chapter 1, the authors briefly discuss cytoplasmic-male sterility and its utilization in hybrid breeding in plants. Then they describe a historical overview of the discovery of male-sterility in pigeon pea. Next, a retrospective view on the major CMS systems developed and their use in commercial hybrid seed production in pigeon pea is presented. Finally, genomic approaches for stimulating pigeon pea hybrid breeding are briefly discussed.

In Chapter 2, the authors focus on the pharmacological and medicinal properties of pigeon pea. Next, the chemical composition of pigeon pea, its nutritional value, phytochemical components, health benefits and its usefulness in formulating functional foods is examined. In the final and fourth chapter, the cultivation, uses and other important nutritional information about this important legume is explored.

Cinnamon: Nutrition, Consumption and Health
Joseph M. Croce

In series: Food Science and Technology
Publication Date: 11/06/2020
142 pp.
Softcover: 978-1-53618-679-6, $82.00
e-book: 978-1-53618-703-8, $82.00

Cinnamon: Nutrition, Consumption and Health first explores the benefits of cinnamon and its components on metabolic impairments in diabetes, a disorder caused by impaired insulin release and action, and defective metabolisms of nutrients such as carbohydrates, lipids, and proteins. In addition, the authors discuss the antioxidant, antimicrobial, and flavor properties of cinnamon and its potential as a functional ingredient. A study was conducted to evaluate the effects of chitosan nano-encapsulating mint, thyme and cinnamon essential oils on performance, immune responses and intestinal bacteria population in broiler chickens. In closing, the causes of variations of compounds present in cinnamon essential oil are reviewed, such as: climatic conditions, drying conditions, extraction methods, and the analysis method for chemical characterization.

Consumption and Contamination of Dairy Products
Egor Vagin

In series: Food and Beverage Consumption and Health
Publication Date: 10/16/2020
140 pp.
Softcover: 978-1-53618-654-3, $82.00
e-book: 978-1-53618-674-1, $82.00

In Consumption and Contamination of Dairy Products, the authors first describe the microbiological, physicochemical and sensory properties of a traditional Michouna cheese produced from goat and cows’ milk in East of Algeria. A description of the microbiological analyses of 128 samples of different dairy products produced by an establishment located in the Marche region, Central Italy, is provided. The results demonstrate good manufacturing conditions. One of the main fermented milk drinks consumed in Algeria, Iben, is characterized, recording the absence of all pathogenic micro-organisms and mold. To examine the consumers’ acceptance of bakery products incorporating whey residue, a by-product of the cheese industry, a descriptive cross-sectional study was conducted through a questionnaire survey on a non-probabilistic sample composed of 299 participants. In closing, the authors present some results of a questionnaire survey carried out in Portugal and Brazil, investigating the consumption habits of some classes of dairy product.
Fermented and Distilled Alcoholic Beverages: A Technological, Chemical and Sensory Overview. Distilled Beverages
Maurício Bonatto Machado de Castilhos (Department of Exact Sciences and Earth Department, Minas Gerais State University, Frutal, Minas Gerais, Brazil), Vanildo Luiz Del Bianchi (Food Engineering and Technology Department, São Paulo State University, São José do Rio Preto, São Paulo, Brazil) and Vitor Manfroi (Institut of Food Science and Technology, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil)
In series: Fermented Foods and Beverages in a Global Age
Publication Date: 01/21/2021
191 pp.
Softcover: 978-1-53619-026-7, $95.00
e-book: 978-1-53619-053-9, $95.00

Fermented and Distilled Alcoholic Beverages: A Technological, Chemical and Sensory Overview. Distilled Beverages presents relevant material regarding distilled alcoholic beverage technologies and their variations, including current information about their chemistry and sensory profiles. The book aims to offer evidence regarding the use of novel technologies in distilled alcoholic beverages and focuses on the importance of the relationship between chemical and sensory approaches. This information will be useful for distilled alcoholic beverage producers, scientists, professors, and as targeting material for food science, technology and engineering graduate and post-graduate students. This book includes six chapters on the following subjects: cachaça, cognac, pisco, rum, mezcal and tequila, and tiquira (spirit of manioc), and provides information concerning the use of novel technologies in the distilled alcoholic beverage field, comparing them with the classical technologies used worldwide. Useful data is provided regarding the effects of these novel technologies on chemical properties and sensory wine acceptance, as well as on descriptive profiles aimed at assessing the changes promoted in the chemical profile of distilled alcoholic beverages as a result of the improvement of their quality and sensory uniqueness.

Fermented and Distilled Alcoholic Beverages: A Technological, Chemical and Sensory Overview. Fermented Beverages
Maurício Bonatto Machado de Castilhos (Department of Exact Sciences and Earth Department, Minas Gerais State University, Frutal, Minas Gerais, Brazil), Vanildo Luiz Del Bianchi (Food Engineering and Technology Department, São Paulo State University, São José do Rio Preto, São Paulo, Brazil) and Vitor Manfroi (Institut of Food Science and Technology, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil)
In series: Fermented Foods and Beverages in a Global Age
Publication Date: 01/21/2021
202 pp.
Softcover: 978-1-53618-984-1, $95.00
e-book: 978-1-53619-051-9, $95.00

Fermented and Distilled Alcoholic Beverages: A Technological, Chemical and Sensory Overview. Fermented Beverages presents relevant material regarding fermented alcoholic beverage technologies and their variations, including current information about their chemistry and sensory profiles. The book aims to provide crucial evidence regarding the use of novel technologies in fermented alcoholic beverages and discusses the relationship between chemical and sensory approaches, since both are closely related. This information will be useful for fermented alcoholic beverage producers, scientists and professors, and will be helpful as material for food science, technology and engineering graduate and post-graduate students. This book includes six chapters with the following subject matter: white wines, sparkling wines, cider, mead, beers and craft beers. The distinctiveness of this book lies in the fact that it provides information concerning the use of novel technologies in the fermented alcoholic beverage field, comparing those with classical technologies that have been used worldwide. The book provides useful data regarding the impact of these novel technologies on chemical properties, sensory acceptance and descriptive profiles, with the goal of assessing the changes promoted in the chemical profile of fermented alcoholic beverages as a result of the their quality improvement and sensory uniqueness.
Fermented and Distilled Alcoholic Beverages: A Technological, Chemical and Sensory Overview. Red Wines

Maurício Bonatto Machado de Castilhos (Department of Exact Sciences and Earth Department, Minas Gerais State University, Frutal, Minas Gerais, Brazil), Vanildo Luiz Del Bianchi (Food Engineering and Technology Department, São Paulo State University, São José do Rio Preto, São Paulo, Brazil) and Vitor Manfroi (Institut of Food Science and Technology, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil)

In series: Fermented Foods and Beverages in a Global Age
Publication Date: 01/21/2021
246 pp.
Softcover: 978-1-53618-985-8, $95.00
e-book: 978-1-53619-052-6, $95.00

Fermented and Distilled Alcoholic Beverages: A Technological, Chemical and Sensory Overview. Red Wines presents relevant material regarding red wine technologies and their variations, including current information about their chemistry and sensory profiles. The book provides crucial evidence regarding the use of novel technologies in red wines and discusses the relationship between chemical and sensory approaches, since both are closely related. This information will be useful for red wine producers, scientists and professors, and will be helpful as material for food science, technology and engineering graduate and post-graduate students. This book includes seven chapters with the following subject matter: red wines produced from American grapes (Vitis labruscana) (Brazil), Bordeaux Cabernet Sauvignon and Merlot (France), Tempranillo (Spain), Touriga Nacional (Portugal), Tannat (Uruguay), and Syrah (Brazil) grapes. The distinctiveness of this book lies in the fact that it provides information concerning the use of novel technologies in red wine production, comparing those with classical technologies used worldwide. The book provides useful data regarding the effect of these novel technologies on chemical properties, sensory wine acceptance and descriptive profiles, assessing the changes promoted in the wines' chemical profile as a result of the their quality improvement and sensory uniqueness.

Fermented Foods: Nutrition and Role in Health and Disease

Oliver Kovalyov

In series: Food and Beverage Consumption and Health
Publication Date: 10/09/2020
296 pp.
Hardcover: 978-1-53618-656-7, $195.00
e-book: 978-1-53618-705-2, $195.00

Fermented Foods: Nutrition and Role in Health and Disease provides a comprehensive review of the recently discovered, or bioengineered, vitamin B2, B9 and B12-producing lactic acid bacteria, providing an in depth analysis of the latest biotechnological applications and potentialities, particularly the development of novel bioenriched fermented foods. The authors elucidate the impact of lactic acid fermentation on sulforaphane rich products in an effort to improve our understanding on the role of sulforaphane as a potential medicine in the treatment of various disorders. A proteinaceous compound produced by Leuconostoc lactis RK18 is characterized, isolated from a fermented Cambodian food product.

Later, fermented meat products and fermented shrimp products are discussed, particularly focusing on their production, composition, microorganisms, health benefits and health risks.

Kefir: Nutrition, Consumption and Health Benefits

Larry B. Lewis

In series: Food and Beverage Consumption and Health
Publication Date: 11/04/2020
208 pp.
Hardcover: 978-1-53618-805-9, $160.00
e-book: 978-1-53618-853-0, $160.00

Kefir is a type of fermented, acidic, slightly alcoholic drink with a creamy consistency, resulting from the fermentation of microorganisms that live in symbiosis in traditional grains or lumps of kefir. Kefir: Nutrition, Consumption and Health Benefits reviews the current literature and presents a “study of art” relating to kefir and its technological advances in product development.
The level of microorganisms found in kefir grain are reviewed, along with the ratio of microorganism species to each other, the incubation temperature applied in production, its duration and the storage time of kefir grain.

Meat Products: Chemistry, Consumption and Health Aspects
Marcela Paola Castro, PhD(Laboratorio de Microbiología de Alimentos, Departamento de Ciencias Básicas y Aplicadas, Universidad Nacional del Chaco Austral, Argentina; Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) de la República Argentina) and María Elisa Cayré, PhD(Laboratorio de Microbiología de Alimentos, Departamento de Ciencias Básicas y Aplicadas, Universidad Nacional del Chaco Austral, Argentina)

In series: Food and Beverage Consumption and Health
Publication Date: 01/05/2021
263 pp.
Hardcover: 978-1-53618-978-0, $195.00
e-book: 978-1-53619-020-5, $195.00
Meat and meat products have been consumed by humankind throughout time, and the rise of industrialization and mass production in the past century has made them more affordable and available. At the same time, meat and meat products have been blamed for causing cancer and degenerative diseases. Information regarding this has been often blatantly controversial, leading to misinterpretation, uncertainty, and fake news. Rethinking the role of meat in human nutrition is a present challenge for the food industry. To address this, we must look towards green and clean technologies that adhere to the fundamental principles of environmental care. This book includes comprehensive reviews of hot topics relating to meat products. The reader will find current information and scientific evidence about emerging technologies, modern trends and future perspectives on the subject, with emphasis placed on chemical and health aspects.
The COVID-19 pandemic has proved that we cannot continue with business as usual. The inevitable consequences of “the old normal” (zoonotic disease, antimicrobial resistance, climate change and food insecurity) will not revert. As we move into the next decade and beyond, we need a more healthy, sustainable and fair food system. This book aims to contribute to build a better scenario for subsequent consumer generations. Today more than ever, food scientists are leading actors in the international scene.

Milk: Nutrition, Consumption, and Health
Amal Bakr Shori (Faculty of Science, Department of Biological Sciences, King Abdulaziz University, Jeddah, Saudi Arabia)

In series: Food and Beverage Consumption and Health
Publication Date: 12/04/2020
162 pp.
Softcover: 978-1-53618-871-4, $95.00
e-book: 978-1-53618-927-8, $95.00
Milk is a highly nutritious medium permissive for the growth of many diverse bacterial species. It is a composite form of different dietary essentials like triglycerides, caseins, soluble milk proteins, milk peptides, sugars, minerals, vitamins, and enzymes. On the one hand, there is increasing interest in the applications of compounds produced by dairy starter cultures due to strong consumer demand for healthy fermented milk products. On the other hand, it is a highly perishable commodity and poor handling can exert a public health and economic toll, thus requiring hygienic vigilance throughout the production-to-consumer chain. This comprehensive book will mainly focus on factors affecting the composition and nutraceutical properties of milk and their functional value from different dairy animals. The book presents factors affecting the composition and nutraceutical properties of milk in different dairy animals, provides information on the microbiota of raw milk, and provides information on the nutritional manipulation of milk nutrients to increase functional value.
Properties and Uses of Vegetable Oils

Dr. Yashvir Singh (Department of Mechanical Engineering, Graphic Era Deemed To Be University, Dehradun, Uttarakhand, India) and Dr. Nishant Kr. Singh (Department of Mechanical Engineering, Hindustan College of Science and Technology, Mathura, UP India)

In series: Food Science and Technology
Publication Date: 02/24/2021
306 pp.
Hardcover: 978-1-53619-207-0. $230.00
e-book: 978-1-53619-245-2. $230.00

Vegetable oils are a group of fats derived from seeds, nuts, cereal grains, and fruits. It is important to understand that not all vegetable oils are liquid oils at ambient temperatures. Vegetable oils have enormous potential as alternatives for mineral oil in a myriad of industrial applications. Although our knowledge of the genes and biochemical pathways leading to the formation of plant oils allows for the potential to engineer a diverse array of lipid products in seed oils, this goal remains a challenge. This book identifies the prospects of vegetable oils for different applications that facilitate readers from academia, industry, and research laboratories to enhance their knowledge of utilizing vegetable oils in different industrial sectors.

Super and Nutraceutical Foods: Composition and Technology

Sandra Teresita Martín-del-Campo (Tecnologico de Monterrey, Escuela de Ingeniería y Ciencias, Querétaro, Qro, Mexico), Jessica del Pilar Ramírez-Anaya (Departamento de Ciencias Computacionales e Innovación Tecnológica, CUSUR-Universidad de Guadalajara, Ciudad Guzmán, México) and Anaberta Cardador-Martínez (Tecnologico de Monterrey, Escuela de Ingeniería y Ciencias, Querétaro México)

In series: Food Science and Technology
Publication Date: 03/09/2021
413 pp.
Hardcover: 978-1-53619-082-3. $230.00
e-book: 978-1-53619-281-0. $230.00

Superfoods have been used for human consumption for centuries. These foods provide an important amount of essential nutrients and energy. Nowadays, the nutraceutical properties of superfoods have acquired importance due to their additional health benefits. Most superfoods are eaten in their fresh form in producing regions, but seasonality is an important limiting issue. Traditional processing technologies have been used to assure supply for the whole year, and innovative processing technologies have been developed to reach bigger markets.

In this book, the authors provide information about nutritional aspects of the described foods. Additionally, the different functional properties of each food, such as antioxidant, anticancer, hypoglycemic, and cardioprotective activities are discussed. It includes information about their principal bioactive compounds, biological activities, the effects of processing these compounds, nutritional values, and sensorial properties and shelf life. The first section is focused on the properties of selected fruits, some eaten fresh, others only after a first transformation. The second section is focused on a selection of foods having been transformed before human consumption, such as cereals, pseudocereals, and legumes. Finally, the third section includes a set of products from animal and diverse origins.
Science and Technology

General Chemistry

Advances in Chemistry Research. Volume 65
James C. Taylor

In series: Advances in Chemistry Research
Publication Date: 10/16/2020
291 pp.
Hardcover: 978-1-53618-711-3. $250.00
e-book: 978-1-53618-734-2. $250.00

Advances in Chemistry Research. Volume 65 first discusses the cannabis plant, which is known as an attractive source of potential bioactive compounds that contribute to remedy a lot of diseases such as cancer, multiple sclerosis, arthritis, epilepsy, inflammatory bowel disease, and spinal cord disease, among others. Following this, the potential applications of intense pulsed light and non-thermal plasma in the milk powder industry are discussed, as well as the need for future efforts. Additionally, the various applications and uses of α- and β-pinene rich essential oils are discussed, such as antioxidant agents, anti-inflammatory agents, fungicidal agents, antiviral agents, antibacterial agents, insect repellants, antimicrobial agents and cytotoxic agents.

The authors provide an overview of the mechanistic pathways operating in molecular catalysis for water oxidation, ranging from the well-established ruthenium chemistry to the more recent and promising first row transition metal complexes. The catalytic aspects and mechanisms of water oxidation by ruthenium complexes are reviewed in an effort to provide insight on the design of efficient water oxidation catalysts. Later, a comprehensive description of transition metal chalcogenides based nanomaterials for noble metal-free electrocatalysts for oxygen reduction reaction is presented. The closing work studies the acetoxylation of alpha-pinene over activated carbons, which can be performed using solid materials such as zeolite, heteropolyacids and SBA-15 with sulfonic groups.

Organic Chemistry

Branched-Chain Amino Acids: Metabolism, Benefits and Role in Disease
Michael T. Kidd (Professor and Holder of Adisseo Endowed Professorship in Global Sustainable Poultry Nutrition, Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, AR, USA)

In series: Chemistry Research and Applications
Publication Date: 01/13/2021
344 pp.
Hardcover: 978-1-53618-833-2. $230.00
e-book: 978-1-53619-066-3. $230.00

The branched-chain amino acids are unique in chemical structure, metabolism, and that they are essential in the diet of both humans and monogastric food animals. Whether you are a health professional looking to increase your knowledge of amino acid nutrition on disease, health, and aging, or an agriculture scientists looking to broaden your knowledge of factors influencing amino acid requirements, this text is a must.

This book represents three diverse sections encompassing eleven chapters in total. Section one, being the largest, consist of six chapters addressing the role of branched-chain amino acids in domestic animal and human health. Endocrine and antioxidant systems affected by branched-chain amino acid status are presented, as well as biochemical and molecular mechanisms behind their responses. Moreover, the pros and cons of branched-chain amino acid therapy and balance in sports nutrition, catabolic injury recovery, disease, and successful aging are presented. The second and third sections of this text are similarly unique, in that they contain five chapters addressing diet needs, digestion, intestinal metabolism, absorption, and subsequent whole-body metabolism at the biochemical and molecular level. Further, two different meta-analyses have been composed using independent branched-chain amino acid data for assessment of food animal needs, in addition to providing insights for controlling metabolic homeostasis via diet formulation. Lastly, and specific for food animal production, the most limiting branched-chain amino acids in swine and poultry diets (e.g., valine and isoleucine) are poised to gain popularity and further price competitiveness in their crystalline L-amino acid forms, and thus, have tremendous environmental implications in terms of planetary nitrogen and water cycling.
Chalcones and Their Synthetic Analogs
Pál Perjési, PhD (Institute of Pharmaceutical Chemistry, University of Pécs, Pécs, Hungary)
In series: Chemistry Research and Applications
Publication Date: 11/04/2020
357 pp.
Hardcover: 978-1-53618-709-0. $230.00
e-book: 978-1-53618-794-6. $230.00
Chalcones is a collective name of natural and synthetic compounds with a 1,3-diaryl-2-propen-1-one moiety. Natural chalcones are biogenetic precursors of the flavonoids in higher plants. They belong to one of the major classes of naturally occurring compounds with widespread distribution in different plant families. Natural and synthetic chalcones display a wide variety of pharmacological effects, including antibacterial, antiprotozoal, antimalarial, anti-inflammatory activities, cytotoxicity towards cancer cell-lines, antitumor, and antitumor-promoting, activities. The chalcone scaffold is one of the natural privileged structures, which possess geometry suitable for decoration with side chains, such that the resulting products bind to different target proteins. The present contribution summarizes up-to-date summary of their synthetic methods, UV, IR and MS characterization, covalent and noncovalent interactions under cellular conditions, as well as antimalarial and anti-inflammatory actions of natural and synthetic derivatives. Synthesis and spectroscopic properties of not only chalcones but their conformationally restricted analogs are also discussed. Furthermore, synthetic methods and biological activities of C5-curcuminooids, a class of compounds with the related 3-aryl-2-propen-1-one moiety, are summarized. The respective chapters discuss the known structure-to-spectroscopic characteristic and structure-to-biological activity relationships as well.

Sulfonamides: An Overview
Deboyen Sarkar, Ph.D. (Department of Chemistry, National Institute of Technology, Rourkela, India)
In series: Chemistry Research and Applications
Publication Date: 11/16/2020
359 pp.
Hardcover: 978-1-53618-157-9. $230.00
e-book: 978-1-53618-911-7. $230.00
This book presents comprehensive accounts of the chemistry revolving around the sulphonamides. Sulfonamides are widely present in various drugs as a functional group and are a manmade synthetic drug. Hence, their extended research is a prerequisite for every practitioner of organic chemistry. Chapter 1 introduces the synthesis, reactivity, acidity, and pharmaceutical properties of the sulphonamides. It highlights the synthesis of biologically active sulphonamides, the study of their biological activity by QSAR method, and their medical applications. Chapter 2 deals with the classification of sulphonamides (i.e. acyclic and cyclic) and their structural activity relationship. It also describes the application of sulphonamides in pharmaceuticals as antimicrobial, anti-diabetic, anti-viral, anti-cancer, anti-inflammatory and anti-malarial agents. Chapter 3 reviews the synthetic attempts towards sulphonamide synthesis by employing the fixation of sulphur-dioxides. These approaches have been categorized into three parts: a) transition metal-catalyzed, b) employing Lewis acid, c) photocatalytic. Chapter 4 discusses the use of sulphonamides as potent organocatalysts, briefly describing how the mono- and C2-symmetric bis-sulfonamides act as efficient bifunctional and multifunctional organocatalysts in the enantioselective Michael addition of carbonyl compounds to α,β-unsaturated compounds. Chapter 5 details the oxidative sulphonamidation of alkenes and dienes, which also direct the routes to the synthesis of numerous heterocycles and linear compounds. Special emphasis is given to the comparison of reactivity of triflamides, arenesulfonamides, and the deprotection of sulphonamides. Chapter 6 describes the therapeutic properties of sulphonamides, which are significantly increased by the presence of the metal ions and ligands. This complex generation provides the opportunity to exploit the unique properties of metal centers, such as multiple oxidation states, redox properties, a wide variety of coordination numbers, symmetries and structural patterns, which offer highly adaptable platforms for drug design. Chapter 7 provides an overview of the clinical applications of sulphonamides on the toxicity and pharmacokinetic aspects of various sulpha-drugs. The mechanism involved in the development of sulphonamide resistance is briefly discussed. Thus, this book summarizes important attempts undertaken by chemists and biologists worldwide in the area of sulphonamides. Most importantly, the book also correlates the structural activity relationship and the related biological activity of the sulphonamides, attracting both novice and experienced chemists across the globe.
Thiadiazoles: Advances in Research and Applications
Alberto Cohen
In series: Chemistry Research and Applications
Publication Date: 11/20/2020
230 pp.
Hardcover: 978-1-53618-878-3. $160.00
e-book: 978-1-53618-887-3. $160.00
Thiadiazoles: Advances in Research and Applications opens by discussing how, due to antioxidant properties, influence on muscarinic acetylcholine receptors, and inhibition of acetylcholinesterase activity, 1,2,4-thiadiazole-class compounds can be considered as potential drugs in the treatment of disorders connected with the central nervous system, such as Alzheimer’s disease.
An overall review of the synthesis, biological activity, solubility, lipophilicity, and membrane permeability of a number of 1,2,4-thiadiazole derivatives with different substituents in the structure is presented.
Additionally, the authors provide an overview of the applications of thiadiazoles in the corrosion inhibition of metals and alloys. A detailed review of the literature on thiadiazole derivatives as corrosion inhibitors for acidic and neutral environments for different metallic substrates is also provided.

Polymer Science and Technology
Glass Transition of Green Polymers
Tatsuko Hatakeyama (President, Lignocel Research Ltd., Tsukuba, Ibaraki, Japan)
Former Senior Scientist, the National Institute of Materials and Chemical Research, AIST, MITI, Japan) and Hyoe Hatakeyama (Executive Director, Lignocel Research Ltd., Tsukuba, Ibaraki, Japan)
Former Chief Senior Scientist, the National Institute of Materials and Chemical Research, AIST, MITI, Japan)
In series: Polymer Science and Technology
Publication Date: 03/04/2021
335 pp.
Hardcover: 978-1-53619-214-8. $230.00
e-book: 978-1-53619-287-2. $230.00
In nature, green polymers (natural polymers) in plants and animals always coexist with water. The characteristic features of polymers organized in nature are difficult to understand without water. Specific features of green polymers are characterised via interaction with water molecules which strongly interact with the hydrophilic group of polymers.
Molecular motion of the main chain of polysaccharides, whether extracted from wood, fungi, seaweed, or bacteria, is considerably enhanced in the presence of water. Not only in crystalline polysaccharides but also amorphous lignin, the effect of water on molecular motion is clearly observed by various experimental techniques. When the molecular motion of green polymers is investigated in the presence of water, molecular rearrangement occurs by the introduction of water into the system, and the higher-order structure is rearranged during molecular movement by heating conditions. Phase transition behaviour of water molecules is also affected in the presence of hydrophilic polymers, such as polysaccharides. Molecular enhancement of water molecules and hydrophilic polymers cooperate with each other and phase transition behaviour of the above system also corresponds to the above motion. Even the first-order phase transition of water is affected in the presence of polysaccharides. When glass transition behaviour of the natural polymer-water system is investigated, it is important to take into consideration the fact that the structural change of both components has necessarily taken place.
In this book, the molecular relaxation of green polymers, especially the thermodynamic concept of green polymers and the bound water, will be described in Chapter 2. Various techniques to measure the glass transition of green polymers in dry and wet conditions are explained in Chapter 3. Special attention is paid to sample handling for controlling water content. Glass transition behaviour of various polysaccharides and model compounds is described in Chapter 4. An explanation of lignin and its synthetic model polymers is also given in Chapter 5.
What to Know about Lignin
María González Alriols (University of the Basque Country, UPV/EHU, Chemical and Environmental Engineering Department, Spain), Dr. Jalel Labidi (University of the Basque Country, UPV/EHU, Chemical and Environmental Engineering Department, Spain) and M. Özgür Seydibeyoğlu (Izmir Katip Celebi University, Materials Science and Engineering, Izmir, Turkey)

In series: Polymer Science and Technology
Publication Date: 02/24/2021
340 pp.
Hardcover: 978-1-53619-152-3. $230.00
e-book: 978-1-53619-222-3. $230.00

This book presents recent developments about lignin documented with world renown researchers. The book is divided into 3 parts:

a) Lignin Extraction/Characterization
b) Lignin Modification
c) Lignin Applications

Lignin chemistry is still a mysterious area with various lignin types from various plants in the world providing us new opportunities to discover new materials. With the world extensive knowledge on surface chemistry, there are various methods to modify lignin structure. There are also many applications in polymeric resins, polymer composites, fertilizers and enhanced oil recovery. The book covers all the important developments about this highly important material group “Lignin”.

Special Topics

A Comprehensive Guide to Natural Products
Silje A. Dahl and Adam M. Frandsen

In series: Chemistry Research and Applications
Publication Date: 09/18/2020
206 pp.
Softcover: 978-1-53618-418-1. $95.00
e-book: 978-1-53618-432-7. $95.00

In this compilation, the role of liquid chromatography, mass spectrometry and chemometrics for the analysis and characterization of plant natural products is addressed.
The authors provide a comprehensive review of the pharmacological activity of cetrarioid lichens and their major secondary metabolites as antioxidants to prevent and treat oxidative stress-related diseases. Following this, the way in which the detection of various secondary metabolites and bioactive compounds in some plants can reduce sickle cells in vitro is studied.
In addition, the efficiency of green and conventional solvent systems concerning the three classes of phytochemicals (phenols, alkaloids, and flavonoids) is described.

Lastly, a brief history of antibiotics and the spread of resistance is provided, and future strategies to combat drug-resistant microbes are discussed.

Advances in Chemistry Research. Volume 64
James C. Taylor

In series: Advances in Chemistry Research
Publication Date: 10/01/2020
264 pp.
Hardcover: 978-1-53618-568-3. $250.00
e-book: 978-1-53618-601-7. $250.00

Advances in Chemistry Research. Volume 64 first focuses on the fluorescence detection or imaging of cupric ions by synthetic fluorescent probes. Major literature reports in the field of small molecules as fluorescent sensors for the detection of Cu2+ ions since 2011 till date are discussed.
The authors provide a general overview of different types of click polymerizations and their membrane applications as high-performance polymers, with a special emphasis on
the recent developments of CuAAC click polymerizations in their laboratory in the field of proton exchange membranes. Lastly, the latest achievements and prospects for applying the CuAAC reaction in the synthesis of biologically active steroids and triterpenoids are discussed. Steroids and triterpenoids are available and promising initial materials for the CuAAC reaction due to their wide biological activity, structural diversity, and abundance in nature.

**Advances in Chemistry Research. Volume 66**

*James C. Taylor*

In series: *Advances in Chemistry Research*

Publication Date: 12/02/2020

260 pp.

Hardcover: 978-1-53618-844-8. $250.00
e-book: 978-1-53618-855-4. $250.00

Advances in Chemistry Research. Volume 66 begins with a focus on the development of reproducible and economical methodologies for the separation, identification and quantification of chemical species present in oils and greases. The authors discuss the major structure-function attributes of azoles as antifungal mainstays, with an intensive focus on resistant mechanisms and concurrent remedial measures. Following this, the total syntheses of biologically active natural products achieved over the past 25 years is described. The concluding study concerns methanol, a toxic substance with a neutral, colorless liquid and a mild odor.

**An Introduction to Electronic Structure Theory**

*Nadia T. Paulsen*

In series: *Chemistry Research and Applications*

Publication Date: 09/18/2020

197 pp.

Softcover: 978-1-53618-411-2. $95.00
e-book: 978-1-53618-477-8. $95.00

In An Introduction to Electronic Structure Theory, Quantum Information Theory is applied to donor-acceptor systems. Reaction stages and charge-transfer phenomena are described, continuities of probability and phase distributions are explored, and resultant information descriptors combining classical and nonclassical contributions are summarized. The authors describe the most efficient method for studying the electronic structure of solids, the magnetic dilution method, or the study of the magnetic susceptibility of diluted solid solutions of paramagnetic oxides in diamagnetic isomorphous matrices. A review of the mathematical modeling and investigation of the electronic structure of some nanomaterials, composite materials, and graphene is presented using the Parameterized Model number 3 (PM3) semi-empirical method.

A basic introduction of electronic structure theory with commonly used notation is provided, as well as its applications for studying the physical properties of materials. Lastly, based on a concept of “different prescription for different correlation”, a multireference Brillouin-Wigner perturbation scheme with improved virtual orbitals is presented as an accurate and affordable computational protocol for treating electronic states plagued by quasidegeneracy.

**Properties and Uses of Butanol**

*Arnaud M. Artois*

In series: *Chemistry Research and Applications*

Publication Date: 10/30/2020

166 pp.

Softcover: 978-1-53618-448-8. $95.00
e-book: 978-1-53618-544-7. $95.00

Properties and Uses of Butanol reviews the different types of butanol along with its characteristics, methods of production and future trends observed in its applications as an alternative energy resource. The main aspects involved in the production of biobutanol are described, including raw materials, the transformation of biomass and the separation of the acetone-butanol-ethanol mixture. The most important areas of opportunity are determined, focusing on the enhancements required by the production process to increase reaction yields in the hydrolysis and fermentation steps.
The closing study discusses the oxidation of butanol on Pt single crystal, the possible mechanisms of the butanol oxidation reaction, and the working principles of fuel cells.

**Spectrum of Isothiocyanate Chemistry and its Applications**  
Surinder Kumar Mehta (Professor, Department of Chemistry & Centre of Advanced Studies in Chemistry, Panjab University, Chandigarh, India) and Shweta Sharma (Chairperson, Institute of Forensic Science and Criminology, Panjab University, Chandigarh, India)

In series: Chemistry Research and Applications  
Publication Date: 01/05/2021  
374 pp.  
Hardcover: 978-1-53616-478-7, $230.00  
e-book: 978-1-53619-005-2, $230.00  
This book is a compilation of invaluable contributions in the field of isothiocyanate chemistry. It clearly presents multidisciplinary chapters which focus on the various applications of isothiocyanates in the fields of health, fitness, and environmental sciences. Isothiocyanates are a class of agents that can simultaneously deliver diagnostic and therapeutic functions, enabling the detection and treatment of diseases in a single procedure, and play an efficient role in fighting against the global problem of pollution.

**COMPUTER SCIENCE AND INTERNET**

**Artificial Intelligence**

Artificial Intelligence Driven By Machine Learning And Deep Learning  
Bahman Zohuri and Siamak Zadeh (Golden Gate University, San Francisco, CA, US)

In series: Computer Science, Technology and Applications  
Publication Date: 10/09/2020  
455 pp.  
Hardcover: 978-1-53618-314-6, $270.00  
e-book: 978-1-53618-367-2, $270.00  
The speed of change in technology in recent years has been a real challenge for all businesses. To manage that, a significant number of organizations are exploring the Big Data (BD) infrastructure that helps them to take advantage of new opportunities while saving costs. Timely transformation of information is also critical for the survivability of an organization. Having the right information at the right time will enhance not only the knowledge of stakeholders within an organization but also providing them with a tool to make the right decision at the right moment. It is no longer enough to rely on a sampling of information about the organizations' customers. The decision-makers need to get vital insights into the customers' actual behavior, which requires enormous volumes of data to be processed. We believe that Big Data infrastructure is the key to successful Artificial Intelligence (AI) deployments and accurate, unbiased real-time insights. Big data solutions have a direct impact and changing the way the organization needs to work with help from AI and its components ML and DL. In this article, we discuss these topics.
As artificial neural networks have been gaining importance in the field of engineering, this compilation aims to review the scientific literature regarding the use of artificial neural networks for the modeling and optimization of food drying processes. The applications of artificial neural networks in food engineering are presented, particularly focusing on control, monitoring and modeling of industrial food processes. The authors emphasize the main achievements of artificial neural network modeling in recent years in the field of quantitative structure–activity relationships and quantitative structure–retention relationships. In the closing study, artificial intelligence techniques are applied to river water quality data and artificial intelligence models are developed in an effort to contribute to the reduction of the cost of future on-line measurement stations.

Anomaly Detection: Techniques and Applications
Dr. Saira Banu (Professor, Department of Computer Science and Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, India), Dr. Shriram Raghunathan (Program Chair, Gaming, VIT, Bhopal, India), Dr. Dinesh Mavaluru (Assistant Professor, Department of Information Technology, College of Computing and Informatics, Saudi Electronic University, Saudi Arabia) and Dr. A. Syed Mustafa (Professor and Head, Department of Information Science and Engineering, HKBK College of Engineering, Bangalore, Affiliated to Visvesvaraya Technological University, India)

In series: Computer Science, Technology and Applications
Publication Date: 03/11/2021
177 pp.
Softcover: 978-1-53619-264-3. $95.00
e-book: 978-1-53619-355-8. $95.00

When information in the data warehouse is processed, it follows a definite pattern. An unexpected deviation in the data pattern from the usual behavior is called an anomaly. The anomaly in the data is also referred to as noise, outlier, spammer, deviations, novelties and exceptions. Identification of the rare items, events, observations, patterns which raise suspension by differing significantly from the majority of data is called anomaly detection. With progress in the technologies and the widespread use of data for the purpose for business the increase in the spams faced by the individuals and the companies are increasing day by day. This noisy data has boomed as a major problem in various areas such as Internet of Things, web service, Machine Learning, Artificial Intelligence, Deep learning, Image Processing, Cloud Computing, Audio processing, Video Processing, VoIP, Data Science, Wireless Sensor etc. Identifying the anomaly data and filtering them before processing is a major challenge for the data analyst. This anomaly is unavoidable in all areas of research. This book covers the techniques and algorithms for detecting the deviated data. This book will mainly target researchers and higher graduate learners in computer science and data science.
Computers in Education: Trends, Applications and Challenges

Ganelon Metivier

In series: Computer Science, Technology and Applications
Publication Date: 10/23/2020
119 pp.
Softcover: 978-1-53618-612-3. $82.00
e-book: 978-1-53618-673-4. $82.00

Computers in Education: Trends, Applications and Challenges summarizes various reactions to school closure due to COVID-19, particularly focusing on the digitalization of education, government, schools, and the private sector. The authors aim to demonstrate connections that exist between the notion of technology immune to technology enabled mathematics problem-solving pedagogy and the theory of instrumental genesis. This theory has been used by educational researchers to demonstrate the modern-day pedagogical appropriation of an artifact as a material object. The development, implementation and evaluation of a mixed-mode delivery method involving a well-designed user interface and mobile learning applications is discussed.

The concluding study presents some implementations of Newton-Cotes integration methods to nonlinear 2D integrals with a new calculator: TWOD_integral_calculator designed with the help of Matlab Graphical User Interface.

Frontiers in Quantum Computing

Luigi Maximilian Caligiuri (Professor of Physics at Italian Minister of Education, University and Scientific Research (MIUR) and General Director at Foundation of Physics Research Center (FoPRC) Foundation of Physics Research Center (FoPRC), Cosenza, Italy)

In series: Physics Research and Technology
Publication Date: 10/01/2020
428 pp.
Hardcover: 978-1-53618-515-7. $230.00
e-book: 978-1-53618-657-4. $230.00

Quantum Computing is an ever-increasing field of interest both from a conceptual and applied standpoint. Quantum Computing, belonging to the so-called "Quantum Information Science", is founded on the principles of Quantum Mechanics and Information Science. Quantum Mechanics has radically changed our vision and understanding of the physical reality and has had also an enormous technological and societal impact. On the other hand, the developing of Information Theory, including computer science and communications theory, made possible the information "revolution" which had a deep impact on our everyday life. Quantum Computing then relates to the possibility to represent, process and manipulate information by using the principles of quantum mechanics. Apart from the theoretical importance of quantum computing to further understand the quantum mechanical behavior of physical systems and the physical foundation of information itself at the most elementary level, probably the most interesting feature of Quantum Computing is related to the possibility to design and realize an actual quantum computer which processes information in the form of quantum-bits or qubits. The great interest of scientific community in the realization of such devices mainly concerns the common interest that they could be enormously faster than their classical counterparts so allowing their employment in all the applied fields where computational power is a key feature. Furthermore, the study of Quantum Computing, both at the physical and computational level, would be very important for a deeper understanding of the quantum behavior of a very wide range of physical systems including condensed matter, living systems, elementary particles, astrophysical structures and so on. Despite the general theoretical basis of quantum computing being sufficiently understood, the actual realization of a general purpose and really usable quantum computer has posed great difficulties so far, mainly related to the issue of "quantum decoherence", the computational speed and scalability many of which still remain substantially unsolved.
Horizons in Computer Science Research. Volume 20
*Thomas S. Clary*

In series: *Horizons in Computer Science*
Publication Date: 02/10/2021
229 pp.
Hardcover: 978-1-53619-103-5, $250.00
e-book: 978-1-53619-107-3, $250.00

This compilation opens with a review of the applications of several anomaly-based methods under the computational intelligence umbrella for the detection of DDoS attacks. Following this, a study is carried out to reveal the effects of a device developed to enable visually-impaired people to read any document in the Braille alphabet.
The performance of the Artificial Bee Colony (ABC) algorithm on CEC2010 benchmark problems is also studied, with the goal of increasing the performance of the algorithm changes presented in large-scale optimization problems. Later, the opportunities and limitations of present waste management techniques are highlighted, and some future research proposals are discussed.

The authors provide an overview of the field of motion capture focusing on methods, systems, and applications. More information about the motion processing and motion reconstruction technologies applied in the most prevalent optical and inertial systems is presented.

In closing, a partially-manual method for using images to measure body poses is presented and discussed.

Support-Vector Machines: History and Applications
*Pooja Saiyal (Associate Professor, Vivekananda School of Information Technology, Vivekananda Institute of Professional Studies, (Affiliated to Guru Gobind Singh Indraprastha University), New Delhi, India)*

In series: *Computer Science, Technology and Applications*
Publication Date: 12/10/2020
245 pp.
Hardcover: 978-1-53618-757-1, $160.00
e-book: 978-1-53618-865-3, $160.00

Support Vector Machines: Evolution and Applications reviews the basics of Support Vector Machines (SVM), their evolution and applications in diverse fields. SVM is an efficient supervised learning approach popularly used for pattern recognition, medical image classification, face recognition and various other applications. In the last 25 years, a lot of research has been carried out to extend the use of SVM to a variety of domains. This book is an attempt to present the description of a conventional SVM, along with discussion of its different versions and recent application areas.

The first chapter of this book introduces SVM and presents the optimization problems for a conventional SVM. Another chapter discusses the journey of SVM over a period of more than two decades. SVM is proposed as a separating hyperplane classifier that partitions the data belonging to two classes. Later on, various versions of SVM are proposed that obtain two hyperplanes instead of one. A few of these variants of SVM are discussed in this book.

The major part of this book discusses some interesting applications of SVM in areas like quantitative diagnosis of rotor vibration process faults through power spectrum entropy-based SVM, hardware architectures of SVM applied in pattern recognition systems, speaker recognition using SVM, classification of iron ore in mines and simultaneous prediction of the density and viscosity for the ternary system water–ethanol–ethylene glycol ionic liquids.

The latter part of the book is dedicated to various approaches for the extension of SVM and similar classifiers to a multi-category framework, so that they can be used for the classification of data with more than two classes.
Top 10 Challenges of Big Data Analytics

Maria José Sousa, PhD (Assistant Professor, School of Sociology and Public Policy Instituto Universitário de Lisboa, Business Research Unit, Lisboa, Portugal) and Manuel Au-Yong Oliveira, PhD (Assistant Professor, Aveiro University, Portugal)

In series: Research Methodology and Data Analysis
Publication Date: 02/05/2021
206 pp.
Hardcover: 978-1-53619-133-2. $160.00

The application of big data analytics in all fields of research is a critical driver for the competitiveness of all countries in the modern world. Currently, governments and industry generate large amounts of data driven by record keeping, compliance, regulations, data privacy, and dynamic requirements, and thus there is a need to create better mechanisms to analyse data, and hence support organizational development, as well as providing aid to policymakers’ decision-making processes. In this context, there are emerging disruptive opportunities because of Big Data; new business models, and vertical industry segments will emerge through shared relationships with all the stakeholders, and big data analytics is a major asset to support these dynamic relationships. This book was developed with the objective of analysing some of those challenges while at the same time providing a perspective of the potential of big data analytics, and the importance that analytics have for managers and for policymakers, to help define new strategies and new public policies, respectively. The book is focused on different sectors of activity (i.e. the Health sector, Public Administration, the Education sector, among others), and on different economic dimensions (i.e. Entrepreneurship, and Innovation) and links big data analytics to different fields of research, such as artificial intelligence and other emergent technologies; which are challenging organisations, governments, and societies, with the need to face the new imperative of being prepared for the very uncertain and tremendously complex future – in which big data analytics will play a very decisive and active role.

Special Topics

An Introduction to Approaches and Modern Applications with Ensemble Learning

Yi-Tung Chan, PhD (Department of Electrical Engineering, R. O. C. Naval Academy, Kaohsiung, Taiwan)

In series: Computer Science, Technology and Applications
Publication Date: 11/20/2020
335 pp.
Hardcover: 978-1-53618-680-2. $230.00
e-book: 978-1-53618-846-2. $230.00

From the successful application of deep learning (DL) in AlphaGo in 2012 to the recent advances in edge computing, artificial intelligence (AI) has continued to develop over the years. In the face of the current sweeping trend of AI, ensemble learning (EL) is expected to be further applied to DL and AI for developing higher-level ensemble systems in the future. Moreover, it could become an important step for achieving “The Master Algorithm” proposed by Prof. Pedro Domingos. In light of this, EL will continue to make a significant contribution to future development. The purpose of this book is to provide insights into EL for readers not majoring in computer science or related subjects, introduce the latest development and applications of EL; in particular, share its practical applications in various fields. Accordingly, this book intends to present theoretical parts relating to mathematics and computing in a simple and concise manner. The examples and practical use of EL have been used to explain methods that utilize EL to solve readers’ issues in their fields, which demonstrates the essence of EL for practical applications. While many AI and ML books are available on the market, most require a certain level of mathematical and machine learning (ML) knowledge. Complicated theories of mathematics and computation may be intimidating for people without a background in computer science and engineering, such as biological and medical researchers. It would be unfortunate if they were to miss the opportunity to use EL as a practical tool to solve data analysis problems at hand. Moreover, EL is usually introduced in the later or advanced chapters of AI and ML books. Beginners in ML, or readers without a technical background, are likely to be frustrated by mathematical or technical terms that only appear occasionally in the book or be anxious about complicated mathematical and computational theories related to classification algorithms. It would be regrettable if they were intimidated, and therefore, missed the opportunity to learn and use EL. From a practical perspective, existing classification techniques, such as decision trees with the C4.5 algorithm, support vector machines, and neural networks are now relatively mature and have been proven to be effective. For readers
without a technical background, it is not essential to understand the complicated mathematical and computational theories behind the above techniques. Instead, it is recommended to grasp the logic and meaning of parameters in these classification algorithms and directly conduct tests using EL. Learning through practice can help readers to establish computational thinking. It is the best approach to learning EL, ML, AI, and DL.

Furthermore, this book provides references and recommended reading for each technique to satisfy the curiosity of some readers with regard to mathematical theories and algorithms so that they can acquire further knowledge and answer their questions. Finally, the hope is that readers can be made aware, through practical use of EL, that they can build a robust ensemble system and solve problems in their areas without having to learn the absolute details of specific ML algorithms and mathematics behind the algorithms.

This book provides insights into EL from worldwide experts and scholars in various fields. This book extensively introduces and discusses the application of EL in various fields and the current and future research directions of its novel applications. It also reviews some of the more popular areas in which EL has received widespread attention in recent years in the ML and AI. Each chapter opens with an introduction to ML and EL techniques, and then, analyzes the applications of EL in different fields, such as signal and image processing, medical care, education, geology, and agriculture. More than two experts and scholars in related fields acted as reviewers for the peer review of each chapter. It is hoped that these applications in various fields can inspire readers to use EL in practice.

Computing Ethics
Abdelrahman Karrar (Associate Professor, Information Systems Department, College of Computer Science & Engineering, Taibah University, Kingdom of Saudi Arabia) and Kamal Dahbur  Professor, Information Systems Department, College of Computer Science & Engineering, Taibah University, Kingdom of Saudi Arabia)

In series: Ethical Issues in the 21st Century
Publication Date: 03/11/2021
149 pp.
Softcover: 978-1-53619-378-7, $95.00
e-book: 978-1-53619-401-2, $95.00

Ethics is an important basis for controlling and regulating human behavior in all areas of life, including but not limited to dealing with other people at work. This book covers ethical issues related to the field of information technology and computing, and discusses some of the ethical issues from the perspective of the Arabic and Islamic cultures. The book concentrates on understanding the legal, ethical, and societal issues related to the field of information technology and computing without indulging into the implications of these issues on other fields, such as music or painting copyrights. The book also provides an excellent foundation in ethical, legal and cultural decision-making for current and future professionals, practitioners and managers in the field of computer science and information technology.

The book covers many fundamental and contemporary topics, including:

- Ethical theories, philosophy, responsibility and code of ethics
- History of computing ethics and ethics for the computing professions
- Professional ethics in Islam
- Negative uses of computers and the Internet
- Privacy, anonymity and position of Islam on privacy
- Ethical issues related to software piracy and intellectual property
- Supporting and opposing Islamic views on intellectual copyright
- Ethical Issues related to globalization
- Ethicality of threats and violation to information security
- Hackers, vandals, spyware and network security risks
Nowadays, network connectivity and the Internet have been an indispensable part of our daily lives via various services/applications supporting all of the industry areas ranged from trade and business, administration to entertainment, transportation, education, and healthcare. Typically, the concepts and introductions of terms, such as the Internet of Things (IoT), cloud or edge/fog computing, and content-oriented network services, have been investigated as emerging topics toward the realization of the Internet of Everything (IoX) in the future.

Toward this end, developing an efficient congestion control mechanism is regarded as a key to an efficient and robust network design since the network availability and stability can directly affect the network performance, in terms of interoperability and robustness, especially in the case of an explosive increase in the network traffic volume. In particular, when a network link becomes corrupted or overload, congestion may occur due to packet drops. As a result, the overall network performance, including network throughput, latency, and response time will be degraded. The book is not intended to provide a comprehensive description of various congestion control techniques. Rather, with the assumptions that the readers have some general knowledge of networking fundamentals, the main goal of this book is to bring together distinguished perspectives of congestion control in different network platforms and technologies, ranged from TCP/IP, MPTCP (Multipath TCP) in heterogeneous networks, wireless networks to information-centric networks as future networks, and even supercomputing. The book then aims to give a new insight into this challenging and important topic of congestion control to overcome network performance degradation when congestion occurs from both theory/principles and practical viewpoints. Hence, we hope that this book provides a broader picture of the Congestion control concept in the context of communication networks toward efficient network design.
and increase returns on investments. IoT has the potential to transform the way consumers and businesses approach the world by leveraging the scope of IoT beyond connectivity. Economies are constantly “falling out” in every industry, but to be truly disruptive, an economy must entirely transform a product or solution that was so complicated historically that only a few affluent people who carry certain skills had access to it. A disruptive economy is often a much simpler, low-grade solution that’s more affordable and accessible to a large percentage of the population, thus opening it to an entirely fresh market. This often upturns established industries and overthrows existing market leaders.

Internet of Things and Businesses in a Disruptive Economy provides insight on how the newly emerging IoT will provide unprecedented opportunities to permeate technology and automation into everything we do, while at the same time providing a huge playing field for businesses to develop state-of-the-art business models to capture market shares. This book covers business domains like human resource management, health care, agriculture, smart cities projects, smart manufacturing, smart education, cloud computing, and IoT securities issues. Readers will gain a broad understanding of IoT wherever IoT is applicable, as well as the role IoT plays in transforming business processes and ensuring sustainable growth in the disruptive economic environment. Readers will be able to use IoT to tackle real-world problems ranging from those in the manufacturing sector, human resource management, health care, agriculture, surveillances systems, cloud computing and smart cities and various other domains of business.

The Fundamentals of Search Algorithms
Robert A. Bohm
In series: Computer Science, Technology and Applications
Publication Date: 02/15/2021
101 pp.
Softcover: 978-1-53619-007-6, $82.00
e-book: 978-1-53619-246-9, $82.00

Heuristic local search algorithms are used to find “good” solutions to the NP-hard combinatorial optimization problems that cannot be solved using analytical methods. Chapter one discusses the characterization and computation of heuristic local search algorithm for the Traveling Salesman Problem (TSP) from the perspective of dynamical systems.

The purpose of chapter 2 is to show the practical application of CBIR technology in the security and protection of personal data, access to classified documents and objects, identification of illegal attacks that are part of the social life of the present and future of mankind.

Continuous search space problems are difficult problems to solve because the number of solutions is infinite. Moreover, the search space gets more complex as we add constraints to the problem. In this context, chapter 3 aims to show the usage of the differential evolution algorithm for solving continuous search space problems using unconstrained functions and a constrained real-world problem.

Wireless Sensor Networks (WSN): Technology and Applications
Abdulrahman Yarali (Professor and Coordinator, Cybersecurity Network Management, Professor of Telecommunications Systems, Murray State University, Murray, KY, USA)
In series: Computer Science, Technology and Applications
Publication Date: 10/16/2020
386 pp.
Hardcover: 978-1-53618-726-7, $230.00
e-book: 978-1-53618-779-3, $230.00

The current world of technology faces massive advancements that influence different sectors such as transport, health care system, and education, amongst others. The telecommunication and information industry has become significant over time and has experienced considerable development. This trend is likely to extend into the future, both in terms of hardware and software. The industry plans to make modern advancements in the next five years to change their current modes of operation. Some of the significant changes that are forecast for the industry include technological advances such as 5G, Artificial Intelligence (AI), Machine Learning (ML), IoT, wireless sensor networks, and cross-industry alliances. 5G mobile connectivity is expected to bring advanced technical improvements helping employment as well as growth in GDP.

In the fusion of these technologies, the potential of IoT and Wireless Sensor Networks (WSN) would be witnessed through various applications such as connected consumer, home monitoring system, predictive maintenance, factory monitoring, and so on. A Wireless Sensor Network (WSN) is a term used for a network of devices that can gather information and then communicate it through any wireless link. The data collected is then transferred using different nodes and multiple gateways. With the evolution of technology, some new criteria have been introduced to check and balance the environmental conditions for reliable and fast response operations for a quick response and service under different
scenarios and situations. There has been an increased use of smart wireless sensor objects in the current world by various organizations. The growth of the Internet of Things (IoT), industrial IoT, and wireless sensor networks have shaped different technologies and enables faster, reliable, and sufficient production of goods and services. Although there are limitations and challenges such as storage capacity, processing power, communication range, and battery life, WSN significantly affects IoT technology development. Learning about the standards and specifications of WSNs is vital to understanding their general functionality and how they are in close interaction with the Internet of Things, with many massive billions of device connectivity. Future developments should focus on building a self-adaptive spectrum management middleware for the wireless sensor networks.

The telecom industry will continue to face regulatory challenges it faces currently. Various new regulations are likely to come up soon, and these will also have financial implications for the companies. The need to ensure consumer privacy is a critical issue that will be of prime concern to the telecoms in the next few years. Various aspects, such as the standards and the architectures, need to be considered to ensure the security and operational consistency of these wireless sensor networks; therefore, industry players should keep up with the changing trends and adapt accordingly.

In this book there are twelve chapters which cover wireless networking sensors evolution and technologies advancement. We are very pleased that the technology, academic, and industry communities are discussing this important and fast growing industry and we are certain that the content of this book will shed some light on this subject. The chapters presented in this book discuss technologies, design, implementation and applications of various short and long range wireless sensors networking. The challenges and issues faced in providing applications and services to meet user experiences ubiquitously and securely are presented.

In the scientific community, he is valued for his remarkable knowledge and intellect that formed the basis of his legacy of innovation, rigor and achievement in atmospheric science. His accomplishments were honored with numerous prestigious awards, and his ingenuity, brightness, kindness and humor kindled respect and dedication in his many colleagues and students. Upon Zaviša Janjić’s passing, collaborators and students endeavored to describe his person and his work by assembling the details of his journey on the narrow path to true success in science—a path that is reserved for a select few.

As a young student, Zaviša started work on his first limited area numerical weather prediction model, which became operational at the Federal Hydrometeorological Institute of the former Yugoslavia in 1978. Janjić was able to solve several difficult scientific questions during the model design and development phase, which helped lay the foundation for his models. Starting in the mid-to-late eighties, Professor Janjić worked on parameterizations of numerous physical processes. This work developed over the longest portion of his career, lasting more than 20 years. It included the development of Eta, Weather Research and Forecasting Nonhydrostatic Mesoscale Model (WRF-NMM) and Non-hydrostatic Meso-scale Model on B grid (NMMB), which were National Centers for Environmental Prediction (NCEP) weather prediction models. Readers of this book will also enjoy a reprint of an interview with Professor Janjić; a professional biography with Professor Janjić’s specific contributions and references to scientific papers; commemorative letters from several directors of major meteorological centers describing how they saw Professor Janjić’s work in atmospheric science; and photos and documents from Janjić’s life and work.

Interlacing his life story with a working biography, writers and editors of this book hope to inspire the coming generation of scientists, as well as provide a timely tribute to Professor Janjić’s contribution to atmospheric science.
Wind Speed: An Overview
Nicolas Koči
In series: Meteorology and Climatology
Publication Date: 09/18/2020
142 pp.
Softcover: 978-1-53618-412-9, $82.00
e-book: 978-1-53618-487-7, $82.00
In Wind Speed: An Overview, the history and development of wind energy is reviewed. Scientific trends in the academic field of wind energy are determined using a scientometric network analysis. The relationship between wind speed forecasting and wind disasters is evaluated, particularly focusing on extra-tropical and tropical cyclones due to their dynamic origins. Wind energy plays a significant role in clean energy sources, and the amount of energy that can be produced from a wind turbine is directly related to the value of the wind speed in that specific location. The closing study focuses on wind as a source of energy in Kitka and Koznica, maintaining that in order to harness wind energy, it is necessary to carry out terrain condition analyses for the installation of wind turbines.

Geology
A Focus on Mining
Henri Walker
In series: Geology and Mineralogy Research Developments
Publication Date: 01/27/2021
400 pp.
Hardcover: 978-1-53619-037-3, $230.00
e-book: 978-1-53619-164-6, $230.00
The processes and requirements to mine on federal lands vary by mineral category, surface/subsurface management agencies, and estate ownership. Chapter 1 offers an introduction to the framework created by federal statutes applicable to mining on federal lands. It also highlights some topics in the mining sector that may be relevant to the issue of mining on federal lands.

Geophysics
Seismology
Bogdan Felix Apostol
In series:
Publication Date: 09/02/2020
345 pp.
Hardcover: 978-1-53618-492-1, $230.00
e-book: 978-1-53618-559-1, $230.00
The book offers a comprehensive physical theory of the earthquakes. The presentation level is rather mathematical, but thorough physical explanations are provided everywhere. We do not know where and when and how great an earthquake occurs. The seismic events have a statistical character. Statistical Seismology is discussed extensively in this book, centered on the famous Gutenberg-Richter, Omori and Bath statistical laws. The earthquakes may be correlated, foreshocks may herald a main shock, aftershocks may follow a main shock. The pattern of such correlations, their extension in time and magnitude are discussed in this book. The earthquakes are produced by forces acting for a short time in a localized focal region placed inside the Earth. These forces give rise to elastic deformations and elastic waves, which arrive at Earth’s surface as earthquakes. The nature of these forces and their effects are discussed in this book. Any earthquake begins by a
feeble tremor, the so-called P and S seismic waves, followed by a large, main shock, which looks like a wall with a long tail. This book explains why it is so.

We cannot predict the occurrence of the earthquakes. But we can know something about them. For instance, there exist seismographs, a sort of pendulums, which record the ground displacement. There exist agencies which tell us the earthquake magnitude, its energy, location, fault slip, by reading the seismograms. We may wish to get such information by ourselves, almost in real time, knowing the seismograph recordings, to be independent of the seismological agencies.

This book teaches us how to do that.

The book describes the accumulation of the seismic energy in the focal region, its release, the shape and strength of the ground displacement. It is shown that the seismic faults may give rise to rather complicated tensorial forces, which account both for the static deformations of the Earth’s surface and for the seismic waves produced in an earthquake. A model of energy accumulation in the earthquake focus is formulated and used to derive the statistical Gutenberg-Richter laws. These laws are used to analyze the statistics of the seismic events in Vrancea, Romania, as an example. A special emphasis is given to the short-term seismic activity. The book introduces the point tensorial force of the seismic faults and employs it to present both the static deformation of the Earth’s crust in epicentral regions and the seismic waves and the main shock which appear on any typical seismogram. This later point is the solution of the so-called Lamb seismological problem. The book describes the determination of the seismic-moment tensor, earthquake magnitude, the volume of the focal region, the duration of the seismic activity in the focus, the fault orientation and the fault slip from measurements of the seismic waves at the Earth’s surface. This is the solution of the inverse seismological problem. A special point is a qualitative estimation of these parameters which can be practised by everyone in real time.

The book presents the vibrations of the Earth viewed as a solid sphere and the vibrations of an elastic half-space. The static deformations of the elastic half-space under the action of point forces are also included. Finally, earthquake correlations, Bath’s law and earthquake entropy are discussed.

The book is an original monograph of Seismology, intended for the use of the students, researchers and the public who wish to become familiar with the physics and mathematics of the earthquakes. It provides the understanding of the earthquakes and specific knowledge we may have of them.

### Hydrology

#### Groundwater Quality: Assessment and Environmental Impact

**Rafael M. Vick**

In series: Water Resource Planning, Development and Management

Publication Date: 12/04/2020

144 pp.

Softcover: 978-1-53618-807-3. $82.00

e-book: 978-1-53618-949-0. $82.00

Groundwater Quality: Assessment and Environmental Impact first discusses arsenic contamination in groundwater, which has emerged as a major health hazard in India. The authors review a generalized scenario of groundwater in the Greater Dhaka Area, focusing on the deterioration of groundwater quality over the years and its impact on the environment.

Following this, the chemical composition of rainwater and groundwater from the Mount Cameroon area in May-July 2017 is analyzed, and the impact of water-rock interactions on groundwater chemistry is assessed.

The concluding study aims to assess the extent of exposure to fluoride in inhabitants of Raebareli district in Uttar Pradesh, India, generating baseline data about the fluoride-contaminated area.

#### Lake Water: Properties and Uses (Case Studies of Hydrochemistry and Hydrobiology of Lakes in Northwest Russia)

**Oleg S. Pokrovsky** (Research Director at the CNRS, Geoscience and Environment, CNRS, Toulouse, France), **Dr. Yulia Bespalaya** (Director of the Institute of Biogeography and Genetic Resources, N. Laverov Federal Center for Integrated Arctic Research Russian Academy of Sciences, Arkhangelsk, Russia), **Dr. Liudmila S. Shirokova** (Associate Professor, University of Toulouse, Toulouse, France) and **Taisia Y. Vorobyeva** (N. Laverov Federal Center for Integrated Arctic Research of Russian Academy of Sciences Federal Agency for Scientific Organizations, Arkhangelsk, Russia)

In series: Climate Change and its Causes, Effects and Prediction

Publication Date: 03/09/2021
Lake ecosystems are known to be valid sentinels for current climate changes and anthropogenic pressure because they provide indicators of these impacts either directly or indirectly through the influence of climate and human activity on their catchments. Among these indicators, to name just a few, are water temperature, dissolved organic carbon, nutrients and metals, phyto- and zooplankton composition as well as population and biodiversity of crustacea, mollusks and fish. The advantages of using lakes as tracers of climatic changes and anthropogenic impacts on aquatic ecosystems are multiple. Lake ecosystems are well constrained, confined and are studied in a sustained fashion; lakes respond directly to climate change and local and global pollution via incorporating the effects of these impacts occurring within the catchment; lakes integrate responses over time, and thus allow to avoid the random or unique single-time effects. Finally lakes of various sizes are distributed worldwide and, as such, can act as sentinels across various climatic conditions while exhibiting different degree of vulnerability to external pressure depending on their size and specific location capturing different aspects of climate change (e.g., changing precipitation regime, heat waves, permafrost thaw, invasion of new species, local and global (dispersed) pollution).

However, the majority of published studies on lakes in the boreal and subarctic zone deal with Western and Northern Europe and Northern America, with quite limited information on lakes in the NW Russia. This book is intended to partially filling this gap by presenting 13 chapters describing the hydrology, hydrochemistry and hydrobiology of various lakes located in the NW European Russia, from the Finland border in the west to the Ural Mountains in the East. The thirteen chapters of the book, written by the experts in the field of biogeochemistry, limnology and zoology cover full limnetic ecosystems, from lake physical characteristics to lake water chemistry, microbiology, phytoplankton and zooplankton population, Crustacea, mollusks and fish. A multidisciplinary approach across wide geographical zones, comprising both small and large lakes of the Russian Subarctic, presented in this book, will be interesting for a large community of scholars, students, and researchers from academic and private organizations.

Mineralogy

Hardrock Mining: Expenditures, Leasing and Government Policy
Samuel Allen
In series: Geology and Mineralogy Research Developments
Publication Date: 12/02/2020
397 pp.
Hardcover: 978-1-53619-275-9. $230.00
e-book: 978-1-53619-304-6. $230.00
The General Mining Act of 1872 allowed individuals to obtain exclusive rights to valuable hardrock mineral deposits on land belonging to the United States. Miners explored, mined, and processed valuable minerals, but many did not reclaim the land after their operations ended. Unsecured mine tunnels, toxic waste piles, and other hazards—known as mine features—are found at abandoned hardrock mines across federal and nonfederal lands. The Forest Service, BLM, National Park Service, EPA, and OSMRE—as well as state agencies—administer programs that identify and address hazardous features at abandoned hardrock mines. This book looks at hardrock mining issues.

Minerals and Their Properties: Novel Approach for Applications
Dr. S. J. Dhoble (Department of Physics, R.T.M. Nagpur, University, Nagpur, India), Dr. Anup P. Bhat (Department of Electronics, Amolakchand Mahavidyalaya, Yavatmal, India), Dr. Renu Nayar (Department of Chemistry, D. P. Vipra College, Bilaspur, India) and Dr. Bandana Samant (Department of Geology, R.T.M. Nagpur, University, Nagpur, India)
In series: Geology and Mineralogy Research Developments
Publication Date: 12/22/2020
340 pp.
Hardcover: 978-1-53618-889-9. $230.00
e-book: 978-1-53618-990-2. $230.00
Geology deals with the Earth’s dynamics, rocks, minerals, past life, and landforms. To understand geological processes and their applications in society, a multidisciplinary approach is needed. This book discusses how minerals and their inherent properties can be used for the benefit of society.
Minerals are the building blocks of rocks and soils, and more than 3,000 varieties of minerals have been identified. Mineral science, traditionally known as mineralogy, is the study of naturally occurring solid substances in the universe. These substances were formed by complex earth system processes and provide a key to understanding the composition and origins of the earth. These minerals are classified based on their physical and chemical characteristics, occurrence, and economic value.

Globally, India is considered a potential resource for various mineral deposits. According to the Ministry of Mines, the Indian subcontinent produces as many as 95 minerals. These minerals are used in numerous industries like engineering, infrastructure, electronics, armory, and food, etc. The physical properties of a mineral are characterized by the combination of crystal structure and chemical composition. To date, the chemical and physical properties of some of the new minerals are not known. Similarly, it is essential to develop artificial minerals to replace naturally occurring minerals. A lot of work has gone into developing low-cost materials in large quantities, with the same chemical properties as the natural materials, so that they can be used in a cost-effective way for the benefit of society and industry. Nowadays, minerals are also increasingly used in biomedical sciences and for assessing and managing water quality, especially in the Indian context.

The feldspar group of minerals are the most abundant minerals in the Earth’s crust and constitute up to 51% of the continental crust. The weathering of minerals, especially feldspar, plays an important role in soil formation. Soil provides indispensable resources for food production and shelter. The inherent fertility of soil depends on the presence of nutrient elements, hosting or holding minerals in rocks and sediments and their bioavailability by controlled weathering processes. Agricultural productivity is correlated with geologically recent additions of fresh rock debris by processes of volcanism, glaciations, denudation, and chemical weathering of feldspars. Hence, the Feldspar group of minerals are important for increasing soil fertility and productivity.

Mineral-based phosphors encourage the visual recurrence transformation to develop full-shading white emitting light-transmitting diodes (LEDs). Presently, most of the focus is on the advancement of novel mineral-based LED phosphors for strong state lighting. We have proposed a few new agent groups of mineral-based LED phosphors and strong state lighting innovations for vitality and eco-accommodating lighting frameworks. Long lasting mineral-based phosphors help in future extensions. Some of the economically important minerals of India, their properties, occurrences and government mineral policies are also discussed.

Special Topics

A Closer Look at Conflict Minerals
Matias Russo
In series: Geology and Mineralogy Research Developments
Publication Date: 12/02/2020
211 pp.
 Hardcover: 978-1-53618-947-6, $160.00
e-book: 978-1-53618-966-7, $160.00
The exploitation of the mining and trade of “conflict minerals”—in particular, tin, tungsten, tantalum, and gold from the eastern region of the Democratic Republic of the Congo (DRC)—has contributed to the displacement of people and severe human rights abuses. The 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) addresses, among other things, trade in conflict minerals. This book looks at the progress made since the Dodd-Frank Act went into effect.

A Comprehensive Review of Significant Geological Eras
Miko Avei
In series: Origin, Evolution and Geological History of the Earth
Publication Date: 10/02/2020
156 pp.
 Softcover: 978-1-53618-225-5, $95.00
e-book: 978-1-53618-382-5, $95.00
A Comprehensive Review of Significant Geological Eras begins by exploring the nature and evolution of the lithospheric mantle beneath the North China Craton. The late Cenozoic evolution of the east Eurasian convergent margin is described through an investigation of geothermal events related to regional tectonic movements. The authors discuss how the onset of glacial conditions began in the very early Carboniferous Tournaisian Stage and continued at least until the Gzhelian, or even into the Permian Asselian Stage.
The geochemical characteristics of volcanism in the Western Magmatic Belt and Eastern Magmatic are also discussed, indicating early stages of back-arc basins during the Tremadoc. The Neoproterozoic Malani Igneous Suite, the product of mantle plume/hotspot tectonism in the Northwestern Indian shield, is also examined. Thanks to recent developments in archaeobotany and archaeozoology, the authors evaluate how the initial domestication of plants and animals unfolded during the Neolithic revolution. Lastly, the Fars cultural zone is discussed to investigate the Neolithization process in Iran.

**Nova Excerpts: Earth Sciences**

**Dominik Lucas**

In series: *Nova Excerpts*

Publication Date: 12/10/2020

208 pp.

Hardcover: 978-1-53619-038-0. $125.00

e-book: 978-1-53619-048-9. $125.00

*Nova Excerpts: Earth Sciences* is a compilation of Abstracts and Introductions from a wide variety of Earth Science books Nova has published over the years. Each excerpt includes the title of the original book where the original content was published should readers be interested in learning more. *Nova Excerpts* is published simultaneously in both print and digital formats.

**The Rare Earths: Their Occurrence, Chemistry, and Technology**

**S. I. Levy**

In series: *Earth Sciences in the 21st Century*

Publication Date: 10/09/2020

401 pp.

Hardcover: 978-1-53618-682-6. $230.00

e-book: 978-1-53618-725-0. $230.00

The mysterious group of substances to which have been given the title of “rare earths” has long been the subject of special study. The present work is intended to give a general but fairly comprehensive account of the rare earth group.

**ENVIRONMENTAL SCIENCES**

**Air Pollution and Industrial Hygiene**

**Ambient Combustion Ultrafine Particles and Health**

*Doug Brugge, PhD (Professor and Chair, Department of Public Health Sciences, University of Connecticut, Farmington, CT USA) and Christina H. Fuller, ScD (Associate Professor, Department of Population Health Sciences, Georgia State University, Atlanta, GA USA)*

In series: *Environmental Research Advances*

Publication Date: 02/17/2021

436 pp.

Hardcover: 978-1-53618-831-8. $180.00

e-book: 978-1-53619-002-1. $180.00
This edited and peer reviewed volume contains a collection of articles from many disciplines that address the emerging issue of ambient ultrafine particles derived from combustion sources and their health effects. The authors are published experts with respect to ultrafine particles. They write about diverse aspects of the problem including epidemiology, environmental engineering, toxicology, policy, architecture and medicine. Each chapter provides a thoroughly referenced review of the respective subject matter. Written for researchers and scientists, this work is an excellent introduction for those early in their research into ultrafine particles as well as those that are well-versed and seeking to expand into new approaches to ultrafine particles. Chapters may be read singly or in combination with other chapters, depending on the reader’s interest. As a whole, the book is a broad reference source about combustion ultrafine particles and health.

**Global Warming and Climate Change**

**Climate Change: Energy Transition, the Caribbean and Military Readiness**  
*Carolina Parsons*  
In series: *Climate Change and its Causes, Effects and Prediction*  
Publication Date: 03/09/2021  
356 pp.  
Hardcover: 978-1-53619-331-2. $230.00  
Managing the vast energy resources, addressing the health and environmental impacts of energy production, and understanding the role of public lands in mitigating climate change are just a few of the critical issues discussed in this book.

**Climate Change: Environmental and Economic Effects**  
*Fukui Ayaka*  
In series: *Climate Change and its Causes, Effects and Prediction*  
Publication Date: 02/24/2021  
366 pp.  
Hardcover: 978-1-53619-239-1. $230.00  
e-book: 978-1-53619-254-4. $230.00  
Climate change and extreme weather events present risks to our communities and communities around the world. Experts have warned that climate change would lead to more intense storms, extended droughts, longer wildfire seasons that burn hotter and cover larger areas, greater seasonal temperature extremes, melting of glaciers and ice sheets, and rising sea level. This book discusses ways to help communities better adapt to these changes.

**Climate Change: Extreme Weather, Risks and Costs**  
*Nicolas Delgado*  
In series: *Climate Change and its Causes, Effects and Prediction*  
Publication Date: 01/27/2021  
345 pp.  
Hardcover: 978-1-53619-113-4. $230.00  
e-book: 978-1-53619-171-4. $230.00  
Chapter 1 examines the state of the science related to extreme weather events. It will provide an opportunity to examine the role of climate change and other weather and climate factors in causing and exacerbating extreme weather events, to discuss economic and other societal impacts of extreme weather, to explore the state of forecasting and prediction of extreme weather with a focus on how to communicate uncertainty, and to identify gaps in the science. Chapter 2 reports on the kinds of climate risk information standards and tools that communities need to reduce the risks and costs of climate change, including more extreme floods and wildfires.
Solving the Climate Crisis: Building, Manufacturing, Industrial and Natural Solutions

Damion D. Berger

In series: Climate Change and its Causes, Effects and Prediction
Publication Date: 12/14/2020
532 pp.
Hardcover: 978-1-53618-930-8. $310.00
e-book: 978-1-53618-953-7. $310.00

American leadership and ingenuity are central to solving the climate crisis. With the devastating health and economic consequences of climate change growing at home and abroad, the United States must act urgently, guided by science, and in concert with the international community to provide a livable climate for today’s youth and future generations. This book examines the changes that need to be made to help mitigate climate change.

Natural Disasters / Flooding

The National Flood Insurance Program: Background, Issues and Reauthorization

Scott I. Newman

In series: Natural Disaster Research, Prediction and Mitigation
Publication Date: 02/17/2021
426 pp.
Hardcover: 978-1-53619-115-8. $230.00
e-book: 978-1-53619-172-1. $230.00

The National Flood Insurance Program (NFIP) was established by the National Flood Insurance Act of 1968 and was most recently reauthorized to September 30, 2020, through a series of short-term reauthorizations. The general purpose of the NFIP is both to offer primary flood insurance to properties with significant flood risk, and to reduce flood risk through the adoption of floodplain management standards. This book provides information on key components of the NFIP.

Special Topics

Advances in Environmental Research. Volume 74

Justin A. Daniels

In series: Advances in Environmental Research
Publication Date: 09/11/2020
228 pp.
Hardcover: 978-1-53618-442-6. $250.00
e-book: 978-1-53618-479-2. $250.00

Advances in Environmental Research. Volume 74 offers insight into the management of Ramsar sites in Serbia, as well as into their status as tourist destinations, through a methodological framework proposed by the UNWTO.
Recent events set in motion by a new federal government that is openly hostile to environmental conservation and cultural diversity are discussed, with regard to how permanence strategies of political actors in the Amazon have been undermined. The authors look at the management structures and processes related to green areas in Addis Ababa, with a particular focus on the level of cooperation between different stakeholders and the role of community organizations in 10 sub-cities within the Ethiopian capital.

Results are presented which contribute to the understanding of the influence of organic matter and other parameters of water and sediments on the complexation, availability, transport, and cycling of chemical species in reservoirs of the Amazon region.

Later, the toxic effects of water pollution on climate change, environment and human health are assessed, exploring the effects of industrial effluents on the environment and shedding light on future methods for industrial waste management. One study presents previously unknown information regarding the impact of turfgrass on microbial diversity in turfgrass soil, laying the foundation for further investigations on microbiota in turfgrass ecosystems.
Advances in Environmental Research. Volume 75  
Justin A. Daniels  
In series: Advances in Environmental Research  
Publication Date: 11/04/2020  
212 pp.  
Hardcover: 978-1-53618-775-5, $250.00  
e-book: 978-1-53618-781-6, $250.00  
This compilation discusses the most relevant and state-of-the-art information related to the evolution of aldehyde dehydrogenases in the plant kingdom, their multifaceted physiological and biochemical functions, and their catalytic and structural properties. The authors discuss how plants adapt in the face of different types of abiotic and biotic stress factors, the plausible mechanisms of rhizobiome recruitment by plants, and role of rhizosphere microorganisms in developing the immunity and defence responses in plants. In one study, the most important factors impacting the dangers of fire are analyzed though multi-dimensional statistical methods using the topographical, climatic, fuel, technical, economic, managerial and social data related to 59 large forest fires that occurred in Turkey between 1977 and 2017. Additionally, the impact of nature-based solutions on the climate resilience of cities is reviewed, particularly focusing on human health, quality of life and well-being. 

In closing, the authors analyze temporal landscape changes occurring in the Paraguay/Jauquara Basin, Mato Grosso State, Brazil, as well as their effects on the conservation of natural vegetation.

Advances in Environmental Research. Volume 76  
Justin A. Daniels  
In series: Advances in Environmental Research  
Publication Date: 10/16/2020  
246 pp.  
Hardcover: 978-1-53618-685-7, $250.00  
e-book: 978-1-53618-690-1, $250.00  
Advances in Environmental Research. Volume 76 first aims to review the microbial communities of urban soils, specific factors that act in the urban environment, and the microbes' response to these impacts. Following this, the authors discuss the operation of biological wastewater treatment plants, including aspects such as effective solid-liquid separation, pretreatment systems and operating strategies. More specifically, the design of software solutions developed for the wastewater treatment plant in Făcai, Craiova, Romania is discussed. In the subsequent paper, the authors examine eight geomorphosites that can contribute to promoting scientific tourism, and that must be preserved from environmental degradation, especially from mining exploitation and urban expansion. The concluding study focuses on the northern sector of Fuerteventura, where the urban development of Corralejo, El Cotillo, Lajares, Villaverde and La Oliva has irreversibly deteriorated a number of volcanoes and dunes of high landscape value.

Advances in Environmental Research. Volume 77  
Justin A. Daniels  
In series: Advances in Environmental Research  
Publication Date: 10/28/2020  
250 pp.  
Hardcover: 978-1-53618-708-3, $250.00  
e-book: 978-1-53618-759-5, $250.00  
Advances in Environmental Research. Volume 77 opens with a focus on the impact and direct effects of toxicant exposure, viruses, and parasitism on individual honey bee survival, foraging behavior, and colony survival. The authors discuss how habitat fragmentation and biological invasions, considered the primary cause for biodiversity loss and the biggest threats to the conservation of ecosystems and their environmental services, interact in the presence of a natural disturbance. Experimental and evidence-based knowledge of application of burning in European grasslands is examined, as grasslands are vital elements of the historical landscape and are of crucial importance in biodiversity conservation.
Continuing, this compilation demonstrates a promising methodology for gaining a better understanding of specific interrelations of organochlorine pesticides and polychlorinated biphenyls in biomatrices. In addition, the authors aim to demonstrate the usefulness of the methodology of total health approach to study the vulnerability and effects of persistent organic pollutants in the lower basin of the Coatzacoalcos river. The domestication and basic genetics of field pea are discussed, along with current initiatives in organic production and breeding and progress related to biofortification. In closing, a brief review of the determination of programmed cell death signals during plant development or biotic-abiotic stress conditions is provided, and the reader will be informed with comparative considerations to use these methods for reliable detection.

**Advances in Environmental Research. Volume 78**

*Justin A. Daniels*

In series: *Advances in Environmental Research*

Publication Date: 11/04/2020

246 pp.

Hardcover: 978-1-53618-774-8. $250.00

e-book: 978-1-53618-783-0. $250.00

Advances in Environmental Research. Volume 78 offers a comprehensive critical review of alterations in different lipid classes in response to saline conditions in plants contrasting in salt resistance. A focus is provided on climate change in Odisha, India due to its rich natural and biophysical resources, and the fact that its majority population depends on these resources for survival. Following this, a comprehensive review on process control strategies, biological nutrient removal, effluent quality, electric energy consumption, exploitation problems and recent development in the applications of sequencing batch reactor-membrane bioreactors technology is presented.

In the subsequent study, wastewater from the HUST dormitory was treated in a lab-scale sequencing batch reactor-membrane bioreactors system.

**Advances in Environmental Research. Volume 79**

*Justin A. Daniels*

In series: *Advances in Environmental Research*

Publication Date: 11/16/2020

238 pp.

Hardcover: 978-1-53618-879-0. $250.00

e-book: 978-1-53618-888-2. $250.00

Advances in Environmental Research. Volume 79 begins with a focus on how, due to the political-economic non-robustness of centralized climate policy and the costs of mitigating catastrophic climate-change, a multi-pronged approach at the sub-global level with mitigation, adaptation and amelioration technologies can be advocated from a classical-liberal point of view. The authors attempt to address climate financial challenges, proposing insurance as the appropriate mechanism to pool funds to assist countries that have experienced damage and loss from extreme weather events. An attempt is made to illustrate the inherent oil degrading mechanism in the presence of various interacting parameters affecting bacterial growth, along with few case studies.

Future opportunities that may be explored for the effective bioaugmentation of oily wastewater treatment are highlighted. The authors also examine the effects of light wavelength on flower opening and vase life using light-emitting diodes, proposing that light environment control is a powerful tool to improve the quality of cut rose and other ornamental flowers. The closing study focuses on Turkey’s position and geographical features created by differences in climate in the natural forest vegetation, shrubs or bushes, causing the formation of a variety of plants. It is estimated that the number of species of flowering plants distributed in the country is about 12,000.
Contaminated Water: Pollutants, Effects and Remediation Technologies
Dominic O'Brien
In series: Water Resource Planning, Development and Management
Publication Date: 09/24/2020
263 pp.
Hardcover: 978-1-53618-459-4. $195.00
e-book: 978-1-53618-597-3. $195.00
The use of pesticides is essential in the current agricultural context, helping to constantly increase productivity. Contaminated Water: Pollutants, Effects and Remediation Technologies aims to gather information about their interactions in the environment and possible consequences. The authors present sustainable perspectives and alternatives for water remediation, gathering information on various residues that can be used as adsorbents and their potential against organic and inorganic contaminants. Concise information on fundamentals effecting deposition parameters and characterization of electrodeposition is provided. The authors emphasize the acute and chronic effects induced by untreated wastewater on the morphology, biochemistry and genetic profile of fish. In the concluding investigation, a perchloric acid pre-treated glassy carbon electrode was fabricated by electrochemical pre-treatment method using the cyclic voltammetric technique.

Critical Issues and Analysis in Fire Protection and Prevention
Axel Cablé (R&D Manager, EXEC – CEO, IBS-Conseil, Independent Expert accredited by the French Ministry of Higher Education, Research and Innovation) and Brady Manescau (Associate Professor, National Institute of Applied Sciences, France)
In series: Safety and Risk in Society
Publication Date: 10/28/2020
234 pp.
Hardcover: 978-1-53618-738-0. $160.00
e-book: 978-1-53618-796-0. $160.00
With an estimated 135,000 reported fire incidents occurring each day worldwide (CTIF World Fire Statistics Center, 2020), fire safety is a major societal and safety issue. Fires have an enormous impact on people’s lives and well-being. They cause massive amounts of air pollution, increase carbon emissions, and are responsible for the loss of invaluable natural and cultural heritage. In the current context of climate change, it is hence crucial to develop appropriate preventive and protective measures against fire. This book is a compilation of studies and advances on the current state of research related to critical issues and analysis in the field of fire safety, with chapter contributions from various countries and research institutions worldwide (Australia, Chile, France, India and USA). It aims to provide a broad picture of currently faced challenges and potential solutions from passive and active protective measures, to modelling and experimentation related to compartment and wild fires. Chapters 1 and 2 address the issues of smoke generation in compartment fires, with the risk of the ignition of unburnt gases and on the one hand, and the need for visibility through smoke for evacuation on the other hand. Chapters 3 and 4 are dedicated to the fire resistance and the pyrolysis study of innovative composite materials and bio-based flame retardants, notably for vehicle and aircraft applications. Chapter 5 discusses the challenges related to the fire protection of built cultural heritage and evaluates the performance of an innovative sprinkler fire suppression system. Chapter 6 addresses the issue of forest fires and provides a methodology to improve the emergency response time at urban-forest interfaces. Chapter 7 opens up the discussion and provides potential solutions to help reduce the occurrence of wildfires and increase community safety in the context of climate change by involving renewable energies and local fire stations.
Climate Change issues have traditionally broken into two basic categories: climate change mitigation and climate change adaptation. Climate change mitigation includes human interventions to reduce drivers of climate systems and climate change adaptation includes managing natural and human systems in response to variations in the climate and their effects. Efforts to mitigate climate change have focused on reducing greenhouse gas emissions (GHG) into the atmosphere which is a complex journey towards sustainable development. Mitigation strategies include adopting renewable energy sources such as solar, wind, hydro, biofuels, and the sustainable use of land and forests. This book argues green entrepreneurship is one of the most effective strategies for greenhouse gas emissions reduction. This book discusses the linkages between climate change mitigation and green entrepreneurship, describing the challenges and possibilities of adopting green entrepreneurship in Bangladesh.

Environment has become a central issue in the present day world. Environmental sustainability has been advocated as a major goal to deal with growing problems of pollution that threaten the very existence of the human beings. The dismal picture of global warming brings to the attention the necessity of environmental performance so that the governments in the world can take positive steps toward sustainability. The book uses the data from the Yale Center for Environment and Policy. It uses Environmental Performance Index (EPI) prepared by the Yale Center. The book explores the relationship between environmental performance and democracy, ideology, leadership, good governance, participation in international agreements, economic factors, and globalization.

In recent years, due to the growing consciousness of environmental issues in different chemical processes, green chemistry has become a focus of many researchers. As such, Environmentally Friendly Technologies: Advances in Research and Future Directions discusses how green chemistry aims to design new, environmentally benign chemical processes and synthetic methodologies in order to reduce or eliminate the usage of hazardous and toxic chemicals. The results of some experimental studies concerning anodic electrochemical polishing of mild steel, stainless steels, aluminium, nickel, and nickel-copper alloy in choline chloride-based deep eutectic solvents are presented.
The authors review various sustainable techniques for machining difficult to machine materials, along with the combination of these techniques which may be most efficient. Also reviewed in this compilation are the principles and advantages of a supercritical fluid system as a current green carrier medium, as well as scientific literature with commercial developments. In closing, the importance of pigments obtained from plants is emphasized, and plant-derived pigments are compared to synthetic pigments. The economic and environmental effects of the pigments are also systematically discussed.

**Leukemia. Radiation. Chernobyl (Oncohematological Consequences of the Chernobyl Catastrophe)**

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In series: *Nuclear Materials and Disaster Research*

Publication Date: 10/09/2020

190 pp.

Hardcover: 978-1-53618-699-4. $160.00


The Chernobyl disaster of 1986 is among the largest technogenic catastrophes in the history of humankind. The vast territories of Ukraine, Republic of Belarus, Russian Federation as well as bordering European states have been exposed to the contamination by the long-lived radionuclides released from the destroyed nuclear power station. The medical consequences of the Chernobyl catastrophe are being studied for more than three decades. In fact, the increased risk of certain forms of leukemia is among the major stochastic effects of radiation exposure. Nevertheless, the final unambiguous conclusions as to the role of low-dose radiation exposure in the induction of leukemia are still pending. The book presents the results of studies on the diagnosis of various forms of hematological malignancies in Ukrainian patients provided for more than thirty years in the Oncohematology Department of RE Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology, the National Academy of Sciences of Ukraine. Among the groups of leukemia patients were the Chernobyl clean-up workers as well as the patients from Ukrainian population (adults and children) inhabiting the territories with different levels of radionuclide contamination. For the first time, some trends in the patterns of hematological malignancies in several sample groups under study have been identified throughout the post-Chernobyl period. The putative association between the low dose radiation exposure and the increasing risk of acute myeloid leukemia, myelodysplastic syndromes and chronic lymphocytic leukemia has been discussed based on the findings of the authors of the book as well as the data of the available literature.

**Nova Excerpts: Environmental Sciences**

Dominik Lucas

In series: *Nova Excerpts*

Publication Date: 12/22/2020

242 pp.

Hardcover: 978-1-53619-056-4. $125.00

e-book: 978-1-53619-074-8. $125.00

Nova Excerpts: Environmental Sciences is a compilation of Abstracts and Introductions from a wide variety of Environmental Science books Nova has published over the years. Each excerpt includes the title of the original book where the original content was published should readers be interested in learning more. Nova Excerpts is published simultaneously in both print and digital formats.
Sustainable Natural Resource Management in the Himalayan Region: Livelihood and Climate Change

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In series: Environmental Research Advances
Publication Date: 02/10/2021

334 pp.
Hardcover: 978-1-53618-962-9. $230.00
e-book: 978-1-53619-089-2. $230.00

The greater Himalayan region, stretching from Afghanistan in the west to Myanmar in the east, is home to about a quarter of a billion people who greatly depend on available natural resources for their survival and livelihoods. The ever-increasing population pressure and changing climate have grave implications for the sustenance of human health and habitation in the foreseeable future. The region is confronted with numerous challenges related to forest degradation, land productivity, disaster risk, water management, biodiversity loss, erratic climatic patterns, as well as socio-political capacity. The limits of arable land have essentially been reached, while the need for enhancing production to sustain human nutritive requirements and livelihoods continues to increase. Hence, the intensification of agriculture has become a necessity rather than a choice. Yet, producing greater numbers of crops and quantities of food, fiber and other materials on the same parcel of land runs the risk of degrading the soil fertility, productivity and overall quality. Therefore, means to achieve this without irreversibly damaging the soil and land resource base have become imperative. To this end, agro-forestry, agrosilvopastoral systems, and the adoption of a variety of regenerative crops, soil and water management and conservation practices offer the potential to deliver multiple benefits without sacrificing the very resource upon which the human population depends. The need for ecologically sound and sustainable management of natural resources in the Himalayan region, as well as the adaptation of local communities to the impacts of climate change and measures for its mitigation, cannot be over-emphasized. This book presents findings on approaches to sustainable land management and the intensification of agriculture and animal husbandry related to soil organic matter management and carbon sequestration for multiple benefits; and the agroforestry as a crop diversification strategy with livelihood and climate mitigation/adaptation benefits, along with other aspects of forest, biodiversity and water resources management. The book deals with technical, socio-economic, policy and biodiversity issues related to the sustainable use and management of natural resources, namely forests, soil/land, water, crops, animal husbandry and diversity of flora/fauna, as well as disaster risk and vulnerability of communities in the Himalayan region. There is a continuing need to study and research approaches for harmonizing human needs and lifestyles with natural ecosystems and processes so that both may co-exist in a mutually beneficial manner.

Waste

Bio-Waste as Potential Activated Carbon in Remediating Dye Solution

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In series: Environmental Science, Engineering and Technology
Publication Date: 12/11/2020
This book introduces the use of bio-waste as a raw material for the preparation of activated carbon (AC) for dyes removal. Activated carbon was derived from assorted materials that have potential to function as a good adsorbent, especially for dyes removal in wastewater treatment. This book was written as a case study to help readers understand the function of AC in each system and approach. This book includes applications of AC derived from corn cob; palm tree empty fruit bunch; seashell; eggshell; spent coffee ground; kenaf fiber and coconut frond in dyes removal and wastewater treatment. The efficiency of activated carbon prepared from various bio-wastes is evaluated by calculating the removal rate of dyes in wastewater. This unique book features eight chapters pertinent to the current situation, as loads of dye effluent are being discharged into the environment. The characterization of the produced AC is analysed using various instrumentations such as scanning electron microscopy (SEM), Fourier transform infrared spectroscopy (FTIRS) and X-ray diffraction (XRD). The book will attract Eastern and Western researchers and scholars at all levels of degree qualification, industrial practitioners and entrepreneurs in the field of bio-waste.
Since the appearance of Darwin’s book, “The Origin of Species,” adaptation is one of the processes that explains the diversity of species in ecosystems. Adaptive phenomena in the 19th century and until the mid-20th century have been analyzed in macroscopic biological systems, however since the second half of the 20th century and to date the development of disciplines such as Molecular Biology, has allowed us to delve into the mechanisms that regulate cell physiology.

The molecular bases that allow explaining the adaptation processes of microorganisms to their environment have special relevance, because through their analysis it is possible to size the complexity of these mechanisms that involve receptors of a protein nature associated with transduction chains that transport the information flow to genomic DNA, and which subsequently involves the emission of a response through the expression of specific genes.

From the point of view of the adaptive phenomenon analysis, the approach through the molecular bases makes it possible to understand the enormous diversity of the microbial world. Mainly for two reasons, on the one hand the presence of micro gradients in the bacterial ecological niches that are continuously fluctuating, which forces the microorganisms to a rapid adaptation phenomenon. And on the other hand, horizontal gene transfer phenomena, which allow bacteria the information exchange. These two elements carry great intensity in establishing new relationships. This phenomenon is especially relevant if it is related to a concept that Darwin cites in the Origin of Species, “The tangled riverbank”, where it is emphasized that the new interactions establishment is the basic driving force for the new species generation. This phenomenon is explained by the positive feedback loop generation, whereby ecosystems with high levels of biological diversity generate new interactions that lead to new species, which in turn tends to make the ecosystem network more complex. This complexity analyzed in its molecular bases allows to generate new research questions that can be applied to other knowledge areas, such as Biotechnology.

The analysis of the molecular bases of the microorganisms adequacy, makes it possible to identify and characterize mechanisms that implemented in different pharmaceutical areas and agricultural industry has led to the product generation with high added value, a clear example of this economic development is the enzyme industry and even recombinant protein production.

Finally, it is convenient to emphasize the need to incorporate the analysis of the molecular bases of adaptation from the perspective of omics techniques. Techniques that allow the study of processes and mechanisms to be approached from a global perspective.

This book summarizes some topics of special relevance referring to adaptive processes of different microorganisms of special relevance both in basic and applied research.
The factors causing multi-drug resistance are highlighted, including under or overuse of antibiotics, prolonged use of antibiotics, poor infection control, poor hygiene and sanitation.
The exponential influx of scientific research on melatonin is associated with a greater orientation towards the study of the systemic effects of melatonin and their derivatives, as well as their clinical implications. Proof of this fact is summarized in the present compilation, where melatonin is presented as a remarkable agent to counteract most of the physiopathological events that trigger several disorders. The book also collects evidence about melatonin’s interactions with two high-affinity G protein-coupled receptors to provide new pharmacological targets for the treatment of cancer, neurological or endocrine conditions. The present review also includes detailed coverage of molecules with improved safety profiles and melatonin receptor agonists (such as ramelteon, tasimelteon, and agomelatine), and the latest findings on the role of melatonin in protecting plants from abiotic stress, improving their resistance to adverse conditions, regulating several environmental stresses including heat stress, as well as the clinical use of melatonin in the treatment of fertility-related problems and reproductive health.

The multiplicity of actions of melatonin, including modulating immune responses and inflammation and maintaining mitochondrial integrity, make this indoleamine a valuable therapeutic agent in the treatment of neurodegeneration, polycystic ovary syndrome, brain ischemia and traumatic brain injury, fibromyalgia, optic neuritis and glaucoma, alone or in combination with other drugs.

Melatonin easily crosses the blood-brain and placental barriers. In this sense, this book provides a complete review suggesting that melatonin supplementation should be considered as a potential disease-preventing agent, with the aim of extending pregnancy duration to improve clinical outcomes and prevent fetal brain damage for pregnancy pathologies, such as preeclampsia, intrauterine growth restriction and preterm birth.

Within the last few decades, melatonin has emerged in clinical oncology as a naturally occurring bioactive molecule with substantial anticancer properties. In addition, this chronobiotic agent exerts oncostatic effects throughout all stages of tumor growth, from initial cell transformation to mitigation of malignant progression and metastasis. Its therapeutic applications in oral cancer, gastrointestinal pathologies and colorectal cancer are discussed, as well as its applications as an adjuvant for alleviating side-effects and improving the welfare of radio/chemotherapy-treated patients.

In the final chapter, the authors summarize the indications for the development of new galenic formulations of melatonin. Thus, different melatonin formulations, such as intranasal solutions, sprays, microspheres, gels and liposomes would allow for the maintenance of endogenous active concentrations for a long time, avoiding poor oral bioavailability.

The Biochemical Guide to Medicinal Plants
Dorota Bartusik-Aebisher (Professor, Medical Faculty, University of Rzeszow, Poland) and David Aebisher (Professor, Medical Faculty, University of Rzeszow, Poland)
In series: Biochemistry Research Trends
Publication Date: 12/22/2020
352 pp.
Hardcover: 978-1-53618-902-5. $230.00
e-book: 978-1-53618-993-3. $230.00

The Biochemical Guide to Medicinal Plants presents the study of medicinal plants and organic chemistry, forming a bridge between the biology and chemistry of medicinal plants by studying complex chemical interactions. The book consists of 45 chapters, each describing one medicinal plant with figures. We present species of herbaceous and woody plants found on various continents and in various habitats, presenting their various adaptations to the environment. The book contains information about plants’ range, appearance, and biological and ecological characteristics, and the descriptions are enriched with surprising curiosities. The book also contains data on the plants’ life spans and flowering periods. Plants used as spices, plants that have no flowers, forest and meadow plants, and plants with medicinal and poisonous properties are described. The reader will learn about the properties of medicinal plants characteristic for each season. This book shows the beauty of plants used in medicine, with their richness of shape, color and fragrance.

Botany

Apiaceae: Ecology, Uses and Toxicity
Isiah Douglas
In series: Plant Science Research and Practices
Publication Date: 01/21/2021
164 pp.
Softcover: 978-1-53619-060-1. $95.00
e-book: 978-1-53619-158-5. $95.00

The Apiaceae are a large botanical family, with economically important taxa and medicinal interest due to their secondary metabolites. Despite the importance of Apiaceae plants, particularly for the management of CVDs (cardiovascular diseases), no
systematic review has been conducted compiling the traditional uses ascribed to some of these species and the scientific studies validating the reported effects. Therefore, in the first chapter, a systematic review was carried out in order to gather the available information. In addition, the effects of isolated compounds, as well as the underlying mechanisms of action of both plant extracts and compounds was included. Also, the safety profile of Apiaceae extracts used to manage CVDs was highlighted. In the second chapter, the chemical composition, cultivation and uses of anethum graveolens (one of the species in the family Apiaceae) is explored. In the last chapter of the book, three poisonous plants (Conium maculatum, Cicuta sp. and Aethusa cynapium. Conium maculatum) of the Apiaceae family are explored in detail.

Brassica juncea: Production, Cultivation and Uses
Dr. Dhriti Kapoor (Department of Botany, School of Bioengineering and Biosciences, Lovely Professional University, Phagwara (Punjab), India) and Dr. Vandana Gautam (College of Horticulture and Forestry (Dr. Y. S. Parmar University of Horticulture and Forestry, Nauni, Solan, H.P.), Neri Campus (Himachal Pradesh), India)

In series: Botanical Research and Practices
Publication Date: 03/04/2021
308 pp.
Hardcover: 978-1-53619-241-4, $230.00
e-book: 978-1-53619-289-6, $230.00

Brassica juncea is a salient oilseed crop and contributes highest in domestic edible oils. Brassica juncea has the potential to eliminate, detoxify or sequester heavy metals from polluted soil. Sequestrating ability of Brassica juncea pivots upon mobility of toxic substance, plant attribute and crop management aspects. The crop management aspects include above surface biomass of plants, intercropping, amendment of organic matter and incorporation of legumes for better phytorextraction via India mustard through boosting growth and soil metal dissipation. Brassica juncea plants are studied for their bioactive potential and are reported to contain several other classes of alkaloids, tannins, saponins, anthocyanins, phytosterols, chlorophyll, glucosinolates, phytosteroids, terpenoids, glycosides, vitamin C, vitamin E, aliphatic and aromatic amines. Due to presence of these compounds, the plant displays anti-bacterial, anti-malarial, anti-hyperglycemic, anti-aging, anti-proliferative, anti-ulcer, anti-hyperlipidemic, anti-genotoxic, neuroprotective, antidiabetic and antioxidant activities. Brassica juncea has the potential to eliminate, detoxify or sequester heavy metals from polluted soil. Sequestrating ability of Brassica juncea pivots upon mobility of toxic substance, plant attribute and crop management aspects. The crop management aspects include above surface biomass of plants, intercropping, amendment of organic matter and incorporation of legumes for better phytorextraction via India mustard through boosting growth and soil metal dissipation. Brassica juncea is described as hyperaccumulator, as they are able to uptake high amount of heavy metals such as lead, copper, nickel from contaminated sites. The metal uptake by Brassica juncea is influenced by heavy metal availability in surroundings, rate of metal accumulation by roots, percentage of heavy metal fixed in the roots, rate of metal storing in xylem and transferring heavy metals to shoots and resistance of cells for heavy metals. Brassica juncea can effectively be cultivated and render soils contamination free. Assorted agronomic practices comprising irrigation, weed management, addition of fertilizers and chelators augments Brassica juncea potential. It exhibits noteworthy contribution in the world.

Capsicum: Production, Varieties and Nutrition
Pete Norris

In series: Plant Science Research and Practices
Publication Date: 11/13/2020
172 pp.
Softcover: 978-1-53618-821-9, $95.00
e-book: 978-1-53618-851-6, $95.00

Capsicum is the name of the pepper plant genus that includes 27 species, which range from sweet bell peppers to the hottest peppers on the planet. Due to variations in
climatic conditions, insects show varying trends in their incidence and extent of damage to the crop. This compilation discusses how, as an effect of these interactions, the production of pepper is affected quantitatively but especially qualitatively. Additionally, the authors study the effect of capsaicin at the cellular signalling level, gene expression, and the use of bioinformatics to understand the mechanism of cell signalling and regulation of gene events taking place between tumorous cell and capsaicin receptors. In closing, all in vitro/in vivo methods reported so far for obtaining doubled haploids in both sweet and hot pepper are compared. The androgenesis, gynogenesis and efficiency are discussed in both hot and sweet pepper species.

**Elementary Knowledge of Indian Medicinal Plants of Uttarakhand Himalaya**

*Mayaram Uniyal (Director, CCRAS, Ministry of AYUSH, Govt. of India), Deepak Kumar Semwal (Department of Phytochemistry, Uttarakhand Ayurved University, India), Ruchi Badoni Semwal (Assistant Professor at Govt. Postgraduate College, Rishikesh, India) and Ankit Kumar (Senior Research Fellow in the R&D Centre, Faculty of Biomedical Sciences, Uttarakhand Ayurved University, India)*

In series: *Plant Science Research and Practices*

Publication Date: 01/20/2021

468 pp.

Hardcover: 978-1-53619-078-6. $270.00
e-book: 978-1-53619-126-4. $270.00

Elementary Knowledge of Indian Medicinal Plants of Uttarakhand Himalaya mainly focuses on the taxonomy and ethnomedicinal uses of plants, and the information provided can be used to identify plants while surveying medicinal plants in the region. This compilation will be helpful for researchers and students working in the field of plant science and other related fields. This textbook is divided into five chapters, and the first chapter reviews the historical aspects of India in terms of traditional knowledge. The second chapter provides a general introduction to the biodiversity of medicinal plants in Uttarakhand, a Himalayan state of India, as well as its geography, population, herbal sector status, temperature and altitudes. The third chapter reviews 600 flowering plants belonging to 108 families. Each plant is described using its Ayurvedic/Sanskrit name, vernacular/local name, botanical properties, distribution, medicinal properties, phytochemical constituents and pharmacological status. The fourth chapter discusses 14 gymnosperms belonging to four families, and the fifth chapter discusses 18 pteridophytes from two families. Photographs of selected plants are also included in a separate section.

**Moringa oleifera: Properties, Applications and Health Effects**

*Daniel S. Figueroa*

In series: *Plant Science Research and Practices*

Publication Date: 01/05/2021

402 pp.

Hardcover: 978-1-53618-890-5. $230.00
e-book: 978-1-53619-070-0. $230.00

Moringa oleifera is a widely cultivated and highly valuable tree belonging to the family Moringaceae, originating in India. This compilation explores its wide variety of uses, including in food, traditional herbal medicine, water purification and as an insecticide.
Ocimum basilicum: Taxonomy, Cultivation and Uses
Andres A. Walton
In series: Plant Science Research and Practices
Publication Date: 02/26/2021
139 pp.
Softcover: 978-1-53619-265-0, $95.00
e-book: 978-1-53619-306-0, $95.00
Ocimum basilicum L. is an aromatic herb commonly known as sweet basil or sweet tulsi. It is rich in secondary metabolites like phenols, alkaloids, terpenoids, aldehydes, flavonoids, steroids, glycosides, essential oils, saponins, and tannins. The presence of these compounds makes sweet basil one of the most commonly used plant in aromatherapy, perfume, cosmetics, and in foods. The utilization potential of the sweet basil in different industrial section increases its importance. The first chapter underlines secondary metabolites of sweet basil and their importance in different aspects. The second chapter considers the recent concepts of application organic manures in integration with inorganic fertilizers in different reviews and research studies that fulfills the nutritional needs in sweet basil and gives the best quality of it. The third chapter summarizes the potential uses, cultivation, and available germplasm of O. basilicum in Turkey. The fourth chapter reviews literature on antiviral activity of O. basilicum to find molecules capable of inhibiting the SARS-CoV-2 main protease. This could permit the use of this plant in the fight against COVID-19 and associated diseases. The last chapter is an examination of antiscickling activity of Ocimum Basilicum and some of its compounds.

Ocimum: An Overview
Merlin Blanchard
In series: Herbs and Herbalism
Publication Date: 09/18/2020
248 pp.
Hardcover: 978-1-53618-465-5, $160.00
e-book: 978-1-53618-586-7, $160.00
Ocimum: An Overview highlights the major milestones in the last three decades of taxonomical identification of Ocimum, providing insight into its potentialities and present demands. The authors explore the utilization of in vitro plant tissue cultures and genetic transformation systems for the improvement of sweet basil. An overview of the primary phenolic compounds found within basil is provided, along with their associated health benefits, and various strategies used to increase phytochemical levels in basil are discussed. Traditional uses of basil are discussed, including in the treatment of head colds and as a cure for warts and worms, as well as an appetite stimulant, carminative, and diuretic. The leishmanicidal and antimicrobial properties of Ocimum are discussed in an effort to assess its potential utility in the production of antimicrobials and leishmanicidal agents of natural origin.
In closing, the authors summarize the main data on the biologically active substances and therapeutic activities of Ocimum species based on the current evidence.

Origanum: Taxonomy, Cultivation and Uses
Roger Ingram
In series: Botanical Research and Practices
Publication Date: 02/15/2021
104 pp.
Softcover: 978-1-53619-236-0, $82.00
e-book: 978-1-53619-249-0, $82.00
Chapter 1 focuses on taxonomic, cultivation and the pharmacological and other uses of Origanum species. In Chapter 2, Origanum's role in synthesising the metal nanoparticles such as titanium dioxide, palladium, silver, gold, palladium nanoparticles supported on magnetic graphene oxide has been discussed in detail. Hence, researchers are using Origanum as a precursor in plant-mediated synthesis. In the last chapter, the authors discuss Origanum, the Turkish spice, which has a history dated back to centuries. This herb has found wide applications due to the presence of primary and secondary metabolites.
Passiflora: Genetic, Grafting and Biotechnology Approaches
Alejandro Hurtado Salazar (Universidad de Caldas, Manizales, Caldas, Colombia), John Ocampo (Universidad Nacional de Colombia, Palmira, Valle del Cauca, Colombia), Nelson Ceballos-Aguirre (Universidad de Caldas, Manizales, Caldas, Colombia), Dora Janeth García Jaramillo (Universidad de Caldas, Manizales, Caldas, Colombia) and Walter Ricardo Lopez (Universidad Nacional de Colombia, Manizales, Caldas, Colombia)
In series: Botanical Research and Practices
Publication Date: 02/17/2021
206 pp.
Hardcover: 978-1-53619-108-0. $160.00
e-book: 978-1-53619-255-1. $160.00
The diseases are among the main factors responsible for the low productivity and losses in commercial passion fruit crops. Among the agents that cause pathologies, Fusarium oxysporum S, Fusarium solani Sacc and Phytophora spp., deserve attention. The use of tolerant cultivars stands out as one of the most effective, economic and ecological measures in the control of the disease. In the case of passion fruit, this strategy is essential based on the high susceptibility of current cultivars. Fusarium spp normally compromises the efficiency of the root system, as well as the conductive vessels of the sage, reducing the longevity of the plant and limiting the use of the areas contaminated by the fungus.
Tolerance to F. solani was found in Passiflora gibertii N.E. Brown, P. nitida Kunth, P. macrocarpa Mast, P. quadrangularis L., P. setacea L., P. alata Curtis and P. caerulea L., presenting grafting with the use of tolerant species a viable alternative to attenuate the problems caused by this fungi. Thus, with the use of tolerant wild species as rootstocks, it allows coexistence with premature death of plants and provides the formation of healthier and uniform crops. However, there is little information on the effect of wild Passiflora species such as passion fruit rootstock.

Recent Developments in Jatropha Research
Juan Francisco García-Martín, PhD (Associate Professor, Department of Chemical Engineering, University of Seville, Spain)
In series: Plant Science Research and Practices
Publication Date: 02/05/2021
322 pp.
Hardcover: 978-1-53619-132-5. $230.00
e-book: 978-1-53619-190-5. $230.00
The genus Jatropha comprises a range of species with a wide range of potential applications. For instance, J. dioica and J. curcas have important medicinal, pharmaceutical and food uses, as described throughout the book. Most of the chapters of this book are focused on this later species, which is considered as the most promising and the one with the most applications. J. curcas oil is used as substrate for biodiesel production and, due to its high tolerance and uptake of metals, this plant is also used in phytoremediation, to be specific for the remediation of degraded mining areas. This book presents an overview of both current and promising applications of the species of Jatropha to the agricultural, mining and biofuel industries and, to lesser extent, the pharmaceutical and food industries. The agronomic practices (genotypes, plant density, fertilization, pruning and harvest date) are described as well. The most recent developments are discussed and the future prospects for research in these fields are explored.

Salicylic Acid Contribution in Plant Biology against a Changing Environment
Dr. Dhriti Kapoor (Department of Botany, School of Bioengineering and Biosciences, Lovely Professional University, Phagwara (Punjab), India), Dr. Vandana Gautam (College of Horticulture and Forestry (Dr. Y. S. Parmar University of Horticulture and Forestry, Nausi, Solan, H.P.), Neri Campus (Himachal Pradesh), India) and Prof. Renu Bhardwaj (Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, Punjab, India)
Salicylic acid (SA) chemically known as 2-hydroxy benzoic acid, is a ubiquitous endogenous plant growth regulator of phenolic nature, synthesized by plants which acts as a vital endogenous signaling molecule in plant immune response. SA is recognized as a multifaceted element that have crucial roles in various plant physiological processes such as seed germination, seedling growth, photosynthetic activity, nutrient absorption and transport, respiration, nitrogen metabolism, thermogenesis, stomatal closure, flowering, expression of senescence-related genes, inducing antioxidant defense system and resistance to a broad spectrum of pathogens. SA mode of action varies with plant species, plant developmental phase, its mode of application, and its endogenous level in the plant. SA have high metabolic and physiological activity therefore, involved in the activation of plant defense responses against biotic and abiotic stress factors and also involved in the transcriptional reprogramming and in controlling transcription and expression of several defense related genes. SA in minor quantities provide plant stress tolerance, but high amounts of SA triggers oxidative stress due to generation of plethora of ROS which ultimately lead to cell death. Under stress conditions, SA interplays with reactive oxygen species (ROS) as crucial signaling molecules for inducing genetically controlled defense-related mechanisms and expression of genes that cause defense against stress. Keeping these points in mind, various aspects like significance of SA for plants, its stress mitigation properties as well as cross-talk with other plant growth regulators have been mentioned.

The book has seven chapters which deal with the role of phytohormone salicylic acid in plants, its mechanism of synthesis, signaling & homeostasis in plants, its crosstalk with ROS in mitigation of stress and its interaction with other plant growth regulators.

We believe that this book comprises a wealth of knowledge to botanists, agriculturists, students and researchers of colleges and universities.

Sugarcane: Production, Properties and Uses
Elisa Russo

Sugarcane: Production, Properties and Uses provides details on new industrial technologies of the ethanol extraction process through mathematical modeling for bioenergy crops, socioeconomic and environmental aspects based on Circular Economy concepts, and some commercial and industrial applications in thermal power plants and/or biorefineries. Lignocellulosic biomass is the most abundant of terrestrial feedstocks available for producing chemicals and materials as well as harvesting energy. As such, this compilation aims to describe the structure of sugarcane lignin, as well as its isolation, characterization, and applications.

The authors study the co-digestion of sugarcane vinasse and glycerin in a thermophilic anaerobic sequencing batch biofilm reactor, which has not previously been studied. Additionally, they evaluate the option of using sugarcane cultivars in the production of sucrose in Mexico as a livestock feed source in the dry season, with the determination of variables such as stem height, stem diameter, Brix degrees, health and flowering. Following this, variations of phenol accumulation in healthy sugarcane plants or sugarcane plants experimentally infected with Xanthomonas albilineans, the bacteria that causes leaf scald, are studied. The concluding work evaluates the emissions of gases from a bench diesel engine combustion with different diesel/biodiesel blends from beef tallow/sugarcane diesel in the proportions CD10, CD-B15, CD-B25, CD-B35 and CD-B50, in order to simulate biofuel combustion emissions at different concentrations.
A Closer Look at Membrane Proteins
Tristan B. Møller
In series:
Publication Date: 09/18/2020
163 pp.
Softcover: 978-1-53618-149-4, $95.00
e-book: 978-1-53618-538-6, $95.00
A Closer Look at Membrane Proteins opens with a description of the insulin-like growth factor system, with focus on the insulin-like growth factor receptors and functions associated with them. The data on membrane proteins, their N-glycome and oxidation status is related to the authors’ findings on the receptors in different physiological and pathological conditions, such as normal and abnormal tissue growth and development. Next, a review of the current methods used to prepare and study membrane proteins is presented, with focus on large scale simulations and special emphasis on scalable parallel methods.
In closing, commandments surrounding integral membrane protein expression and purification, integral membrane protein biochemistry, integral membrane protein functionality studies and integral membrane protein high-resolution structures are described.

Human Mesenchymal Stem Cells
Mitchell Khan
In series: Stem Cells - Laboratory and Clinical Research
Publication Date: 02/09/2021
134 pp.
Softcover: 978-1-53619-155-4, $82.00
e-book: 978-1-53619-224-7, $82.00
In Chapter 1, the COVID-19 pandemic and the damage mechanisms on the cellular level which can be ameliorated with the cellular therapies is thoroughly evaluated. Previous and ongoing stem cell clinical trial data from diseases with similar symptoms is gathered. All this accumulated data and current clinical trial results indicate that the cellular therapies could be the most effective treatment option for COVID-19 patients to ameliorate the damaged tissues and save lives. In Chapter 2, the authors examine activated mesenchymal stem cells for stroke repair. Stem Cell treatment has shown recovery in animal models of stroke, indicating an improved regenerative and repair potential. Though stem cells are still being used in clinical trials, there is no evidence that they enhance recovery in ischemic stroke patients. Nevertheless, the multipotent mesenchymal stem has widely been explored for stroke recovery. An ‘Activated MSC’ as a therapeutic alternative to tackling ischemic stroke is proposed, thereby the activation of MSCs by cytokines, growth factors, hypoxia, pharmacological drugs, etc., could be a novel approach to improving stroke patients’ responses to receiving MSCs. In Chapter 3, the potential benefits of in vitro culture of therapeutic stem cells in the presence of HB along with the ketogenic diet, whereby higher physiological concentrations of ketone bodies can be achieved in vivo, as an adjuvant to stem cell transplantation is assessed.

Na⁺K⁺-ATPase: Discovery, Functions and Regulation
Mohammed Awad Ali Khalid (Assistant Professor of Chemistry, University of Taif, Saudi Arabia; Department of Chemistry, Turabah University College, University of Taif, Taif, Saudi Arabia; Associate Professor of Chemistry, University of Khartoum, Sudan)
In series: Cell Biology Research Progress
Publication Date: 01/08/2021
161 pp.
Softcover: 978-1-53618-968-1, $95.00
e-book: 978-1-53618-050-2, $95.00
Sodium–potassium adenosine triphosphatase (Na⁺K⁺-ATPase) is an enzyme located in the plasma membrane of most eukaryotic cells, responsible for maintaining ion concentration gradients against their concentration scale using ATP hydrolysis as a source of energy. The enzyme is involved in many cellular activities, including maintaining cell volume, transporting nutrition, electrical potential, neurotransmission, and any dysfunction or modification of enzyme activity is directly linked to many
diseases, such as epilepsy, cardiovascular disease and hypertension, diabetes and other metabolic disorders, digoxin toxicity, fetal abnormalities, neurological disorders, and pulmonary conditions.

In this book, the authors present current research on regulation strategies, Na⁺/K⁺-ATPase as a biomarker in diseased states, and the use of Na⁺/K⁺-ATPase in the physiological and ecological adaptations of insects. Other topics discussed in this compilation include the effects of hormonal and non-hormonal stimulation on Na⁺/K⁺-ATPase activity, the physiology and pathophysiology of Na⁺/K⁺-ATPase, Na⁺/K⁺-ATPase as a biomarker for energy metabolism and oxidative stress in diseased states, the neurotensin inhibitory effects of [3H]-Ouabain binding to striatal membranes and inversion by administration of clozapine, and Na⁺/K⁺-ATPase’s important functional roles in human body.

**Marine Biology**

**Dinoflagellates: Classification, Evolution, Physiology and Ecological Significance**

*D. V. Subba Rao (Adjunct Research Professor, Center for Global Health, Dept. Medicine, University of New Mexico, Albuquerque, NM, US)*

In series: *Marine and Freshwater Biology*

Publication Date: 09/02/2020

755 pp.

Hardcover: 978-1-53617-888-3. $340.00

e-book: 978-1-53617-889-0. $340.00

Dinoflagellates are fascinating protists, mostly unicellular, distributed in environments ranging from the polar to tropical seas, hypersaline, coastal, estuarine and oceanic waters. There are about 2,377 dinoflagellate species recognized. They exhibit a great diversity of shape, size, biochemical composition and physiological characteristics. Generally free floating, dinoflagellates are photosynthetic, a few species such as the Symbodinium are symbiotic, living in corals, while a few are parasitic.

This volume presents a discussion on dinoflagellate phylogeny based on recent developments in molecular biology. It provides insights into the similarity of pigment composition with other microalgae. A comprehensive coverage of their carbon assimilation rates is presented, which appear to be low compared to other microalgae. Besides photosynthetic assimilation, an interesting aspect of acquiring carbon is through mixotrophy which appears to be wide spread amongst dinoflagellates and a thorough discussion is presented.

Key features of this book include recent methods of culturing dinoflagellates, which can serve as analogues of their blooms in understanding their physiology, biochemistry and production of phycotoxins. This book, based on massive data collected over decades of research, provides an informative overview on the spatial and temporal distribution and dispersal of dinoflagellates by ocean currents, ballast water introductions and climate changes.

About 70 species of dinoflagellates are implicated in the production of ephemeral harmful algal blooms (HABs), which are on the increase globally. Based on several case studies, a comprehensive coverage of the phycotoxins produced by HAB species (PSP, DSP, ASP, Ciguatera, NSP) is presented. The adverse effects of phycotoxins on human health, and the loss of revenues ($50 million in the USA) due to fish kills are evaluated. Latest advances in the methodology of genomics are presented with a view to highlight their importance and to understand their linkage with phycotoxin production. A discussion of remediation measures to manage HABs is presented, which would be highly useful in aquaculture operations.

This book provides a large number of illustrations, microphotographs and color photographs. It is ideal for any audience requiring an in-depth exposure to current issues, ideas and methods used in dinoflagellate studies. The topics discussed serve as a useful reference to researchers, scientists, environmental managers, undergraduate and graduate students.

**Marine Environments: Diversity, Threats and Conservation**

*Lina Charles*

In series: *Marine and Freshwater Biology*

Publication Date: 12/14/2020

519 pp.

Hardcover: 978-1-53618-874-5. $310.00

e-book: 978-1-53618-913-1. $310.00

Marine Environments: Diversity, Threats and Conservation presents important challenges and advances in the field of marine bioindicators in recent years, which could be relevant for integrative monitoring purposes and the development of new approaches and technologies in marine pollution monitoring.

The authors describe history of the development of organophosphorus pesticides, their behavior, current concentrations in marine environments, and effects on marine biota. The environmental behavior of organochlorine pesticides is reviewed, along with their effects on biota in global marine coastal environments, noting that these compounds are still detectable and potentially harmful.
In one study, stranded cetaceans and Pacific cods are used as indicator species to compare the contamination levels of radiocesium in three seas shortly after the Fukushima Daiichi Nuclear Power Plant Accident in 2011.

A comparison between different extraction and detection techniques used for the determination of organic and inorganic pollutants in environmental matrices such as biota, water, and sediment is investigated. Additionally, the authors address the influence of plastic pollution on marine environments through continental water bodies.

The potential application of the UV/persulfate process for the degradation of emerging organic pollutants in seawater is discussed, using chlorazol black as a substrate model.

The implications of atmospheric transport in the circulation of organochlorine pesticides are considered, presenting the relevance of atmospheric deposition to the oceans as a key process that affects marine environments.

The penultimate chapter assesses the health of Black Sea fish species belonging to different ecological groups. In particular, the histopathological and biochemical biomarkers of the blood, spleen and liver are studied.

In closing, the authors propose a Containerized Marine Knowledge System by means of IoT-Cloud and LoRaWAN to improve marine environment monitoring.

United States Aquaculture and Fisheries
Vanessa R. McAndrew

In series: Marine and Freshwater Biology
Publication Date: 11/04/2020
281 pp.
Hardcover: 978-1-53618-718-2. $195.00
e-book: 978-1-53618-758-8. $195.00

Environmental organizations and fishermen generally have opposed development of offshore aquaculture. They assert that poorly regulated aquaculture development in inshore areas has degraded the environment and harmed wild fish populations and ecosystems. Those who oppose aquaculture development generally advocate for new authorities to regulate offshore aquaculture and to safeguard the environment and other uses of offshore waters. Some segments of the commercial fishing industry also have expressed concerns with potential development of aquaculture on fishing grounds and competition between cultured and wild products in domestic markets. This book looks at the issues dealing with offshore aquaculture and fisheries.

Microbiology

An Essential Guide to Antimicrobial Agents
Ernesto Macias

In series: Microbiology Research Advances
Publication Date: 12/04/2020
195 pp.
Softcover: 978-1-53618-898-1. $95.00
e-book: 978-1-53618-918-6. $95.00

Antimicrobial resistance has emerged as a global public health issue, as only a limited number of effective antibiotics are able to treat drug-resistant cases. As such, this compilation discusses the intensive non-clinical and clinical research on the identification of novel and non-conventional anti-infective adjunctive or preventive therapies. The authors review the mode of action of antimicrobial peptides and their therapeutic potential. Their complexity of molecules at the sequential and structural levels allow them to combat a wide variety of bacterial, viral, fungal and protozoan pathogens. Various solvent extracts from the stem of Pongamia pinnata L. are explored in the context of its antimicrobial activity against a wide array of pathogenic microorganisms.

In closing, as silver nanoparticles can be more suitable in some bactericidal applications than silver ions, the efficacy of nanosilver as an antimicrobial agent against a range of microbes on the surface of water paints and cotton fabrics is studied.
An Introduction to Microorganisms
Professor Qiang-Sheng Wu (College of Horticulture and Gardening, Yangtze University, Jingzhou, Hubei, China; Institute of Root Biology, Yangtze University, Jingzhou, Hubei, China), Ying-Ning Zou (College of Horticulture and Gardening, Yangtze University, Jingzhou, Hubei, China; Institute of Root Biology, Yangtze University, Jingzhou, Hubei, China), Dr. Fei Zhang (College of Biology and Agricultural Resources, Huanggang Normal College, Huanggang, Hubei, China) and Dr. Bo Shu (College of Horticulture and Gardening, Yangtze University, Jingzhou, Hubei, China)

Microorganisms include bacteria, actinomycetes, yeasts, molds, and viruses, among which bacteria are the most prevalent in nature, accounting for 90%-95% of microorganisms. Some microorganisms are visible to the naked eye, such as mushrooms, Ganoderma lucidum, etc. Other microorganisms are "acellular organisms" composed of a few components, such as nucleic acids and proteins. Microorganisms are tiny and closely related to humans, comprised of a variety of beneficial and harmful species. The new coronavirus (2019-nCOV) that broke out in 2019 is a large virus family that is highly infectious. The rapid spread of 2019-nCOV globally has made the public recognize the importance of microorganisms in medicine, as well as their involvement in food, industry, agriculture, environmental protection, sports and many other fields.

The present book revolves around the introduction to microorganisms and reviews relevant achievements in the field. The book is arranged in six important sections, including (i) quantitative optical microscopy in microbiology, (ii) introduction to important yeast genera in food biotechnology, (iii) nitrogen fixation and plant growth promotion by rhizobia with major emphasis on soybeans in Asia, (iv) endophytic fungus Piriformospora indica and its interaction with horticultural plants, (v) biodiversity of arbuscular mycorrhizal fungi in tropical Indonesia, and (vi) root rot and continuous cropping obstacles.

This book provides important support for graduate students and researchers in the study of microorganisms while summarizing some new advances, particularly in rhizobia.

Microbes for a Sustainable Environment and Human Welfare: Advancements and Opportunities
Ronaldo Anuf Alexander (Department of Biotechnology Kamaraj College of Engineering and Technology Virudhunagar, Tamilnadu, India) and Vishnu Sankar Sivasankarapillai (Department of Chemistry, NSS Hindu College, Changanacherry, Kerala, India)

One of the major challenges faced by the world today is developing innovative and cost-effective bio-based technologies for sustaining a greener Earth, and the interactions between living beings are gaining renewed interest and value. This book describes advancements and opportunities for creating a sustainable environment for the welfare of humans with the help of microbes. Microbial activities are unique; their approaches can reduce stress on the environment, agricultural ecosystem, and soil biodiversity sustainability. A multidisciplinary view of microbial sustainability is presented in this book. Through the ten chapters, readers will find descriptions of various aspects of microbial-mediated environmental services and modern methodologies, including microbial-based bioremediation, treatment of industrial outpours, biosynthesis of nanoparticles, clean hydrogen production, therapeutics, biofuel production, and pharmaceutical applications. In terms of their physiology, metabolism and relevance as microbial models, microorganisms contribute to environmental, economic and industrial sustainability.
conditions. After that, in the second chapter, the reader is introduced to proteases that participate in the development of malignancy. The proteases that are perceived as potential candidates for the development of anticancer treatments are highlighted. The third chapter provides an insight into the basics of intracellular proteolysis, with an emphasis on proteolysis of the intrinsically disordered proteins and the consequences that proteolysis of these proteins has in plant cells particularly. In the fourth chapter, the authors provide the latest knowledge on the possibility of using a standard protease for mass spectrometry to determine post-translational modifications of proteins, which is the most recent challenge in proteomics-based research.

Although often used as therapeutics, peptides and proteins are susceptible to proteolysis under physiological conditions, so the design of drugs that mimic the action of proteins and peptides is a big challenge for medicinal chemists. In the fifth chapter, the authors elaborate on the ways to overcome proteolysis in potential therapeutic agents, using the rational design of modern peptidomimetics. The authors of the sixth chapter look at the correlation between the stability to proteolytic digestion and the allergenicity of food proteins. Chapters seven and eight are devoted to microbial proteases. The author of the seventh chapter gives an overview of the yeast proteases characterized so far, while the authors of the eighth chapter consider the possibilities for the production of purification of Bacillus proteases and their application in various biotechnological processes. In the last, ninth chapter, the technological significance of proteolytic processes in the food industry is emphasized. The authors presented methodologies that can be used to determine different bioactive peptides produced during cheese ripening.

Caspase-3: Structure, Functions and Interactions

Lunawati L. Bennett, PhD, PharmD (Professor of Pharmaceutical Sciences, Union University, College of Pharmacy, Jackson, Tennessee, USA)

In series: Biochemistry and Molecular Biology in the Post Genomic Era

Publication Date: 10/30/2020

169 pp.

Softcover: 978-1-53618-610-9. $95.00
e-book: 978-1-53618-686-4. $95.00

“Caspase 3: Structure, Functions and Interactions” is a book designed as an educational resource for researchers and health care providers who want to learn more about caspase 3. Physicians, pharmacists, other health care professionals can benefit from learning about the function of caspase 3 and its role in diseases and possible treatment options of using caspase 3-like compounds. New or seasoned scientists with research interests in caspases can learn novel ideas or interventions using caspase 3. Caspases are a family of enzymes that play an important role in developing normal organ formation and function, maintaining homeostasis, and regulating cell death and inflammation. There are 14 known caspase enzymes in mammals, and 12 present in humans. Each caspase varies in purpose and mechanism of action. Caspase-3 is a key cysteine-aspartic protease that is largely known for its role in executing cell death or apoptosis.

There are a total of 8 chapters in the book. Chapter 1 introduces the caspase family, their classification, regulation, and role in apoptosis. Chapter 2 discusses caspase-3 role in causing or preventing diseases such as cardiac, diabetes, and cancer. Chapter 3 highlights the emerging roles of caspase-3 in biological processes beyond cell death. Complex regulatory mechanisms are required to coordinate timely and specific activation of caspase 3. As cancer continues to escalate as a major public health concern, caspase 3 role as the prominent executioner of apoptosis plays a central role as a key cellular
protein as discussed in Chapter 4. Chapter 5 highlights our understanding on the activation of caspase 3/9 in starfish unfertilized eggs which elucidate the relationship of apoptosis in the vertebrates and nematodes. Chapter 6 discusses the interaction of caspase 3 with apoptotic peptide known as (KLAKLAK)2. Because of the cationic and amphipathic nature of (KLAKLAK)2, this peptide has the unique ability to cause the formation of apoptosome. Chapter 7 identifies caspase 3 role in central nervous system, aging, regeneration of neurons, and in Alzheimer’s, Parkinson’s, and other neurodegenerative diseases. Chapter 8 discusses biomarker and methods to detect caspase 3, and its interaction with different substrates and compounds. Recent reputable books, journals, monograms, clinical trial results, and hands-on research data are used. This book was written by doctor of philosophy (PhDs) that are doing research in the field of caspase 3. We hope this book become a valuable resource for researchers and others who want to know more about caspase 3 structure, functions and interactions.

**Zoology**

**Advances in Animal Science and Zoology. Volume 16**  
*Owen P. Jenkins*

In series: Advances in Animal Science and Zoology  
Publication Date: 12/02/2020  
243 pp.  
Hardcover: 978-1-53618-713-7, $250.00  
e-book: 978-1-53618-727-4, $250.00

Advances in Animal Science and Zoology. Volume 16 begins with a focus on entomopathogenic nematodes of the families Steinernematidae and Heterorhabditidae, which can be used successfully to control a wide range of agricultural insect pests. Following this, the authors discuss the potential use of silver nanoparticles for the control of mosquito vectors and other cohabiting species. The green synthesis of these nanoparticles, along with spectroscopic and microscopic techniques employed for primary and secondary phase measurements, is considered at length. The metathoracic flight apparatus of the honey bee Apis mellifera is discussed, representing a highly specialized system for turning manoeuvres which is capable of generating unilateral modifications of the aerodynamic effect of the whole double-wing.

Novel advancements in regenerative engineering utilizing various biomaterials and engineering techniques are discussed, offering a hopeful outlook for patients with severe urologic dysfunction or damage with limited options. The authors explore how gases produced through the fermentation of feedstuffs may be screened and analyzed to assess the production and emission of greenhouse gases related to their consumption and degradation. The concluding study aims to identify the defoliating fall armyworm of the genus Spodoptera and assess the severity of damage they cause to maize plants in the municipality of Djougou in northern Benin.

**MATHEMATICS AND STATISTICS**

**Algebra**

**Introduction to Clifford Algebra**  
*Johan Ceballos (Universidad de Las Américas. Quito, Ecuador), Nicolás Coloma (University of Colorado Boulder, Co,USA), Antonio Di Teodoro (Universidad San Francisco de Quito, Quito, Ecuador) and Francisco Ponce (Universidad San Francisco de Quito, Quito, Ecuador)*  
In series: Mathematics Research Developments  
Publication Date: 10/30/2020  
182 pp.  
Softcover: 978-1-53618-533-1, $95.00  
e-book: 978-1-53618-664-2, $95.00

This book pursues to exhibit how we can construct a Clifford type algebra from the classical one. The basic idea of these lecture notes is to show how to calculate fundamental solutions to either first–order differential operators of the form $D=\sum_{i=0}^{\infty}a_i \partial_i$ for second–order elliptic differential operators $D D$, both with constant coefficients or combinations of this kind of operators. After considering in detail how to find the fundamental solution we study the problem of integral representations in a classical Clifford algebra and in a dependent–parameter
Clifford algebra which generalizes the classical one. We also propose a basic method to extend the order of the operator, for instance $D^n,n \in \mathbb{N}$ and how to produce integral representations for higher order operators and mixtures of them. Although the Clifford algebras have produced many applications concerning boundary value problems, initial value problems, mathematical physics, quantum chemistry, among others; in this book we do not discuss these topics as they are better discussed in other courses. Researchers and practitioners will find this book very useful as a source book. The reader is expected to have basic knowledge of partial differential equations and complex analysis. When planning and writing these lecture notes, we had in mind that they would be used as a resource by mathematics students interested in understanding how we can combine partial differential equations and Clifford analysis to find integral representations. This in turn would allow them to solve boundary value problems and initial value problems. To this end, proofs have been described in rigorous detail and we have included numerous worked examples. On the other hand, exercises have not been included.

**Data Analysis**

Introduction and Comparison of Data Envelopment Analysis Software Packages

Alireza Alinezhad, PhD (Associate Professor, Department of Industrial Engineering, Islamic Azad University, Qazvin Branch, Iran), Seyyed Hamed Mirtaleb (Department of Industrial Engineering, Faculty of Industrial and Mechanical Engineering, Qazvin Branch, Islamic Azad University, Qazvin, Iran) and Javad Khalili (Department of Industrial Engineering, Faculty of Industrial and Mechanical Engineering, Qazvin Branch, Islamic Azad University, Qazvin, Iran)

In series: Mathematics Research Developments

Publication Date: 02/24/2021

306 pp.

Hardcover: 978-1-53619-119-6. $230.00

e-book: 978-1-53619-162-2. $230.00

This book presents and compares 11 software packages of Data Envelopment Analysis (DEA). Performance measurement is done by various methods, one of which is DEA. Due to the ability of DEA models to meet practical requirements, extensive research can be conducted in the fields of mathematics, management, economics, and engineering. Therefore, during recent decades, the use of this method has been considered with significant growth among researchers. DEA evaluates the performance of Decision Making Units (DMUs) by using linear programming. Since linear programming should be solved for each DMU, performance measurement for a large number of DMUs is difficult and time-consuming. For this purpose, various software packages have been designed and developed to address these problems. Each of these software's is designed for different purposes and has different features and applications. The main objectives of this book are to introduce, express the advantages and disadvantages of each of these software packages, as well as their comparisons.

**Geometry and Topology**

Hilbert Spaces and Its Applications

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In series: Mathematics Research Developments

Publication Date: 02/05/2021

244 pp.

Hardcover: 978-1-53618-983-4. $195.00

e-book: 978-1-53619-124-0. $195.00

This book contains numerous selected contemporary topics, primarily in Hilbert space, although related extended material in Banach spaces and Riemannian manifolds is also included.
A plethora of concrete problems from diverse disciplines are explored, such as: applied mathematics; mathematical biology; chemistry; economics; physics; scientific computing; and engineering. The solutions of such equations can only be found in closed form in special cases; this forces researchers and practitioners to focus on the development of iterative methods to generate a sequence converging to the solutions, provided that some convergence criteria depending on the initial data are satisfied. Due to the exponential development of technology, new iterative methods should be found to improve existing computers and create faster and more efficient ones. We have no doubt that this book will contribute significantly to the enrichment of knowledge and problem solving in the field of Hilbert spaces and related topics.

**Understanding Quaternions**

Peng Du (School of Marine Science and Technology, Northwestern Polytechnical University, Xi’an, China), Haibao Hu (School of Marine Science and Technology, Northwestern Polytechnical University, Xi’an, China), Dong Ding (Roberval Laboratory, University of Technology of Compiègne, France) and Zhuoyue Li (School of Marine Science and Technology, Northwestern Polytechnical University, China)

In series: *Mathematics Research Developments*

Publication Date: 10/09/2020

197 pp.

Softcover: 978-1-53618-343-6. $95.00

e-book: 978-1-53618-553-9. $95.00

Quaternions are members of a noncommutative division algebra first invented by William Rowan Hamilton. They form an interesting algebra where each object contains 4 scalar variables, instead of Euler angles, which is useful to overcome the gimbal lock phenomenon when treating the rotation of objects. This book is about the mathematical basics and applications of quaternions. The first four chapters mainly concerns the mathematical theories, while the latter three chapters are related with three application aspects. It is expected to provide useful clues for researchers and engineers in the related area. In detail, this book is organized as follows:

In Chapter 1, mathematical basics including the quaternion algebra and operations with quaternions, as well as the relationships of quaternions with other mathematical parameters and representations are demonstrated. In Chapter 2, how quaternions are formulated in Clifford Algebra, how it is used in explaining rotation group in symplectic vector space and parallel transformation in holonomic dynamics are presented. In Chapter 3, the wave equation for a spin 3/2 particle, described by 16-component vector-bispinor, is investigated in spherical coordinates. In Chapter 4, hyperbolic Lobachevsky and spherical Riemann models, parameterized coordinates with spherical and cylindric symmetry are studied. In Chapter 5, ship hydrodynamics with allowance of trim and sinkage is investigated and validated with experiments. In Chapter 6, the ballast flying phenomenon based on Discrete Discontinuous Analysis is presented. In Chapter 7, a numerical study is proposed to analyze the effect of the caisson sliding subjected to a hydrodynamic loading in the stability of the rear side of the rubble mound breakwater.

**Special Topics**

**A Closer Look at the Diffusion Equation**

Jordan Hristov, PhD, DSc (Professor of Chemical Engineering, Department of Chemical Engineering, University of Chemical Technology and Metallurgy, Sofia, Bulgaria)

In series: *Mathematics Research Developments*

Publication Date: 10/09/2020

189 pp.

Softcover: 978-1-53618-330-6. $95.00

e-book: 978-1-53618-488-4. $95.00

Diffusion is a principle transport mechanism emerging widely at different scale, from nano to micro and macro levels. This is a contributed book of seventh chapters encompassing local and no-local diffusion phenomena modelled with integer-order (local) and non-local operators. This book collates research results developed by scientists from different countries but with common research interest in modelling of diffusion problems. The results reported encompass diffusion problems related to efficient numerical modelling, hypersonic flows, approximate analytical solutions of solvent diffusion in polymers and wetting of soils. Some chapters are devoted to fractional diffusion problem with operators with singular and non-singular memory kernels.
The book content cannot present the entire rich area of problems related to modelling of diffusion phenomena but allow seeing some new trends and approaches in the modelling technologies. In this context, the fractional models with singular and non-singular kernels, the numerical methods, and the development of the integration techniques related to the integral-balance approach form fresh fluxes of ideas to this classical engineering area of research. The book is oriented to researchers; master and PhD students involved in diffusion problems with a variety of application and could serves as a rich reference source and a collection of texts provoking new ideas.

**Advances in Mathematics Research. Volume 28**  
*Albert R. Baswell*  
In series: *Advances in Mathematics Research*  
Publication Date: 09/02/2020  
216 pp.  
Hardcover: 978-1-53618-251-4, $250.00  
e-book: 978-1-53618-287-3, $250.00  
This compilation first outlines a stochastic multicriteria modelling-to-generate-alternatives approach for waste management planning that can generate maximally different sets using a modified version of the computationally efficient Firefly Algorithm.

The authors present reduced-order models to pattern formations occurring in the activator-inhibitor FitzHugh-Nagumo equation, parametrized Allen-Cahn equation, non-linear Schrödinger equation, Ginzburg-Landau equation and Swift-Hohenberg equation. The subsequent chapter deals with the singularly perturbed semilinear convection-diffusion problem, serving as an introduction to the model problems which arise frequently in counterflow flames modeling, modeling in mathematical biology, semiconductor device simulations based on the so-called drift diffusion modeling, fluid dynamics and heat conduction.

The authors present a linear integer programming approach to construct efficient incomplete block designs given v, b and k. The proposed approach is illustrated by constructing an A-efficient incomplete block design, and the strengths and weaknesses of this algorithm are also discussed.

One included work is devoted to the issue of the Green functions that are related to some three-point boundary and eigenvalue problems. A detailed definition is given for the Green functions provided that the considered three-point boundary value problems are governed by a class of ordinary differential equations which are associated with homogeneous boundary and continuity conditions.

A review on the methods of mathematical modeling used to calculate irreversible loss of capacity in polymer lithium-ion batteries is provided.

In closing, the authors consider the corpus of mathematical theorems that admit formulations in natural language and offer some explanations of the existence of several types of theorems.

**An Introduction to the Extended Kalman Filter**  
*Matthias Holland*  
In series: *Mathematics Research Developments*  
Publication Date: 11/20/2020  
115 pp.  
Softcover: 978-1-53618-875-2, $82.00  
e-book: 978-1-53618-884-4, $82.00  
An Introduction to the Extended Kalman Filter first presents a study wherein a two-stage approach for the estimation of a spacecraft’s position and velocity using single station antenna tracking data is proposed.

Since the Kalman filter and its variants are widely used for estimation in diverse domains, the authors also present a review of fault detection, diagnosis and fault tolerant control of descriptor/differential algebraic equation systems specifically focused on the Kalman filter and its variants.

The closing contribution provides insight into the intrinsic convergence of the extended Kalman filter when operated in the stochastic frame for the class of systems and outputs considered.
Recent Studies in Differential Equations

Henry Forster

In series: Mathematics Research Developments
Publication Date: 10/02/2020
130 pp.
Softcover: 978-1-53618-389-4, $82.00
e-book: 978-1-53618-429-7, $82.00

This compilation introduces and studies the class of (asymptotically) Stepanov almost automorphic functions with variable exponents, presenting a few relevant applications of abstract Volterra integro-differential inclusions in Banach spaces.

The authors study the existence and regularity of solutions for some nonlinear second order differential equations, showing the existence of mild solutions and giving sufficient conditions ensuring the existence of strict solutions.

Sufficient conditions for the oscillation of solutions of neutral impulsive differential equations are also presented.

In the penultimate study, the oscillatory behaviour of the solutions of a class of nonlinear first-order neutral differential equations with several delays of one form are studied.

In addition, some sufficient conditions for the oscillation of solutions to the first and second-order neutral delay difference equation are presented.

Physics and Astronomy

Astronomy and Astrophysics

An Introduction to Magnetometers

Dr. Zolile Mtumela, PhD (Lecturer, School of Chemistry and Physics, University of Kwa-Zulu Natal, South Africa) and Dr. Thembinkosi Donald Malevu, PhD (Lecturer, School of Chemistry and Physics, University of Kwa-Zulu Natal, South Africa)

In series: Space Science, Exploration and Policies
Publication Date: 12/14/2020
282 pp.
Hardcover: 978-1-53618-756-4, $195.00
e-book: 978-1-53618-847-9, $195.00

Ground magnetometer observations have played a major role in the development of space science, by remotely measuring currents that define the dynamics of the magnetosphere and Earth’s ionosphere. They have led to the identification of ionospheric currents associated with magnetic substorms and storms, as well as those associated with global compressions of the magnetosphere from interplanetary shocks and bow shock-related instabilities. Ground magnetometer observations have made it possible to track and comprehend the way reconfigurations of currents and convection are propagated globally after the magnetosphere is impacted by solar wind and/or interplanetary magnetic field dynamics. Global ground magnetometer observations provide the most fundamental and necessary context that needs to exist if any of the current and future missions are to provide new discovery science within the Near-Earth Environment.

While their role as a continuous monitor and context-providing source is paramount, their continuous operation on a now-global scale provides the means for research science at the systems. The above overview of the magnetometers on space-based magnetometers are by no means intended to be complete, but is to illustrate the historic success of magnetometers and the contributions to our understanding of space physics and related fields.
An Introduction to Molecular Clouds
Sachin Kaothekar (Associate Professor, Department of Engineering Physics, Mahakal Institute of Technology & Management, Ujjain, Madhya Pradesh, India)

In series: Advances in Astronomy and Astrophysics
Publication Date: 03/11/2021
120 pp.
Softcover: 978-1-53619-178-3. $82.00
e-book: 978-1-53619-353-4. $82.00

An Introduction to Molecular Clouds describes the formation of molecular clouds and the innovative features of molecular clouds with different physical parameters. In this book, Jean-gravitational instability is discussed with different physical parameters, which is the major cause of the formation of molecular clouds in the interstellar medium (ISM), and the way molecular clouds are formed in the astrophysical plasma environment is described. The authors aim to determine the basic conditions responsible for the formation of heavenly bodies in the universe. The book deals with radiative instability in a variety of conditions incorporating different physical parameters such as viscosity, rotation, permeability, porosity, thermal conductivity, Hall current, Finite ion Larmor radius corrections, finite electrical resistivity, radiative heat-loss functions and finite electron inertia, both in gaseous plasma and quantum plasma environments.

Solar Irradiance: Types and Applications
Daryl M. Welsh

In series: Advances in Astronomy and Astrophysics
Publication Date: 11/06/2020
148 pp.
Softcover: 978-1-53618-786-1. $82.00
e-book: 978-1-53618-799-1. $82.00

Solar Irradiance: Types and Applications first presents intelligent models for sizing, parameters forecasting and control of a photovoltaic system on the basis of a modified fuzzy neural net. The modified fuzzy neural net provides automatic fulfillment and modification of all proposed intelligent models. Following this, the authors discuss modeling direct normal irradiance at the Earth’s surface. In addition to looking traditionally at direct normal irradiance as a fuel for concentrating solar systems, its use in computing the sunshine number is also explored. The closing study explores the potential of using simple empirical and artificial neural network models to estimate global solar radiation on a horizontal surface. Algeria was used as a case study and four statistical parameters were chosen to assess the performances of each model or approach.

Classical and Fluid Mechanics

An Introduction to Surface Tension
Jürgen Klein

In series: Physics Research and Technology
Publication Date: 09/18/2020
182 pp.
Softcover: 978-1-53618-378-8. $95.00
e-book: 978-1-53618-476-1. $95.00

The term “surface tension” reflects the nature of intermolecular forces in neighboring liquid and vapor phases. Surface tension decreases with increasing temperature, and drops to zero value at critical temperature. To a small extent, it is influenced by pressure and the interface curvature.

An Introduction to Surface Tension discusses the possibility of a significant use of surfactants, polymers, alkali and microbes for surface tension alteration based on work done in the last decades, with new insight on the chemical aspects, especially for gas recovery from shale by altering surface tension. In closing, the authors propose a model based on the concept that surfactant and polymer molecules rotate during the process reaching the equilibrium surface state, which is different from the conventional adsorption theory.
Nuclear and High Energy Physics

**Computational Methods in Nuclear Radiation Shielding and Dosimetry**

*Kulwinder Singh Mann, PhD (Assistant Professor, Department of Physics, D.A.V. College Bathinda, Punjab, India) and V. P. Singh, PhD (Department of Physics, Karnatak University, Dharwad, India)*

In series: Physics Research and Technology
Publication Date: 10/09/2020
375 pp.
Hardcover: 978-1-53618-527-0. $230.00
E-book: 978-1-53618-661-1. $230.00

This book is a compilation of the most widely used computational methods and techniques for calculating shielding parameters that are required for radiation-shielding investigations of dosimetric materials. The theoretical, experimental, and simulation methods and their applications are described. The book is divided into thirteen chapters that are arranged in a systematic order and written by experienced scientists and academicians worldwide. The gamma-ray shielding parameter calculations with the Monte Carlo simulation techniques viz. MCNP, GEANT4, FLUKA, and EGS5 codes are illustrated. Descriptions of various software such as XCOM, WinXCom, FLUKA, Phy-X, BMIX, ASFIT, and ANSI are provided. A review of fundamental quantities for calculation of ambient dose, i.e., photon and neutron buildup factors, is presented. A phantom-based computation model has been included to indicate the applications of radiation dosimetry in medical diagnostics. The chapters on computed-tomography (CT) have been included to provide insight into the radiations’ diagnostic capabilities and applications. The shielding effectiveness of some materials such as ignimbrite rocks, amorphous metals, marbles, dosimetric materials, and novel shielding materials have been investigated. The most recent concept of multi-layered shielding and related buildup factors’ influence on the shielding effectiveness is described with a computer program, the RIMP-TOOLKIT. This book is the result of the authors' hard-work and determination during the worldwide lockdown period caused by the spread of COVID-19. The conclusions presented in this book will be useful in nuclear radiation shielding and for dosimetric purposes. Additionally, this book will be helpful for postgraduate students of physics and chemistry.

Particle Physics

**Neutrinos: Beyond the Basics**

*Neil A. Stewart*

In series: Physics Research and Technology
Publication Date: 12/04/2020
179 pp.
Softcover: 978-1-53618-678-9. $95.00
E-book: 978-1-53618-950-6. $95.00

In this compilation, the authors first investigate the potential use of mineral lorandite from Allchar to estimate the Sun’s age. A brief history of the discovery of neutrinos is provided, focusing on properties such as electrical charge, mass, and sources. A brief introduction to neutrinos in the standard model of particle physics is also provided, followed by neutrino oscillations both in vacuum and in matter. Special experiments involving neutrino beams generated by accelerators are planned to study the properties of neutrinos on long baselines. Lastly, within the context of a U(1)B−L minimal model, the authors discuss the effects of the anomalous magnetic moment and electric dipole moment of the tau-neutrino on stellar energy loss rates through the process of pair-annihilation.
A Comprehensive Guide to Superconductivity
Rohan Morrow
In series: Physics Research and Technology
Publication Date: 12/08/2020
253 pp.
Hardcover: 978-1-53618-901-8. $160.00
e-book: 978-1-53618-995-7. $160.00
A Comprehensive Guide to Superconductivity discusses the societal and environmental benefits of superconducting devices in electric transportation systems, introducing the electric and thermal characteristics of superconducting devices as well as providing an analysis of their cryogenic systems.

The authors describe the main principles of spectroscopic methodology for the analysis of gapped electronic spectra and the electron-boson interaction leading to Cooper pair formation and, in turn, Fermi-sea instability. Additionally, methods to optimize the design of a 2G AC power cable are presented with the goal of providing uniform current distribution among cable layers. Beginning with an introduction to Pauli limited superconducting systems, solid state and ultra cold atomic gas setups which host the Fulde-Ferrell-Larkin-Ovchinnikov superconducting phase are studied, along with relevant experimental diagnostics and reported observations.

In closing, the authors discuss the theoretical understanding of Josephson transport in hybrid superconductor quantum dot devices. In particular, Josephson transport is studied through an uncorrelated single-level quantum dot coupled between two Bardeen-Cooper-Schrieffer superconducting leads, modeled by single-impurity Anderson Hamiltonian.

A Guide to Laser-Induced Breakdown Spectroscopy
Pablo A. Foster
In series: Physics Research and Technology
Publication Date: 12/11/2020
173 pp.
Softcover: 978-1-53618-932-2. $95.00
e-book: 978-1-53618-994-0. $95.00
This compilation focuses on laser-induced breakdown spectroscopy, a technique that provides a versatile qualitative and quantitative analysis of any sample. The authors present perspectives on the current trends in the use of laser-induced breakdown spectroscopy for insulation condition monitoring. A guide to laser-induced breakdown spectroscopy as a classification tool is provided, along with combinations of well-established classification algorithms with laser-induced breakdown spectroscopy and their implementation schemes.

Acoustic Waves: Properties and Measurement
Lucas S. Lorenzen
In series: Physics Research and Technology
Publication Date: 09/18/2020
185 pp.
Softcover: 978-1-53618-405-1. $95.00
e-book: 978-1-53618-425-9. $95.00
Acoustic signal analysis is commonly used for non-invasive pipeline condition assessment and diagnosis. Considering that pipeline systems are made of different materials ranging from steel to polymers, the analysis method is also contingent on the vibroacoustic properties of the pipe wall material.

In this compilation, an adaptive, locally defined time marching technique is presented to analyze wave propagation models. The methodology is based on two time integration parameters, namely $a$ and $\gamma$.

Additionally, the authors present recent improvements in acoustic impedance methods to describe the transduction and propagation of guided elastic waves in MEMS devices electrostatically actuated through thin air-gaps.

The closing study focuses on the way in which the Lorentz force acting on a continuous medium from the side of the magnetic field has a significant effect on the behavior of magnetoelastic waves.
Auto Oscillations of Flow Inhomogeneities
Dr. Andrey (Andrew) G. Semenov (Senior Research Scientist of Academician N.N. Andreev Acoustics Institute of RAS, Moscow, Russia)
In series: Physics Research and Technology
Publication Date: 12/14/2020
404 pp.
Hardcover: 978-1-53618-696-3, $310.00
e-book: 978-1-53618-723-6, $310.00
The book provides the analysis and research results related to flow inhomogeneities auto oscillations observed in free subsonic and supersonic jet flow as well as during jet flow interaction with adjacent bodies, acoustic resonators, ejectors and valves. It demonstrates the laws, relationships and experimental evidences for various auto oscillations phenomena directly related to incident flow regimes based on conditions of flow boundary instability and feed back mechanism realized by corresponding sound field radiated due to periodic hydrodynamic disturbances reflection propagating in opposite to flow direction in the form of sound impulses exciting flow origin. Book results allow devoting particular attention to auto oscillations condition prediction and in a sense to their control. Book is addressed to physicists, acousticians and hydrodynamics engineers developing low noise and vibration aircrafts, ships and space vehicles with aid of adjacent flow and jet flow auto oscillations cancellation as well as to specialists involved in flow induced auto oscillations sound sources efficiency increase research, say, related to musical instruments or to biological research of man and animal voice properties. Book will be useful as well to undergraduate and graduate students of these specialties.

Horizons in World Physics. Volume 304
Albert Reimer
In series: Horizons in World Physics
Publication Date: 09/18/2020
223 pp.
Hardcover: 978-1-53618-440-2, $250.00
e-book: 978-1-53618-491-4, $250.00
In this compilation, the authors describe a volume source of negative hydrogen ions on the basis of Penning ionization gauge with a metal hydride cathode, which plays the role of a cathode and the solid-state generator of working gas. Next, a study is carried out in two cases of constant and variable charges of dust grains. Consideration of the dust charge variation requires the evaluation of charging currents. The possibilities of ultra short pulsed laser deposition for modified scratch-resistant surfaces in industrial and optical applications are demonstrated and reviewed. Additionally, results of investigations on new types of silicon p-n junction diodes are presented. As temperature sensors, these types of silicon don’t have the disadvantages inherent to usual commercial devices when they are employed at low temperatures and in the presence of magnetic fields.

In the subsequent study, it is found that all bodies are characterized by a neutrino halo which is formed by an equilibrium interaction between the surrounding neutrinos and the neutrino field of the atomic nuclei from the object. The authors match an exterior solution of a spherically symmetric wormhole to the general interior vacuum solution with specific values of the arbitrary function at the junction interface, thus determining the surface stresses on the thin shell. In closing, the Becchi-Rouet-Stora-Tyutin and anti-Becchi-Rouet-Stora-Tyutin symmetries of gauge theories are recapitulated. This symmetry plays an important role in proving the unitarity and renormalizability of these theories.

Phosphors for Display, Forensic and Biomedical Application
Vikas Dubey (Asst. Dean Research and Development, Department of Physics, Bhilai Institute of Technology Raipur, Kendri, India), Marta Michalska-Domańska (Institute of Optoelectronics, Military University of Technology, Warsaw, Poland), Neha Dubey (Department of Physics, Govt. V.Y.T.PG. Auto. College Durg, Chhattisgarh, India) and Jagjeet Kaur Saluja (Department of Physics, Govt. V.Y.T. PG. Autonomous College, Durg, India)
In series: Physics Research and Technology
Publication Date: 02/05/2021
327 pp.
Hardcover: 978-1-53618-937-7, $230.00
e-book: 978-1-53619-156-1, $230.00
The demand for phosphors with advanced performance capabilities is increasing due to recent technical developments in the display, lighting, and fluorescence labeling sectors. Rare-earth doped phosphors have been the focus of the research community, owing to their widespread applications in display devices, temperature sensors, solar cells, etc. This book reviews the broad aspects of organic and inorganic materials-based phosphors, and will be beneficial to undergraduate, graduate, and postgraduate students. It provides an up-to-date account of the advancement of various techniques for the synthesis of phosphors and their applications. Experimental and theoretical approaches related to the rare-earth-doped luminescent materials are explored.

Space Magnetic Traps in the Universe and in Magnetosphere

Lev I. Dorman (Israel Cosmic Ray & Space Weather Center and Israeli-Italian Emilio Segre’ Observatory on Mt. Hermon, Tel Aviv University, Golan Research Institute, and Israel Space Agency, ISRAEL)

In series: Classical and Quantum Mechanics
Publication Date: 09/18/2020
610 pp.
Hardcover: 978-1-53618-322-1, $315.00
e-book: 978-1-53618-419-8, $315.00

The importance and actuality of investigating Space Magnetic Traps in the Universe and in the Magnetosphere are based on following four factors:

1. Space Magnetic Traps in the Universe for Cosmic Ray particles (Astroparticles, Run Away Particles) on different studies of the Universe’s evolution and in different objects (galaxies of different types, quasars, nucleus of galaxies, Sun and stars, Heliosphere and Stellar Spheres, solar and stellar winds, magnetospheres of planets, and so on) are very interested and important in the frame of fundamental science (Astrophysics, Plasma Physics and Magnetohydrodynamics, Nuclear and Elementary Particle Physics, Geophysics). This problem is interested also for applications (e.g., problem of controlled thermo-nuclear reactions in magnetohydroplasmas traps as main source for energy in near future for the Earth’s Civilization).

2. The Magnetosphere is the nearest giant natural laboratory where with satellites and ground measurements is possible to investigate different plasmas and energetic processes in space caused by interaction of high kinetic energy solar wind plasmas with frozen in Interplanetary Magnetic Fields-IMF and its perturbations (Interplanetary Coronal Mass Ejections-ICMEs, Interplanetary Shock Waves-ISWs, Interplanetary Interaction Regions-IIRs, and so on) with the rotated main geomagnetic field. This interaction leads to a dynamic transformation of magnetic fields in the Magnetosphere, formation Space Magnetic Traps (Radiation Belts), generation and trapping of high energy particles (which can be called Magnetospheric Cosmic Rays-MCR), and generation of different types of instabilities and electromagnetic radiations. These processes are similar to processes in magnetospheres of other planets and their moons, in the atmosphere of the Sun and other stars, in interplanetary and in interstellar space, and in many different astrophysical objects in the Universe. This research presents an important basis for fundamental space in frame of Astrophysics, Plasma Physics and Magnetohydrodynamics, Nuclear and Elementary Particle Physics, Geophysics.

3. In modern time, technology, economics, navigation, TV, internet, radio-connections, military aspects, and the life of people on our planet are strongly connected by the work of many satellites moving inside the Magnetosphere. Different processes and MCR in the magnetosphere influence how the satellites work and often lead to satellite malfunctions, sometimes completely destroying their electronics and satellites become ‘dead’. The described research can be considered as a basis for developing methods of forecasting dangerous situations for satellites on different orbits and to decrease the risk of satellite malfunctions and of losing them. It means that this research has important practical applications.

4. The interaction of ICME, ISW, and IIR with the Magnetosphere leads to the generation of big magnetic storms accompanied by Cosmic Ray Forbush-decrease and precursory effects in Galactic Cosmic Ray (GCR) intensity. These magnetic storms are dangerous, not only for satellites, but also for Earth’s surface regarding technology, radio-connections, car accidents, and human health (e.g., increasing frequency of infarct myocardial and brain strokes). Investigation of causes of magnetic storms can help to develop methods of their forecasting and decrease the level of magnetic storm hazards. Therefore, the other practical application of this research is connected with the problem of space weather and space climate influence on the technology, radio-connections, navigation, transportation, and human health on the Earth in dependence of altitude and geomagnetic latitude.
The Fundamentals of Polarized Light
Alan Terry
In series: Physics Research and Technology
Publication Date: 01/27/2021
211 pp.
Hardcover: 978-1-53618-977-3. $160.00
e-book: 978-1-53619-090-8. $160.00
This compilation opens with a discussion of the limitations of the current enamel birefringence interpretation and its potential applications in various fields, such as: caries research, forensic dentistry, anthropology, paleontology, and evolutionary biology.
The authors demonstrate a novel concept for the reproduction of the “movement without frame-by-frame display technique” developed by the Lumiere brothers in 1895 in their cinematograph motion picture system.
The current evidence base surrounding the use of both monochromatic and polychromatic polarized photobiomodulation is reviewed, specifically related to wound healing and musculoskeletal conditions.
Following this, to induce molecular orientations such as the symmetry operation of crystals, the authors study circularly or linearly polarized UV light irradiation in hybrid materials.
New chiral Schiff base metal Ni(II) and Zn(II) complexes containing an azobenzene moiety in ligands are synthesized, in which substituents (H, Cl) at the ortho position of azobenzene are introduced for wavelength-selective molecular orientation by light irradiation.
In closing, the authors design new metal complexes with a rigid Y-shaped structure with a photoisomerization moiety aligned by polarized UV light and expected to cause the Weigert effect.

Thermal Physics and Statistical Mechanics

A Closer Look at Convective Heat Transfer
Liang-Bi Wang (Professor, Director of Key Laboratory of Ministry of Education of China for Railway Vehicle Thermal Engineering, Lanzhou Jiaotong University, China)
In series: Physics Research and Technology
Publication Date: 03/04/2021
353 pp.
Hardcover: 978-1-53619-041-0. $230.00
e-book: 978-1-53619-244-5. $230.00
Convective heat transfer plays a role in many branches of science and engineering, as well as in aspects of daily life. Due to its importance, it deserves to be given a closer look.
This book shows some real complexities of convective heat transfer in more rigorous ways, with most aspects described by partial differential equations. Defined by Fourier’s law, heat flux is transported by convection. Thus, the transport of heat flux can be described using the convective transport equation of the heat flux, which may provide more information. The significance of this description is that the velocity gradient’s contribution to the transport of heat flux is stated implicitly and may be connected to the mechanical dissipation.
A description of the transport of the momentum flux is provided in this book, focusing on both the mechanical energy prepared by production from the main flow and the mechanical energy dissipated by vorticity. Based on the convective transport equations of heat flux and momentum flux, a correlation between the contribution to the transport of heat flux and mechanical energy production and dissipation is established.
Additional topics discussed herein include the transport characteristics of heat flux, the impact of velocity and its gradients on the transport of heat flux in a channel flow, a tube flow, a channel flow with vortex generators and a twisted elliptical tube flow. As secondary flow and vorticity are commonly used for the enhancement of convective heat transfer, the roles of secondary flow and vorticity in the convective transport of heat flux are discussed.
The intensity of convective heat transfer is only defined by the surface which heat is transferred through; it is not defined in the fluid region. Combustion science, oceanography, meteorology, and geoscience pay much attention to local convective heat transfer intensity. This book verifies the rationality of local convective heat transfer intensity.
Understanding Heat Conduction
William Kelley
In series: *Physics Research and Technology*
Publication Date: 01/29/2021
180 pp.
Softcover: 978-1-53619-182-0, $95.00
e-book: 978-1-53619-202-5, $95.00

The first chapter of this book proposes an analytical Fourier series solution to the equation for heat transfer by conduction in a spherical shell with an internal stone consisting of insulating material as a model for the kinetic of temperature in stone fruits both as a general solution and a mass average value. The chapter also considers an internal heat source linearly reliant on temperature. The second chapter focuses on the sensitivity of the numerical modeling technique for conjugate heat transfer involving high speed compressible flow over a cylinder. The last chapter presents an overview of the fundamental solution (FS) based finite element method (FEM) and its application in heat conduction problems. First, basic formulations of FS-FEM are presented, such as the nonconforming intra-element field, auxiliary conforming frame field, modified variational principle, and stiffness equation. Then, the FS-FE formulation for heat conduction problems in cellular solids with circular holes, functionally graded materials, and natural-hemp-fiber-filled cement composites are described.

**TECHNOLOGY AND ENGINEERING**

**Construction**

Recent Advances in Welding
Francisco José Gomes da Silva (ISEP – School of Engineering, Polytechnic of Porto, Department of Mechanical Engineering, Porto, Portugal) and António Manuel de Bastos Pereira (Universidade de Aveiro, Departamento de Engenharia Mecânica, Centro de Tecnologia, Mecânica e Automação Campo Universitário de Santiago, Aviero, Portugal)

In series: *Construction Materials and Engineering*  
Publication Date: 10/01/2020
383 pp.
Hardcover: 978-1-53618-342-9, $230.00
e-book: 978-1-53618-627-7, $230.00

Welding is a conventional joining process that has followed the recent developments in other manufacturing processes, continuing to be an extremely used and investigated process. Although some techniques have been implemented and studied for several decades, the interest of researchers in welding has not diminished, as it can be seen through new processes that have emerged, such as Friction Stir Welding, in addition to many other notable developments in welding processes which apparently seemed to have reached their final stage of maturity.

This work brings together a set of very interesting works, being a living proof that welding continues to be heavily investigated and that the developments around this manufacturing process are constantly emerging. Because the materials continue to evolve and the technology around welding also continues to develop at a very good pace, studies on the weldability of new materials and the application of new techniques and technologies to already well known welding processes does not stops happening.

The editors are proud to have collected this set of works that can help scholars and researchers to broaden their knowledge in the field of welding, thus contributing to the creation of a knowledge base that allows researchers to start new investigations and achievements in the coming decades.
### Electrical Engineering

**Phase-Locked Loops: Structure, Functions and Applications**  
*Shambhu N. Sharma, PhD (Head, Electrical Engineering Department and Former Associate Dean Academic, National Institute of Technology, Surat, India)*  

In series: *Electrical Engineering Developments*  
Publication Date: 09/02/2020  
345 pp.  
Hardcover: 978-1-53618-338-2, $230.00  
e-book: 978-1-53618-490-7, $230.00  

The historic account of the Phase-Locked Loops can be traced back from the idea of designing an electromechanical system with the objective of controlling the oscillation of the pendulum of the bell Great George. The method is to contrast the phase of pendulum and the incoming telegraph signal phase using the electromechanical system. That generates the correction signal varying the pendulum oscillation. The idea was conceived as well as implemented by David Robertson, Professor of Electrical Engineering at the University of Bristol. The term Phase-Locked Loop was coined to this technique by later Researchers in 1932. Professor David Robertson is credited to the Phase-Locked Loop for pioneering the technique. In general setting, the Phase-Locked Loops are for synchronization purposes. The phase locked loops perspective hinges on the analysis, functions and applications.

### Energy

**A Strategic Evaluation of Energy Security in the Eastern Mediterranean**  
*Michail Chalaris, MA, PhD (Department of Chemistry, International Hellenic University, and Hellenic Fire Academy, and School of Fire Officers, and Military Nursing Academy (SAN), Kavala, Greece)*  

In series: *Energy Policies, Politics and Prices*  
Publication Date: 03/04/2021  
149 pp.  
Softcover: 978-1-53619-273-5, $95.00  
e-book: 978-1-53619-346-6, $95.00  

This book is an approach, in the wider theoretical considerations on scientific research and study, of issues relating to energy resources and energy security and, at the same time, it is a case study on Eastern Mediterranean energy security. The Mediterranean has been known since ancient times as a large semi-enclosed sea, surrounded by more than two states as it lies between three continents: Europe, Asia and Africa. However, developments in the 21st century have necessitated viewing it conceptually as a distinct “new” region with specific characteristics. Comprised by Cyprus, Egypt, Greece, Israel, Lebanon, Libya, Syria, Turkey, Italy the region is assuming increased significance in world affairs. More specifically, the region of the Eastern Mediterranean is currently of vital importance for the EU, due to several prospects and challenges, such as migration flows, energy, security and sustainability of the region. The individual objectives are the recognition of energy actions and resources, forms of energy, energy security and in general, all actions at the energy level mentioned in the specific area. Research this study will focus on the qualitative method to the subject. The structure of the present study was developed as follows: The Preface provides a general presentation of the topic. The first chapter presents an overview of eastern Mediterranean and energy issues. The second chapter reports on energy resources and it focuses on energy security and its basic principles. The third chapter is about energy and security. The fourth chapter offers discussion on European Union’s energy policy development and on the EU interests, strategy and policy regarding the Eastern Mediterranean region. The fifth chapter presents the changes in the East Mediterranean energy map and data on geopolitical chessboard. The last chapter presents the conclusions. A useful tool in completing this study was the understanding of the delicate ethnocultural and religious synthesis of the region, the current challenges and underlying controversies, considering the interlinked nature of interests and the importance of cross-border affiliations. All the findings of the study demonstrate certain dimensions of a reality, which are expected to be dynamic, creating risk but also future opportunities. The main finding of the study points out not only the strong correlation between energy, power, economics and politics but also the increased dependence of the latter two on the former, thus creating a hotbed of tensions, rivalries, and conflicts every time the existing relationship between economy and energy are destabilized. The shifting to energy sources, which are safe and eco-friendly, is a one-way process, the only means of survival and safe development for
humanity. Generating energy based on economic, safe, cost-efficient and renewable criteria is the current ecological and technological challenge if, firstly, the vast interests in the energy sector are dealt with successfully. Finally, this book will be of key interest to scholars and students, for researchers in the fields of Energy Economics, Policy, and Security, Energy Law, Business, Regulation and Policy, Geopolitics, who aim to have a better understanding of the current trends or research in the relevant fields, for professionals in EU politics and foreign policy, energy policy and security, and more broadly to security studies, European politics and international relations and newcomers in the profession of energy security, and for policymakers who intend to apply the collective knowledge included into this volume into policy and decision-making.

Advanced Power Systems and Security: Computer Aided Design
Samir Abood (Department of Electrical and Computer Engineering, Prairie View A&M University, Prairie View, TX, USA) and Muna Fayyad (American InterContinental University-Houston, Houston, TX, USA)

In series: Energy Science, Engineering and Technology
Publication Date: 11/16/2020
464 pp.
Hardcover: 978-1-53618-785-4. $270.00
e-book: 978-1-53618-863-9. $270.00

ADVANCED POWER SYSTEMS AND SECURITY: Computer-Aided Design is a textbook that provides an excellent focus on the advanced topics of the power system and gives exciting analysis methods and a cover of the important applications in the power systems. At the beginning of each chapter, an abstract that states the chapter objectives. And then the introduction for each chapter. All principles are presented in a lucid, logical, step-by-step approach. As much as possible, the authors avoid wordiness and detail overload that could hide concepts and impede understanding. And in each chapter, the authors present some of the solved examples and applications using a computer program.

Toward the end of each chapter, the authors discuss some application aspects of the concepts covered in the chapter using a computer program.

In recognition of requirements by the Accreditation Board for Engineering and Technology (ABET) on integrating computer tools, the use of MATLAB® and ATP version of the Electromagnetic Transients Program (EMTP) are encouraged in a student-friendly manner. MATLAB® is introduced in Appendix C and applied gradually throughout the book.

Each illustrative example is immediately followed by practice problems. Students can follow the example step by step to solve the practice problems without flipping pages or looking at the end of the book for answers. These practice problems test students' comprehension and reinforce key concepts before moving on to the next section.

The book is intended as a textbook for a senior-level undergraduate student in electrical and computer engineering departments, and appropriate for Graduate Students Industry Professionals, Researchers, and Academics.

The book has more than 11 categories and millions of power readers, and it can use in more than 400 electrical engineering departments at the top of universities all over the world.

Based on this information, targeted lists of the Engineers from which specific disciplines will purchase

- Electrical engineers
- Computer engineers.
- Power Control engineers.
- Electronics engineers.
- Technical power system engineers
- Protection engineers
- Design engineers.
- Distribution engineers.

The book gives rich information for the industrial engineer and electric control engineer because it is contents more details about control of power flow and the design of distribution networks.

The reader will able to modeling, designing, and implement different parts of the power system after he/she finishes reading this book. The book’s strengths

- The book using for various academic and industrial levels.
- The book is giving rich and essential information about power systems and give the fundamental study for the next book (power system protection and control)
- The book Including a lot of solved examples and problems in each chapter.
- The results were obtained from the MATLAB program and ATP- EMTP program for different topics.
- Power system protection and control will include in the next part of the book.
- After finish reading the book, the reader will be able to manage and control the power system parameters, and it will help him in power station work and control centers.
The book will assist the researchers in their field of power system track. The student will be able to improved coordination between power demand and generation, and use of modern information technology and program.

**Advances in Energy Research. Volume 34**

**Morena J. Acosta**

In series: *Advances in Energy Research*

Publication Date: 12/30/2020

207 pp.

Hardcover: 978-1-53618-980-3, $250.00

e-book: 978-1-53618-997-1, $250.00

This compilation first describes a system wherein a high-nuclear high-temperature reactor supplies constant power to a thermal energy storage unit of molten lithium chloride salt, which provides the required thermal energy for a closed energy conversion system.

Next, a compact power generation-storage system is constructed using a direct current–alternating current inverter, spherical Si solar cells, and a lithium-ion battery integrated into a single module.

The authors discuss how, since a number of different countries’ electric power utilities are adding capacity, there is an opportunity to introduce a new, longer-lasting design for a wind turbine system.

A method to reduce the consumption of high-pressure steam and cool fluid in the ethanol process is presented, as well as a plan to reduce the emission of environmental pollutants from the H-501 furnace in the maleic anhydride process.

Energy optimization is carried out for the condensation stabilization component of Ilam gas refinery.

The closing study focuses on techniques such as the adjacent tree-bounded hop algorithm that may be used to reduce the energy consumption of wireless sensor networks, whether static or dynamic.

**Energy Conversion Systems: An Overview**

**Saurabh Mani Tripathi, PhD** (Department of Electrical Engineering, Kamla Nehru Institute of Technology, Sultanpur, India) and **Sanjeevikumar Padmanaban, PhD** (Department of Energy Technology, Aalborg University, Esbjerg, Denmark)

In series: *Energy Science, Engineering and Technology*

Publication Date: 02/10/2021

372 pp.

Hardcover: 978-1-53619-131-8, $230.00

e-book: 978-1-53619-200-1, $230.00

This edited book is intended to serve as a resource for engineers, scientists and specialists engaged in becoming familiarized with green energy conversion for a clean atmosphere with an adaption of ‘more-renewable’ for power generation. The book is comprised of nine original chapters dealing with state-of-the-art exercises on power conversion/storage technologies. It highlights the critical features of energy technology for green engineering for the future. This edited volume is an extensive collection of state-of-the-art studies on the subject.

**Energy Storage Systems: An Introduction**

**Dr. Satyender Singh** (Post Doctorate, PhD, M Tech, BTech, Assistant Professor, Department of Mechanical Engineering, Dr B R Ambedkar National Institute of Technology Jalandhar, India)

In series: *Energy Science, Engineering and Technology*

Publication Date: 12/14/2020

288 pp.

Hardcover: 978-1-53618-873-8, $195.00

e-book: 978-1-53618-910-0, $195.00

This book is primarily for undergraduates, graduates and research scholars working in the field of energy storage systems. The book details the mathematical and experimental analysis of energy storage systems and can be referenced by different engineering sectors, including: mechanical, chemical, civil and energy engineering, and is equally important for scholars of physics and chemistry. Various aspects of thermal energy storage systems are described, such as lithium-ion batteries, nuclear reactors, latent heat storage with PCM embedded porous media, CCHP with TESS, PCM in solar collectors, and grain dryers.
Chapter one provides an overview of the development of various kinds of cathodes and anodes. In short, this chapter is an outline of the development stages of Li-ion battery electrochemistry, discussing the commercial success and current challenges in the field with mitigation strategies, as well as the future of Li-ion batteries.

In the system described in chapter two, a high-nuclear high-temperature reactor supplies constant power to the thermal energy storage unit of molten lithium chloride salt, which provides the required thermal energy for a closed energy conversion system of the Bryton cycle. During regular operation, the thermal energy storage unit stores heat overnight for use during peak demand periods in the day. In this case, the nuclear reactor remains at a constant level of thermal capacity. A detail of energy storage in PCM embedded with porous media is presented in chapter three, and the applications of such systems are presented in chapter four. PCM has gained the attention of researchers due to longer thermal recycling and chemical stability. Moreover, high latent heat capacity is one of the most significant aspects contributing to the popularity of PCMs, and the low thermal conductivity of PCMs limits their usage in many thermal applications and can be improved by using porous media as an embedded material. Chapter five delineates the optimal working point of a system consisting of several independent units capable of trading electricity based on the consumption of various fuels. The utilization of a heat storage tank was determined using a genetic algorithm, and the modeling accuracy was compared. Chapters six and seven present a clear understanding of the working and investigation procedures of natural convection grain dryers.

This book will be helpful for understanding the fundamentals of thermal energy storage systems.

**Fundamentals of Electrical Power Systems: A Primer with MATLAB**

Samir Abood (Department of Electrical and Computer Engineering, Prairie View A&M University, Prairie View, TX, USA)

In series: Energy Science, Engineering and Technology

Publication Date: 12/02/2020

507 pp.

Hardcover: 978-1-53618-637-6. $310.00

e-book: 978-1-53618-789-2. $310.00

Fundamentals of Electrical Power Systems: A Primer With MATLAB®, is a textbook provides an excellent review of fundamental of the power system and give exciting analysis methods and a cover of the all components of power systems. At the beginning of each chapter, an abstract that states the chapter objectives. And then the introduction for each chapter. All principles presented in a lucid, logical, step-by-step approach. As much as possible, the author avoids wordiness and detail overload that could hide concepts and impede understanding. and In each chapter, the author presents some of the solved examples and applications using a computer program. Toward the end of each chapter, the author discusses some applications aspects of the concepts covered in the chapter using a computer program.

In recognition of requirements by the Accreditation Board for Engineering and Technology (ABET) on integrating computer tools, the use of MATLAB® is encouraged in a student-friendly manner. MATLAB® is introduced in Appendix C and applied gradually throughout the book.

Each illustrative example is immediately followed by practice problems. Students can follow the example step by step to solve the practice problems without flipping pages or looking at the end of the book for answers. These practice problems test students’ comprehension and reinforce key concepts before moving on to the next section.

The book is intended as a textbook for a senior-level undergraduate student in electrical and computer engineering departments, and appropriate for Juniors, Undergraduate Students, Graduate Students Industry Professionals, Researchers, and Academics.

The prerequisites for a course based on this book are knowledge of standard mathematics, including calculus and complex numbers.

The book’s strengths:

- The book using for various academic and industrial levels.
- The book is giving rich and essential information about power systems and give the fundamental study for next book (power system protection and control)
- The book Including a lot of solved examples and problems in each chapter.
- The results obtained from the MATLAB program for different topics.
- Power system protection and control will include in the next part of the book.
How has the world’s largest inland body of salty water escaped economic and political notice for so long? The Caspian Basin is an underexplored topic with scarce literature on its geomorphology, legal disputes, pipeline diplomacy, energy deposits, and environmental concerns. As such, the authors take a comprehensive approach in presenting an all-encompassing study on this unique geographical region. Readers will not only acquire basic knowledge of how Caspian states and other foreign actors interact, but also learn about related issues in the greater Eurasian/global environment, including territorial concerns, environmental issues, pipeline politics, energy reserves, and so on. Any reader who wants to familiarize themselves with this region will benefit from this book. Not only will this body of work lessen the dearth of information on this region for Caspian riparian states and other affiliated bodies, but it will also generate an altogether new expanse of scholarly conversation and international research.

The Future of District Heating
Matthew Vasilyev
In series: Energy Science, Engineering and Technology
Publication Date: 10/09/2020
137 pp.
Softcover: 978-1-53618-655-0, $82.00
e-book: 978-1-53618-660-4, $82.00
The Future of District Heating begins by discussing the way in which designing district heating systems to operate below 167F (75C) reduces the overall delivered cost of heat by reducing the capital cost of the heat source, allowing for the use of non-traditional and renewable sources, reducing the cost of piping, and allowing for the use of large-scale thermal storage. The authors describe the development of the provisions of the European Union law which apply to district heating to examine the particular legal acts in force, and provide an outlook on future developments. In closing, an experimental investigation is presented on a closed-loop earth-to-air heat exchanger (underground air tunnel) in heating mode.

Environmental Engineering
Planning, Progress and Challenges of Built Environments
Felipe Silva Pinto
In series: Environmental Science, Engineering and Technology
Publication Date: 10/30/2020
185 pp.
Softcover: 978-1-53618-624-6, $95.00
e-book: 978-1-53618-704-5, $95.00
Planning, Progress and Challenges of Built Environments first examines China’s urbanization, presenting a brief historical review of urbanization in China and focusing on its development during the pro-reform period. Following this, the authors explore notions of publicness and privativeness through the lens of Hong Kong’s public rental sector, using data collected from a physical survey of selected housing estates and 14 in-depth interviews with architects, housing managers and residents.
Post-consumer packaging waste is explored and synthesized as a secondary resource for re-contextualizing and developing applications in architecture. The diverse interactions between water and rock masses are discussed, focusing on lines of conceptual continuity from rock masses to built structures made from stone. Issues concerning sustainability at university campuses are discussed in terms of obtaining materials, the impact of the presence of said materials, and the potential of these materials as teaching aids.

Manufacturing

Advanced Manufacturing: Progress, Trends and Challenges
Mohamed Arezki Mellal (Full Associate Professor, Faculty of Technology, 'Hamed Bougara University, Algeria; University of Maryland, MD, USA)
In series: Manufacturing Technology Research
Publication Date: 12/10/2020
268 pp.
Hardcover: 978-1-53618-870-7, $195.00
e-book: 978-1-53618-923-0, $195.00
Advanced manufacturing processes and systems are some of the most important things in the industry. All industrial sectors need these kinds of processes and systems to achieve high-quality levels and standards. In Industry 4.0, several challenges must be investigated to deal with its complexity.

The book “Advanced Manufacturing: Progress, Trends and Challenges” is a source of the latest research and technical notes in manufacturing systems. This book is useful for students, researchers, and all readers interested in this topic. It is organized into eight chapters.

Industry 4.0: Principles, Effects and Challenges
Yılmaz Uygun (Head of Logistics Engineering and Technologies Group, Study Program Chair MSc Supply Chain Management, Jacobs University Bremen, Bremen, Germany)
In series: Manufacturing Technology Research
Publication Date: 09/11/2020
291 pp.
Hardcover: 978-1-53618-331-3, $195.00
e-book: 978-1-53618-423-5, $195.00

Industry 4.0 will disrupt and change how we produce, do business, and live our lives. Related to manufacturing, the way products are produced will change radically not only within a company but also across companies. So, like any other revolution, the fourth industrial revolution will also produce winners and losers. Occupations, companies, and industries will die whereas new ones will emerge. So, companies need to adapt properly to those new technologies in order not to be pushed out of business.

This book makes a contribution to understand the developments related to Industry 4.0. Experienced and well-established authors came together to shed light on different but complementary topics to offer a holistic view on Industry 4.0. Here, the Industry 4.0 ecosystem, implications of Industry 4.0 on human workforce, technical challenges and application examples are addressed.

Manufacturing Systems: Recent Progress and Future Directions
Mohamed Arezki Mellal (Associate Professor, Faculty of Technology, M'Hamed Bougara University, Algeria and University of Maryland, MD, USA)
In series: Manufacturing Technology Research
Publication Date: 10/28/2020
562 pp.
Hardcover: 978-1-53618-676-5, $310.00
e-book: 978-1-53618-763-2, $310.00
Manufacturing has seen progress during the industrial revolution from Industry 1.0 to 4.0. Recent manufacturing processes involve various systems and several challenges remain to handle. For example, the spread of the virus COVID-19 in the late of 2019 has
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talked many industrial abilities and various manufacturing systems shown incapacities. Therefore, any manufacturing system and process should be improved and tested under crisis scenarios. The book “Manufacturing Systems: Progress and Future Directions” is a source of the latest research and technical notes in manufacturing systems. This book is useful for students, researchers, and all readers interested in this topic. It is organized into twenty-seven chapters.

Materials Science

A Complete Guide to Hybrid Materials
Norris Torres
In series: Materials Science and Technologies
Publication Date: 11/13/2020
141 pp.
Softcover: 978-1-53618-820-2. $82.00
e-book: 978-1-53618-829-5. $82.00
A Complete Guide to Hybrid Materials opens with a study wherein the casting method is used to incorporate hybrid materials based on layered zinc hydroxide salts and phenolic compounds into the polymer matrix of polyvinyl alcohol to form composite films. The authors review recent advances in the preparation and applications of inorganic nanoparticle molecularly imprinted polymers. Due to the specific binding sites, the result exhibits good selectivity, reproducibility, high binding capacity and fast kinetics for the rebinding of the analyte. The closing chapter focuses on the formation of nano clay, an exfoliated clay, and proper dispersion in a polymer matrix.

Advances in Materials Science Research. Volume 42
Maryann C. Wythers
In series: Advances in Materials Science Research
Publication Date: 09/24/2020
248 pp.
Hardcover: 978-1-53618-441-9. $250.00
e-book: 978-1-53618-545-4. $250.00
Advances in Materials Science Research. Volume 42 first evaluates the physical, chemical, and mechanical properties of poly(1,1-difluoroethylene) or poly(vinylidene fluoride) and some of its copolymers and composites. The quantitative study of the p-type doping of a-Si:H thin films carried out by combining in situ Kelvin probe and UV-visible spectroscopic ellipsometry measurements is explored. The authors go on to discuss how graphene-based materials have shown great usefulness because they can be chemically combined with other materials to obtain new interesting materials with new chemical and physical properties. In the subsequent study, electron transport properties of proposed field-effect transistors constructed by some low-dimensional nanomaterials are reported by the density functional theory simulation combined with a non-equilibrium Green function method. Following this, the methods used to synthesize structured catalytic supports by coating in spherical geometry are reviewed in conjunction with other coating methods on spheres with applications in photocatalysis. Additionally, a power storage system using spherical silicon solar cells, a maximum power point tracking charge controller, a lithium-ion battery and a direct current-alternating current inverter using silicon carbide devices is constructed and studied. The electrochemical behaviour of 316L stainless steel in the hypochlorite sodium bleaching process is also studied and findings are described. In the concluding study, on the basis of the the strain-rate cycling tests associated with the ultrasonic oscillation, p p was obtained as the effective stress due to the impurities which lie on the mobile dislocation.
Advances in Materials Science Research. Volume 43

Maryann C. Wythers

In series: Advances in Materials Science Research
Publication Date: 10/16/2020
250 pp.
Hardcover: 978-1-53618-716-8, $250.00
e-book: 978-1-53618-730-4, $250.00

Advances in Materials Science Research. Volume 43 begins with a review of the mechanical and durability properties and microstructural characteristics of concrete made with partial incorporation of coal bottom ash. Following this, the chemical aspects of interactions of aluminum-containing accelerators in Portland cement-based materials are described, explaining their effect on the kinetics of Portland cement hydration and the stability of Portland cement materials when exposed to various corrosive factors.

A review of India’s cement industry is provided, particularly focusing on water positive manufacturing, consuming wastes like fly ash and slag, reducing CO2 emissions, and taxes.

Several different types of single crystal and multilayer composite heavy-oxide scintillation materials are discussed, having been developed and characterized for fast neutron detection for homeland security and nuclear safeguards applications. A new class of inorganic hydrogen-containing scintillators based on potassium dihydrogen phosphate and related compounds activated by ions of thallium or cerium is also investigated.

The use of mixed metal oxides as oxygen carriers under the chemical looping reaction scheme is proposed to overcome the current disadvantages of the partial oxidation of methane processes.

In the concluding study, titanium, aluminum nitride, and hafnium oxide thin films are applied to ceramic electrical insulators to promote surface self-cleaning properties to minimize the effects of leakage current.

Advances in Materials Science Research. Volume 44

Maryann C. Wythers

In series: Advances in Materials Science Research
Publication Date: 01/13/2021
221 pp.
Hardcover: 978-1-53619-028-1, $250.00
e-book: 978-1-53619-092-2, $250.00

Advances in Materials Science Research. Volume 44 provides an overview of the emerging field of phosphorescent nanomaterials, including synthesis protocols and characterization issues. The authors discuss the synthesis methods and characterization of synthesized compounds by X-ray powder diffraction analysis, Fourier-transform infrared spectroscopy and scanning electron microscopy.

The carefully designed techniques for engineering process-induced strain to enhance carrier mobility or transform the band-gap from indirect to direct nano-devices are described.

A compilation of investigations related to the formation of cerium coatings on an AZ91D Mg alloy are examined in an effort to improve its corrosion resistance in simulated body fluid. Following this, an article reports on an insightful portable microfluidic experimental setup for the fast and ultrasensitive detection of Hg2+ ions in a picomolar range using a cantilever-based piezoresistive sensor.

The concluding study explores the behavior of the order parameter and the magnetization of antiferromagnetic solids subjected to mutually parallel staggered and magnetic fields.

An Introduction to Contact Resistance

Zuoguang Liu, PhD, (Semiconductor Technology Research, IBM, Albany, NY, USA)

In series: Materials Science and Technologies
Publication Date: 10/09/2020
185 pp.
Softcover: 978-1-53618-501-0, $95.00
e-book: 978-1-53618-583-6, $95.00

Contact resistance is both an old and new topic. It is old because fundamentals of the semiconductor-metal contacts were established in the 1930s even earlier than the study on Metal-Oxide-Semiconductor Field-Effect Transistor (MOSFET). The new knowledge is on material and integration aspects for contact resistance reduction. As the MOSFETs become smaller and smaller, device parasitics start to dominate performance since the 2010s. The resistance part in MOSFET RC delay is mainly from external parasitics.
particularly the contact resistance. In the past decade, 3D MOSFETs, also named FinFETs, became the device structure in leading semiconductor technology. The 3D structure brings a unique opportunity for engineering the contact resistance. In physics, this book introduces MOSFET device electronics and contact physics. In material science, a variety of contact metals and silicides are covered. In electrical characterization, test structures and measurements of contact resistance are discussed in depth. In technology, state-of-the-art process techniques, material engineering, and integration for contact resistance reduction are introduced. This book can serve as a reference book for students in electrical engineering and material science major and professionals in semiconductor industry.

**Schottky Barriers: An Overview**

*Saul T. Redd*

In series: *Materials Science and Technologies*

Publication Date: 11/06/2020

203 pp.

Softcover: 978-1-53618-681-9. $95.00
e-book: 978-1-53618-818-9. $95.00

A Schottky barrier is an electrostatic interface between a metal and a semiconductor that plays a vital role in many electronic devices. Schottky Barriers: An Overview opens with a brief review of the metal-semiconductor Schottky junction, the basic charge transport theory and the issues associated with these barriers.

Additionally, the authors provide an overview of recent developments in the field of Schottky contacts to ZnO and related materials, such as ZnMgO, BeZnO, and BeMgZnO. Despite the fundamental importance of Schottky barrier height, the mechanisms which control the barrier formation are still far from understood. As such, for a better understanding of Schottky barriers and barrier height, the authors discuss various empirical models.

In closing, AlGaN/GaN Schottky barrier diodes with and without in-situ silicon carbon nitride cap layers are investigated, with the fabricated SBD with a SiCN cap layer exhibiting improved electrical characteristics.

**Bioactive Glasses: Properties, Composition and Recent Applications**

*Daniel Arcos and María Vallet-Regí (Department of Chemistry in Pharmaceutical Sciences, Faculty of Pharmacy, Universidad Complutense de Madrid, Spain)*

In series: *Materials Science and Technologies*

Publication Date: 09/24/2020

409 pp.

Hardcover: 978-1-53618-337-5. $230.00

More than 50 years have passed since Professor Larry L. Hench discovered Bioglass. However bioactive glasses still awake the fascination of scientists, lecturers, students, dentists, orthopedic surgeons, etc. all over the World. The research developed during the subsequent decades has resulted in new materials that significantly differ from the original melt-derived Bioglass. The use of the sol-gel process in the 1990’s and the discovery of mesoporous bioactive glasses in the 2000’s revealed new potential applications in the field of bone regeneration and drug delivery platforms. Besides, the development of rapid prototyping techniques has allowed manufacturing bioglass-based 3D scaffolds in combination with polymers, which boosts the long-standing expectative of using bioactive glasses for the treatment of critical bone defects. Finally, the advances in nanomedicine have opened new research lines involving the synthesis and development of bioactive glass nanoparticles.

“Bioactive glasses: properties, composition and recent applications” consists of ten chapters written by worldwide recognized experts in this field. The book covers the most important topics in the field of bioactive glasses, from its discovering to the most recent advances in preparation methods and applications. This book is addressed to researchers involved in the field of bioceramics, but it also an excellent tool for undergraduate and PhD students, given that nowadays Biomaterials Science is a subject included in the program of many universities. Only knowing the discoveries that fifty years ago fascinated us, our students will understand the current efforts to expand the applications of bioactive glasses.
Fiber-Reinforced Polymer: Processes and Applications
Catalin Iulian Pruncu (Research Fellow, University of Strathclyde and Imperial College London, UK), Selim Gürgen, PhD (Associate Professor, Head of Mechatronics Program, Eskişehir Osmangazi University, Eskişehir, Turkey) and Md Enamul Hoque (Department of Biomedical Engineering, Military Institute of Science and Technology (MIST), Mirpur Cantonment, Dhaka, Bangladesh)
In series: Polymer Science and Technology
Publication Date: 02/10/2021
454 pp.
Hardcover: 978-1-53619-049-6. $270.00
e-book: 978-1-53619-121-9. $270.00
Fiber-reinforced polymers play an important role in the progress of materials science. Fiber-Reinforced Polymer: Processes and Applications presents the science of fiber-reinforced polymer composites from the manufacturing stage to its applications. Apart from the fabrication of the composites, its machinability properties are also discussed.
This book considers both natural and synthetic fibers in polymer composites, as well as their utility for different sectors such as automotive, aviation and biomedical engineering. In addition to the overview of fiber-reinforced polymers, engineering properties of these materials are discussed. The book also discusses the impact of environmental aspects such as moisture uptake on the properties of fiber-reinforced polymer composites. Since nano-engineering is a hot topic in the field of composites, the benefits of nano-fibers are discussed, as well as their fabrication methods, properties and applications. Moreover, fiber selections in polymer matrices are discussed by considering the interactions between fibers and matrices, as well as taking their applications into account.

Materials Technology / Clothing and Textiles
Challenges and Opportunities in the Textile Industry
Wallace G. Tarrant
In series: Materials Science and Technologies
Publication Date: 10/30/2020
171 pp.
Softcover: 978-1-53618-770-0. $95.00
e-book: 978-1-53618-780-9. $95.00
This compilation presents a detailed review of current research, developments, and progress on nanotechnology usage for the elimination of dyes from effluents released by textile industries.
The benefits of using nanomaterials for functionalized textile production are presented, and the applications of nanomaterials in the most known functional technical textiles are discussed.
The authors present the results of empirical studies carried out in the Portuguese industrial context, including the textile sector, where the relationship between negative effects associated with shift work and the adoption of certain management practices by organizations is analyzed.
Additionally, the authors discuss how, to achieve the Fourth Industrial Revolution, technological tools must be incorporated into both the production and consumption of textiles.
The closing study indicates that it is possible to make objective pilling detection easily for standard fabric structures in the textile industry using databases created by measuring lots of samples.
**Military Science**

*Submarine Warfare: Past, Present, and Future*

*Herbert C. Fyfe*

In series: *Military and Veteran Issues*

Publication Date: 10/01/2020

313 pp.

Hardcover: 978-1-53618-683-3. $230.00

e-book: 978-1-53618-701-4. $230.00

Submarine Warfare: Past, Present, and Future is the first book in the English language on submarine warfare. The author’s aim has been to produce a book which should appeal to the general public, and may also be found on the shelves of the student of naval history and naval warfare.

**Nanotechnology and MEMS**

*Advances in Nanotechnology. Volume 24*

*Zacharie Bartul and Jérôme Trenor*

In series: *Advances in Nanotechnology*

Publication Date: 09/18/2020

299 pp.

Hardcover: 978-1-53618-460-0. $250.00

e-book: 978-1-53618-599-7. $250.00

Advances in Nanotechnology. Volume 24 introduces the basic principle of resonance energy transfer, discussing the resonance energy transfer process involved in plasma noble metallic nanoparticles on the basis of new research. The authors discuss the principles and the mechanisms of Magnetofection™ and illustrate it by using multiple examples of its applications in viral and non-viral nucleic acid delivery, both in vitro and in vivo. In one study, polyvinyl chloride is prepared with the percentages 30 wt.% PVC (30 wt%) loaded with 3-8 wt.% of titanium oxide nanoparticles, and the performance of prepared membranes is calculated.

Recent progress on the synthesis of amphiphilic and stimuli responsive block copolymers by Reversible Addition-Fragmentation chain Transfer polymerization polymerization is assessed, with special focus on triblock terpolymers. The applications of Pluronic micelles in drug solubilization and delivery are explored for a better understanding of the importance of these materials in pharmaceutical applications. Later, the characteristics and transfer functions of the electroelastic digital-to-analog converter actuator for nanotechnology are examined. In closing, the authors review the magnetic and electric properties of different systems made up of the so-obtained Ni nanowires.

**Software Engineering**

*Software Engineering: Artificial Intelligence, Compliance, and Security*

*Brian D’Andrade, PhD (Principal Engineer, Exponent, Inc., Bowie, MD, USA)*

In series: *Computer Science, Technology and Applications*

Publication Date: 12/30/2020

259 pp.

Hardcover: 978-1-53618-989-6. $195.00

e-book: 978-1-53619-063-2. $195.00

Information security is important in every aspect of daily life. This book examines four areas where risks are present: artificial intelligence (AI), the internet of things (IoT), government and malware. The authors channel their experience and research into an accessible body of knowledge for consideration by professionals.
AI is introduced as a tool for healthcare, security and innovation. The advantages of using AI in new industries are highlighted in the context of recent developments in mechanical engineering, and a survey of AI software risks is presented focusing on well-publicized failures and US FDA regulatory guidelines. The risks associated with the billions of devices that form the IoT grow with the availability of such devices in consumer products, healthcare, energy infrastructure and transportation. The risks, software engineering risk mitigation methods and standards promoting a level of care for the manufacture of IoT devices are examined because of their importance for software developers.

Strategic insights for software developers looking to do business with the US federal government are presented, considering threats to both public and private sectors as well as governmental priorities from recent executive and legislative branch actions.

Finally, an analysis of malicious software that infects numerous computer systems each day and causes millions of dollars in damages every year is presented. Malicious software, or “malware,” is software designed with hostile intent, but the damage may be mitigated with static and dynamic analyses, which are processes for studying how malware operates and analyzing potential impacts.

### Special Topics

**5G Networks: Background, Issues and Security**
**Max Hemmings**

In series: *Technology in a Globalizing World*  
Publication Date: 12/22/2020  
428 pp.  
Hardcover: 978-1-53618-972-8. $230.00  

Since the first mobile phones were made available in the 1980s, telecommunication providers have been investing in mobile networks to expand coverage, improve services, and attract more users. First-generation networks supported mobile voice calls but were limited in coverage and capacity. To address those limitations, providers developed and deployed second-generation (2G) mobile networks, then third-generation (3G), and fourth-generation (4G) networks. Each generation offered improved speeds, greater capacity, and new features and services. In 2018, telecommunication providers began deploying fifth-generation (5G) networks to meet growing demands for data from consumer and industrial users. 5G networks are expected to enable providers to expand consumer services (e.g., video streaming, virtual reality applications), support the growing number of connected devices (e.g., medical devices, smart homes, Internet of Things), perform advanced data analytics, and enable the use of advanced technologies (e.g., smart city applications, autonomous vehicles). This book provides a background on mobile technologies, and addresses the race to 5G, factors affecting 5G deployment, and national security.

**Advances in Engineering Research. Volume 37**  
**Victoria M. Petrova**

In series: *Advances in Engineering Research*  
Publication Date: 09/02/2020  
225 pp.  
Hardcover: 978-1-53618-309-2. $250.00  
e-book: 978-1-53618-362-7. $250.00  

**Advances in Engineering Research. Volume 37** opens with an analysis of the advantages and mechanisms of ink-jet printing techniques in negative temperature coefficient thermistor ceramics, mainly exploring the basic requirements to ink-jet print ceramic microspheres/beads. The authors go on to provide a brief historical review of the science of natural convection from vertical cylinders, followed by an in-depth review and summary of the major developments in the last 20 years. A survey of frequently encountered classes of convection systems is presented, as well as a cursory introduction to how the concepts and relations derived for a generalized buoyancy-induced flow system may be adapted to each. Solution optimization for task scheduling using a hybrid cuckoo algorithm is discussed. Cuckoo search is an effective algorithm focused on swarm intelligence, efficient for solving highly non-linear optimization problems. Subsequently, heat transfer characteristics of an open cubic cavity of side 0.034 m with thermally insulated side-walls, bottom at constant temperature and top open to the environment is studied experimentally. The authors present frequency domain equalization techniques for single-carrier and orthogonal frequency-division multiplexing. The described techniques are classic approaches including least squares, zero-forcing, and more.
Following this a comprehensive design and implementation based on the STM32 microcontroller is proposed for a two-wheeled self-balancing robot.

In addition, mathematical modeling is performed based on the thermal behavior of an underground substation of an energy concessionaire in the southern region of Brazil.

Lastly, an original architecture of residual neural network using skeleton data is proposed. A new complex linear layer aimed at retrieving the internal relationships of neural cells is discussed.

**Advances in Engineering Research. Volume 38**

*Victoria M. Petrova*

In series: *Advances in Engineering Research*

Publication Date: 10/09/2020

296 pp.

Hardcover: 978-1-53618-508-9. $250.00

e-book: 978-1-53618-706-9. $250.00

In engineering, there are different design objectives for heat pump systems, such as the maximum coefficient of performance, the maximum net heat flow rate into the high temperature heat source and the best thermo-economic performance.

As such, the authors provide a comprehensive overview of heat pump technology, focusing on system design, performance, optimization and applications associated with this technology.

Following this, a research study on the optimal operation of a power system in the presence of renewable sources is presented, considering two objectives: decreasing power losses and improving the voltage level in the nodes of the electric network. A method for detecting short-path wormhole tunnels rather than relying solely on topological features of the network is described. In a wormhole attack, the malicious nodes generally work in pairs and set up a high-speed tunnel for long distances between them.

An approach to multi-objective optimization techniques is presented and applied to either subtractive or additive manufacturing processes. Additionally, the suitability of multi-objective optimization methods is depicted through a case study related to the selective laser melting process.

The performance evaluation of the binary heap tree-based discrete particle swarm optimization is presented and compared with existing Pareto dominance-based multi-objective techniques such as non-dominated sorting genetic algorithm-II and non-dominated sorting particle swarm optimization.

In closing, the authors present a problem that highlights the influence that bidirectional power flows may have on solutions regarding the optimal allocation of energy storage systems in real microgrids in the developing country of Romania.

**Advances in Engineering Research. Volume 39**

*Victoria M. Petrova*

In series: *Advances in Engineering Research*

Publication Date: 12/02/2020

265 pp.

Hardcover: 978-1-53618-714-4. $250.00

e-book: 978-1-53618-733-5. $250.00

Advances in Engineering Research. Volume 39 first discusses clustering, a well-known problem in statistics and engineering concerning how to arrange a set of vectors (measurements) into a number of groups (clusters).

The fundamental concepts of hierarchical algorithms are described, along with a review of the different linkage criterions and recent developments aimed at improving the pioneer versions.

The authors present recent developments regarding the use of water electrolysis, which results in the obtainment of syngas that may be used for power generation and the production of fuels and chemical intermediate compounds.

A multi-objective optimization model for optimizing the operation of natural gas pipeline networks is developed for different network configurations, namely linear, branch and looped topologies.

An overview of degummed biodiesel preparation is provided, along with a study of engine performance parameters such as brake power, brake thermal efficiency and brake specific fuel consumption of degummed biodiesel and their diesel blends.

The authors go on to introduce the principles of the Distributed Reflective Denial of Service attack, discussing the threats of this kind of attack, as well as the impact on the victim server and victim network.

In the closing study, a comprehensive model of a quadrotor is built with physical analysis, parameter and function identifications. The propeller and motor properties are tested in a wind tunnel in scheduled conditions in the presence of relative air flow.
Advances in Engineering Research. Volume 40
Victoria M. Petrova
In series: Advances in Engineering Research
Publication Date: 12/10/2020
253 pp.
Hardcover: 978-1-53618-754-0. $250.00
e-book: 978-1-53618-929-2. $250.00

Advances in Engineering Research. Volume 40 first presents the characteristics of the laser-plasma extreme ultraviolet radiation from solid rare gas targets composed of Xe, Kr and Ar, along with the performances of the radiation sources developed using these targets.

Following this, the authors consider the most important issues related to creating a universal system of adaptive applications for use in the Internet of Things and Internet of People systems.

Previous techniques and recent advances in circuit techniques are reviewed, and a comparison of the reported techniques in the context of low-pass continuous-time Delta-Sigma modulators is presented.

A comprehensive overview of the properties of aggregates used on roads is provided, particularly focusing on their influence on the mechanical and skid resistance of road surfaces.

An analytical approach that allows for a rough prediction of the of the acoustic parameters of road surface is also presented. The attenuation depends on frequency, propagation distance, angle of incidence and geometric configuration of sources and sensors.

Due to computation complexity, the VLSI implementation of Inter-Prediction in the H.264/Advanced Video Coding imposes latency, memory bandwidth, and area cost challenges. To tackle these obstacles, the authors discuss a design methodology which exploits the relationship between the main processes in inter-prediction to enhance the performance while keeping an affordable design cost.

The penultimate study focuses on the way we can interpret linguistic algebra to understand and reverse translation formulas’ linguistic algebra into natural language text as a verbal expression of meaning. This will improve the performance of any computer system when working with text.

Recent computational tools of vector fields, including vector data representations, predictive models of spatial data, as well as applications in computer vision, signal processing and empirical sciences are reviewed in closing.

Advances in Engineering Research. Volume 41
Victoria M. Petrova
In series: Advances in Engineering Research
Publication Date: 12/14/2020
287 pp.
Hardcover: 978-1-53618-882-0. $250.00
e-book: 978-1-53618-999-5. $250.00

This compilation opens with a study wherein investigations are conducted on a single cylinder four-stroke common rail direct injection conventional diesel engine using a combination of biodiesels derived from safflower oil methyl ester and dairy scum oil methyl ester in equal ratio.

Another study focuses on the effect an internal jet piston provides on the piston surface with varied numbers of holes (2 and 4).

A comprehensive overview of solid propellant combustion models and numerical simulations is summarized in an effort to determine an exact propellant burning rate under different operating conditions.

The authors demonstrate how advanced mesh morphing based on radial basis functions can be used to update the shape of a component acting directly on its computational mesh.

Following this, a new framework is presented for estimating the level of additive white Gaussian noise occurring in a noisy image, investigating the trailing singular values to infer the noise level.

The detection technology of fluorescence lidar for biological aerosol is also studied, exploring this technique according to the dependency relation between the intensity and relative content of atmospheric biological aerosol fluorescence.

In order to overcome the problem of high transmission loss in visible light communication systems, the authors propose a novel design for a 1x4 optical demultiplexer based on the multimode interference in a slot waveguide structure that operates at 547, 559, 566 and 584 nm.

A literature review concerning 3D printing models in neurosurgery is performed, offering a new way to approach cerebral pathologies.

The closing study discusses the flux-corrected transport algorithm and presents simulation results from several strong shock problems, including benchmark problems as well as impact-generated or explosive-driven shock propagation problems.
From Chaos to Complexity Science. 20 Years of Multidisciplinary Explorations
Franco Orsucci (Vice-Chancellor & Provost, Nicola Cusano University London, London, UK; Visiting Professor, University College London, UK; Director, Institute for Complexity Studies, Rome, Italy) and Nicoletta Sala (Institute for Complexity Studies, Rome, Italy; CERFIM (Research Center for Mathematics and Physics), Locarno, Switzerland; ISSI (Institute for Scientific and Interdisciplinary Studies), Locarno, Switzerland)
In series:
Publication Date: 12/02/2020
421 pp.
Hardcover: 978-1-53618-825-7. $230.00
e-book: 978-1-53618-830-1. $230.00
This book is dedicated to the first ten years of Chaos and Complexity Letters - International Journal of Dynamical Systems Research.
This journal was born to collect and disseminate complexity science related information to anybody interested in the topic; to speed up the evolutionary development of complexity science; to extend its interactions crossing over disciplines, levels of knowledge and geography; and to foster finding new pathways in research and new applications.
The structure of CCL was specifically designed to add value to the trans-disciplinary approach while, at the same time, differentiating the epistemology of different contributions.
In this enterprise we were sustained and inspired by two great companions that in different ways shared our project during its prehistory: Ilya Prigogine and Francisco Varela.
This book collects 16 papers appeared on the first ten volumes of Chaos and Complexity Letters. They range from the life sciences, to STEM and economy, in accordance with the interdisciplinary mission of the journal.
A special highlight starts with Acceleration and entropy: a macroscopic analogue of the twin paradox, possibly the last paper written by the Nobel Prize Ilya Prigogine with Gonzalo Ordonez.
Important academic specialists who wrote in our scientific journal passed away. For example, Walter Freeman, Tullio Minelli, Ilya Prigogine, and Joseph P. Zbilut. This special issue is also dedicated to them.
We are in opinion that their trajectories in life and research designed some contours of the shape of a new science to come.

Issues with Facial Recognition Technology
Warren Lambert
In series: Technology in a Globalizing World
Publication Date: 12/08/2020
228 pp.
Hardcover: 978-1-53618-973-5. $160.00
e-book: 978-1-53619-000-7. $160.00
Automated facial recognition systems compare two or more images of faces to determine whether they represent the same individual. Facial recognition technology (FRT) falls within the larger categories of biometric technology used to varying degrees by the government and private entities to identify persons. This book deals with some of the issues concerning facial recognition technology.
Multidisciplinary Science and Advanced Technologies
Dr. Kaushik Pal (Federal University of Rio de Janeiro, Cidade Universitária, Rio de Janeiro, Brazil), Dr. Fernando Gomes (Laboratório de Biopolímeros e Sensores/LaBioS Centro de Tecnologia–Cidade Universitária, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil) and Dr. Thinakaran Narayanan (Higher National Youth Skill Institute (IKTBN) Sepang, Bandar Baru Salak Tinggi, Selangor, Malaysia)

In series: Technology in a Globalizing World
Publication Date: 02/10/2021
257 pp.
Hardcover: 978-1-53618-959-9. $195.00
E-book: 978-1-53619-198-1. $195.00

Multidisciplinary Science and Advanced Technologies form a vast and diverse class of the engineering science and research divisions. This book discusses novel design techniques and smart mechanisms, as well as innovations that might be utilized in the future. Scientific modification can control industrial-scale assembly, a process that ultimately provides specific material function, depending on electronic development for advancements. Furthermore, the combination of supramolecular multidisciplinary technologies allows for the exploration of application-based materials. Smart materials are vital for the in-depth analysis of various morphologies. This book is an international forum for comprehensive soft-condensed matter physics, nanoscience principles, nanotechnology tools, and nanotechnology applications in the environmental, energy, and electronics sector, including a discussion of ethical issues in these fields. This book reviews the applications and market potential of a variety of media, including mirror, glazing, and display products, such as low-information content displays for banners and labels. The physicist, chemical engineer, materials scientist, nanotechnologist, and biologist at all levels, as well as academicians for unique device-based applications in various fields, will benefit from this book. Readers will gain an understanding of the practical and highly sensitive business fields for specific disciplinarians. The goal is to provide readers a broad review from a materials perspective, so that teachers can provide a comprehensive review of this technology to students. This book also highlights the entire gamut of smart engineering technologies and the materials design process of fabrications from past to present and future perspectives. The syllabi of various technical universities and research institutes are examined, explaining the basic perceptions of this emerging field. In science today, the major focus of research and development in synthetic materials and spectroscopic analysis broadly deals with materials on the atomic and molecular scales. The vision for the future is to move beyond these already existing applications and explore new realms of electronic applications.

The Fundamentals of Structural Integrity and Failure
Richard M. Wilcox

In series: Construction Materials and Engineering
Publication Date: 11/04/2020
277 pp.
Hardcover: 978-1-53618-778-6. $195.00
E-book: 978-1-53618-826-4. $195.00

The Fundamentals of Structural Integrity and Failure provides a comprehensive review of spent nuclear fuel integrity and the research work which has been carried out in the important area of spent nuclear fuel integrity management. Additionally, the authors review the key aspects of fatigue crack nucleation and the fracture mechanics of short- and long-crack growth, with emphasis on achieving total fatigue life prediction. The fundamental aspects of mathematical modeling, computation, measurement, and signal processing involved in the process of integrity assessment of engineering structures in the presence of uncertainty are presented.

Following this, several proposed techniques for the detection of the defects in ferromagnetic steel components are analyzed. One of these possible approaches is based on the additional magnetization of the inspected zone to minimize magnetic heterogeneity, and another trend is concerned with new selective Eddy current probe development. The capabilities of nondestructive testing techniques based on coercive force measurements concerned with several new applications are discussed. This concluding work demonstrates the use of a judicious and effective method for detecting pressure vessel failures, applying Wiener filter concepts to noisy signals.
Underwater Vehicles: Design and Applications  
George M. Roman  
In series: Robotics Research and Technology  
Publication Date: 12/22/2020  
109 pp.  
Softcover: 978-1-53618-876-9, $82.00  
e-book: 978-1-53618-967-4, $82.00  
Underwater Vehicles: Design and Applications first explores the application of the adaptive Kalman filter algorithm to the estimation of high speed autonomous underwater vehicle dynamics. The authors investigate the performances of different control schemes, from non-model-based to model-based and adaptive model-based, implemented on a low-inertia underwater vehicle for three-dimensional helical trajectory tracking. Control laws for collision avoidance in three-dimensional environments are introduced, considering scenarios where a vehicle detects arbitrarily shaped and nonconvex obstacles using sensors.

Unmanned Aerial Vehicles  
Nicholas Barrera  
In series: Robotics Research and Technology  
Publication Date: 12/02/2020  
247 pp.  
Hardcover: 978-1-53618-900-1, $195.00  
e-book: 978-1-53618-940-7, $195.00  
Unmanned Aerial Vehicles presents concepts important to any individual endeavoring to use unmanned aerial vehicles in work or research for the first time. The capability of using unmanned aerial vehicles in performing atmospheric chemical measurements and in the design of sensor and sampling payloads is discussed, and a review of recent trends is provided. The authors explore the concept of a universal flight and navigation system for small and ultra-small unmanned aerial vehicles with open architecture both in hardware and software terms. The closing study details unmanned aerial vehicle photogrammetry, its idiosyncrasies, and its applicability in the conservation of archaeological objects.

TRANSPORTATION

Autonomous Vehicles: Safety, Deployment and Effect on Infrastructure  
Nyle Phillips  
In series: Transportation Issues, Policies and R&D  
Publication Date: 12/30/2020  
287 pp.  
Hardcover: 978-1-53619-010-6, $195.00  
e-book: 978-1-53619-069-4, $195.00  
Fully autonomous vehicles, which would carry out many or all of their functions without the intervention of a driver, may someday bring sweeping social and economic changes and “lead to breakthrough gains in transportation safety.” At present, no fully autonomous vehicles are available for public use. Many new vehicles have automated some driver functions, but all require a human to monitor the driving environment and control the vehicle. However, rapid advances in technology have made it likely that vehicles with high levels of automation will be on the market within a few years, raising questions about the adequacy of existing methods of safety as discussed in chapter 1. For this and other reasons, federal oversight of the testing and deployment of autonomous vehicles has been of considerable interest as reported in chapters 2 and 3. Chapter 4 examines the implications of autonomous vehicles on America’s roadway infrastructure.
**Expected Publications**

**Agriculture**

*Arachis hypogaea: Cultivation, Production and Nutritional Value*

*Richard J. Whitworth*

In Series: *Agriculture Issues and Policies*

Expected Publication Date: 06/15/2021

249 pp.

Hardcover: 978-1-53619-386-2 $ 160.00

e-book: 978-1-53619-504-0 $ 160.00

*Arachis hypogaea L.*, commonly known as the groundnut or peanut, is a versatile legume that is grown primarily for its edible seeds and is consumed worldwide. Groundnut requires a warm growing season with well-distributed rainfall, and India and China are responsible for providing just over half of the world’s supply. However, in most African countries, groundnut is grown on marginal soil under low input and requires the attention of researchers and policy makers.

Accordingly, the first two chapters of this monograph detail the cultivation, breeding, and nutritional value of groundnut. Chapter 3 deals with the management of peanut diseases, focusing specifically on the use of azoxystrobin plus benzovindiflupyr as a fungicide for treatment of early leaf spot, peanut pod rot, and other issues. Chapter 4 details how stored peanuts can be protected from fungi and aflatoxins contamination using free and microencapsulated 2(3)-tert-butyl-4 hydroxyanisole (BHA).

**Biochemistry**

*Biochemical Studies on Some Biomarkers of Xenobiotic Exposure*

*Vivek Kumar Gupta (Senior Research Fellow-ICMR, Department of Biochemistry, University of Allahabad, U.P., India) and Prof. Bechan Sharma (Professor of Biochemistry (Cadre), Department of Biochemistry, University of Allahabad, U.P., India)*

In Series: *Biochemistry Research Trends*

Expected Publication Date: 06/15/2021

227 pp.

Hardcover: 978-1-53619-381-7 $ 160.00

e-book: 978-1-53619-500-2 $ 160.00

Pesticides belonging to carbamate and organophosphate groups have the potential to induce oxidative stress. However, the role of aqueous extract of *A. vera* has not been properly studied to demonstrate its ameliorative potential against the toxicity induced by these pesticides in single and combination in different organs of mammalian systems. After an extensive literature survey on the subject, an endeavor has been made to define the following objectives in order to fill up the existing lacuna of information about cartap and malathion induced oxidative stress in rat blood, brain and liver and its impact on neurotransmission as well as energy metabolism. Liver and blood were also included in this study for establishing a more meaningful agreement. The present study was therefore undertaken to delineate the differential impacts of cartap and malathion on the biochemical and histological parameters in Wistar rats. In addition, the prophylactic effect of aqueous extract of *A. vera* leaves has also been evaluated.

The objectives of the present study include: evaluation of xenobiotic-induced oxidative stress, determination of activity of acetylcholinesterase and other esterases in the brains of rats exposed to xenobiotics as potential biomarkers of neurotoxicity; evaluation of different enzymes of energy metabolism in rats exposed to xenobiotics; measurement of specific parameters concerning the function of the kidney and liver in rats exposed to xenobiotics; evaluation of AChE isozyme profile to specifically understand the target of xenobiotics in the brain of rats; analysis of patterns of major biomolecules (proteins/DNA) in rats exposed to xenobiotics for different treatment durations; and assessment of the ameliorative impact of phytochemicals, if any, on xenobiotics.

This book is divided into eight sections. Section 1 contains the general introduction and background of the study. Section 2 contains an extensive literature survey on the subject so as to present updated information. Section 3 demonstrates the main objectives of the study. Section 4 describes the various experimental designs, procedures, protocols, tools and techniques. Section 5 illustrates the data obtained from this study. Section 6 enumerates the discussion of the data and associated mechanisms. Section 7 includes the summary and conclusion of the entire study. Section 8 includes citations and references used in this work. This book contains many specific diagrams, illustrations and presentations in simple tables.
and figures which are self-explanatory so as to make any reader well versed to this subject. In addition, specific flow charts are added to simplify the presentation.

We hope that this publication will be of great use to graduates, postgraduates, researchers and faculty members who are studying in the field of plant-based principles for alleviating pesticide toxicity and associated diseases. The tools and techniques explained in this title could be of immense use to all those working in this area. The authors welcome comments and suggestions to improve the quality of the content in the next edition.

**Glycome: The Hidden Code in Biology**

*Dipak K. Banerjee, Ph.D.*

In Series: *Biochemistry Research Trends*

Expected Publication Date: 06/05/2021

Hardcover: 978-1-53619-377-0 $ 230.00

e-book: 978-1-53619-437-1 $ 230.00

Glycome: The Hidden Code in Biology

*Description:* “Glycome: The Hidden Code in Biology” addresses one of the most fundamental questions in biology today. The book targets readers with little expertise as well as the experts in Glycosciences.

Sugars are electroneutral. However, linking sugars to sugars, or attaching sugars to proteins or lipids changes the structural and functional identities of the glycoconjugate, and enables to form cellular networks of 4Gs [i.e., glycoproteins (N-linked or O-linked), glycosphingolipids, proteoglycans and glycosaminoglycans (GAGs)]. These glycans (i) support growth, proliferation and differentiation of cells and tissues; (ii) protect cells from foreign invasions including bacteria, viruses, parasites as well as from changes in the extracellular environment; (iii) act as biomarkers and participate in transmembrane signaling. The glycans are not ubiquitous but they are tissue/species specific. Structurally, the glycans are diverse, and form linear to highly branched structures. This diversity is present not only across the species but also within cells of the same species, i.e., the glycoforms. Nuclear magnetic resonance (NMR) and mass spectrometric (MS) studies (i.e., Glycomics) have evaluated and contributed significantly in delineating the structural diversity of glycans. Glycomics, in fact, has helped in overcoming many earlier technological barriers which were otherwise very laborious and time consuming. Plant lectins being carbohydrate binding proteins with a high degree of sugar specificity have been useful tools to characterize the carbohydrate structures they recognize.

The glycan structures complement their biosynthetic processes. Because of the highly compartmentalized nature of the process, the glycans move between compartments during their assembly. This is believed to be mediated by vesicular structures but the participation of exosomes cannot be ruled out. A large number of genetic disorders [gangliosidosis, mucopolysacharidoses, congenital disorders of glycosylation (CDG)] are due to abnormal glycan synthesis or degradation. Disproportionate expression of glycans is also found in diseases like cancer, neurological disorders, diabetes, metabolic syndromes, and infection. This raises questions about the regulatory principle(s) in glycan biosynthesis.

There is no template for glycan chain synthesis, elongation, processing or termination. The cells/tissues follow a highly conserved mechanism. The assumption is glycosylation uses donor and acceptor interactions as the driving force. Increased or decreased synthesis of glycans in response to the environmental change influence cell function, i.e., growth, survival or death favor of a “push-pull” hypothesis. In the absence of a genetic code for sugars, the assembly as well as the processing of glycan chains are controlled by the Glycome. Unlike the genome, the Glycome is hidden for the normal eye but its communication skills with the cellular microenvironment and genome for glycan synthesis and degradation are enormous. Seventeen chapters in the book are dedicated to walk the readers through the diversities of the Glycome. The authors have used mammalian, microbial and plant systems to achieve the desired goal.

**General Chemistry**

*A Comprehensive Guide to Formaldehyde*

*Natasja A. Bach*

In Series: *Chemistry Research and Applications*

Expected Publication Date: 06/25/2021

143 pp.

Softcover: 978-1-53619-465-4 $ 82.00

e-book: 978-1-53619-507-1 $ 82.00

This monograph comprises four chapters concerning formaldehyde, a colorless, flammable, strong-smelling chemical and an essential component in many manufacturing industries. Chapter 1 explicates the synthesis of dianinodiphenyl sulphone bisbenzoxazine by three step process and the synthesis of bisphenol-S bisbenzoxazine by solvent method. Chapter 2 remarks on the substantial growth trajectory of formaldehyde, examining the potential health-related effects associated with its rise in popularity and discussing how nanotechnological advancement may play a future role in mitigating the chemical’s harmful impact. Chapter 3 discusses the growth and development of doped nanostructure materials by using hydrothermal method in alkaline phase, concluding that the prepared doped nanomaterial could be implemented in a broad scale for efficient electro-chemical sensor applications for environmental and healthcare fields. Chapter 4 describes the production of reinforcing rubber products, specifically tires, using rubber compounded with methylene acceptor and methylene donor.
Computer Science and Internet

Special Topics

Mission Oriented Effectiveness Evaluation and Optimization of Complex Systems
Dr. Deping Zhang and Dr. Xuefeng Yan
In Series: Computer Science, Technology and Applications
Expected Publication Date: 06/25/2021
Hardcover: 978-1-53619-380-0 $ 230.00
e-book: 978-1-53619-535-4 $ 230.00

With the development and wide application of new information technology, the trend of informationization, intelligence and integration for complex systems is becoming increasingly obvious. Various complex systems promote and restrict each other to form an organic system with a feature of system emergence.

The goal of these complex systems is to accomplish complex tasks in very complicated and uncertain environments and get better results than people expect. System effectiveness is always used to measure the design quality and capacity of complex systems. It represents the comprehensive capability of a complex system to perform specific tasks under specific conditions. To guide the optimization design process, improve design quality, reduce the design lifecycle and ultimately enhance the overall capabilities of complex systems, it is necessary to find a scientific method to evaluate and optimize the system effectiveness of the complex system.

At present, there are many methods to evaluate system effectiveness, but most of the evaluation objects are mainly single equipment or a subsystem. Complex systems have various typical characteristics of large scale, complex relationships, diverse tasks, and typical uncertainties. It is difficult to achieve comprehensive evaluation and it is not effective to use the existing simple methods directly. Because the existing research on comprehensive evaluation of system effectiveness struggles to meet the emergence requirements of complex systems, it is necessary to research and form a comprehensive evaluation and optimization method of system effectiveness for the complex system.

The basic theories and applications of effectiveness evaluation and optimization technology are introduced in this book. The book contains nine chapters, the main contents of which are as follows: Introduction; Construction of Effectiveness Evaluation Index System; Mathematical Modeling and Analysis Technology of Effectiveness Index; Analysis Technology of Classical Effectiveness Evaluation; Mission Oriented Effectiveness Evaluation Technology; Operational Effectiveness Sensitivity Analysis Technology; Analysis Technology of System Effectiveness Contribution; Mission oriented Modeling; and Evaluation and Optimization of Complex Systems.

The main content of this book includes: the entire analyzing process of system effectiveness and complex system performance; the construction, selection and modeling of the index system; the evaluation of system effectiveness; and the analysis of sensitivity and contribution, among other topics. Each chapter has a close logical relationship, which can help the readers understand the field more easily. This book has strong practicality. Based on the basic theories of various methods, we provide many concrete cases. Readers can quickly apply them to the practice of effectiveness evaluation following the case studies. The authors’ research and applications provide not only theoretical knowledge, but practical knowledge as well. The latest technological developments are also considered. This book mainly discusses the performance evaluation of typical complex systems, focusing on new theories and methods in this field. We believe this can help the development and application of effectiveness evaluation of complex systems.

This book can be used as reference material or as a textbook for high grade students and graduated students in computer simulation and system modeling and simulation, control science and engineering. It also has important reference value for researchers and engineers in professional fields such as ship engineering, aircraft guidance and control, and aircraft design.

Oracle SQL for Secure Relational Databases
Dr. Richard Earp (Professor Emeritus, Computer Science, University of West Florida, Pensacola, FL, USA) and Sikha Bagui (Professor, Computer Science, University of West Florida, Pensacola, FL, USA)
In Series: Computer Science, Technology and Applications
Expected Publication Date: 04/15/2021
185 pp.
Softcover: 978-1-53619-436-4 $ 95.00
e-book: 978-1-53619-480-7 $ 95.00

A typical Oracle database has multiple users working simultaneously. Data is shared amongst the users, and this of course leads to security concerns. This book comes in from the angle of developing and maintaining a secure Oracle database with multiple users. The book shows how data can be shared in an orderly fashion and what a good secure database is. In this book, we assume that you are acquainted with basic Oracle SQL and fundamentals of relational database.
Earth Sciences

Geology

Recent Developments in Geomorphology Research
Ronald M. Reale
In Series: Earth Sciences in the 21st Century
Expected Publication Date: 06/15/2021
100 pp.
Softcover: 978-1-53619-445-6 $ 82.00
e-book: 978-1-53619-506-4 $ 82.00

Geomorphology is defined as the study of the physical features of the surface of the earth and their relation to its geological structures. Geomorphology is useful not only for understanding the surface evolution of Earth, but of other solid planetary bodies as well. This monograph comprises three chapters, each detailing a specific recent development in geomorphology research. Chapter 1 describes the geomorphology of the Campo de Calatrava Volcanic Field in Central Spain, focusing on its volcanoes and the interference that any volcanic activity has produced in other forms of modeling and quaternary deposits. Chapter 2 analyzes the triggering of snow avalanches in the middle mountains of the Asturian Central Massif and their morphogenetic role in the dynamics and modeling of its slopes, a phenomenon that is impacted by the changing global climate. Chapter 3 analyzes the former fluvial erosion on Mars, adopting a model called SIMWE (SIMulated Water Erosion) to recreate the geomorphological features observed on the planet today in an effort to understand its ancient climatic conditions.

Environmental Sciences

Air Pollution and Industrial Hygiene

The Caucasus and Iran: Hydrocarbons Perspectives and Impacts on the Modern World
Khatuna Tabagari (Senior Researcher, Institute for the Research of Economic and Social Problems of Globalization, European University, Tbilisi, Georgia)
Edited by Alexander G. Tvalchrelidze (Professor, Academician, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia)
In Series: Climate Change and its Causes, Effects and Prediction
Expected Publication Date: 06/05/2021
181 pp.
Softcover: 978-1-53619-382-4 $ 95.00
e-book: 978-1-53619-429-6 $ 95.00

The consumption of oil and gas increases annually. In 2019 the share of oil was 33.1% and that of gas – 24.2% in the entire world energy consumption. During the first period of the COVID-19 coronavirus pandemic, oil markets crashed and oil prices were governed by the number of world infection cases; the more people were infected, the less the oil prices were. However, after April 2020 the usual peculiarities started to restore. It is forecasted that, at least until 2040, the share of hydrocarbons in world energy consumption will remain stable, if not increase. Energy security and energy policy of any developed country represents a key issue for sustainable development. Thus, countries with a lack of hydrocarbon resources search for ensured sources of oil and gas. From this point of view, the vulnerable situation is characteristic for the EU, the energy security of which is entirely determined by Russian gas supply. However, the Ukraine-Russia “gas wars” in 2006 and 2009 have demonstrated that energy supply schedules to Europe should be diversified. From this point of view, neither the Nord Stream Pipeline nor the Southern Gas Corridor will solve the problem, mainly due to the resource deficit in Azerbaijan.

In-depth analysis of Iran’s economy and political structure demonstrates that: (i) the country’s welfare is entirely determined by oil exports; (ii) having the second world rank in gas reserves, Iran is exporting only an insignificant amount of gas; (iii) all attempts of President Rouhani to introduce free market relations in the country and to create hope for a better future failed due to U.S. sanctions; (iv) the latter resulted in just the opposite effect they aimed to achieve: they were unable to reduce oil exports from Iran to zero but, on the contrary, created the shadow oil exports totally controlled by the Revolutionary Guard Corp; (v) the sole possibility to provoke democratic development in Iran and to cancel financing of terrorist organizations via diminishing the role of ecclesiastic leaders is the involvement of the country in international energy transit projects governed by the rule of law. The energy transit projects are unfeasible without the involvement of Georgia, which will become the Eurasian energy hub. This book describes these projects in detail. Implementation of these projects will (i) diminish the role of Russia in the EU energy market; (ii) ensure stability in the South Caucasus region, and (iii) provoke democratic reforms in Iran and this way sustainably increase world stability and security.
Human activities extensively contribute to various types of wastewater. These include domestic, industrial, agricultural and storm water. Depending on the waste, they consist of organic material, inorganic material, nitrates, phosphates and metals. Conventional methods of wastewater treatment incorporate various stages, screening, a biological treatment process involving the formation of coagulates, gravity separator, and a clarifier to remove remaining suspended solids. This is further treated using oxidizing and disinfecting agents to reduce the biochemical oxygen demand (BOD) levels. Chemicals such as chlorine are added to bring the water quality to required levels. Biological treatment systems currently being employed in industry include membrane bioreactor (MBR) and moving bed bioreactor (MBBR), which are followed by ultrafiltration treatment.

Conventional wastewater treatment methods are expensive. One technology that has been researched and found to have potential are constructed wetlands (CWs). Wetlands are ecosystems that consist of a variety of biodiversity of aquatic plants and microorganisms. Wetlands act like filters that break down waste from water. Constructed wetlands are engineered wetlands that mimic natural wetlands that consist of a gravel bed through which wastewater flows. As the wastewater passes through the gravel it encounters a natural system comprising of microbiological activity, phytoremediation and filtration. Indigenous plant species are used to promote biodiversity. Plants and bacteria utilize certain components of these pollutants and in this way clean up the wastewater. Due to this ability of remediating polluted water, they are usually used in both secondary and tertiary treatment processes. This is the case in constructed wetlands and wastewater treatment plants. Often this remediation is achieved through biosorption and sequestration mechanisms and sometimes biomineralization may occur if these pollutants can be incorporated into biochemical pathways. But overall the COD is significantly reduced in the polluted water. The biochemical route may involve plant and microbial participation in the carbon, nitrogen and sulphur cycles by transforming them and releasing them into the atmosphere.

Natural wetlands, constructed wetlands, and wastewater treatment plants fail in time and this is demonstrated by clogging, which occurs as a result of build-up of sediments and precipitates in wetland beds, thus constituting reductions in physical media permeability and hydraulic conductivity of water. In natural wetlands it is associated with the aging process of the water body. However, this is more rapidly indicated in constructed wetlands causing a system failure, because of organic and inorganic matter settling at the bottom, thereby slowly filling up the system and causing a decrease in dissolved oxygen levels as decomposition takes place. This phenomenon can be referred to as eutrophication. Normally, clogging and sludge bulking in wetlands can be likened to the phenomenon of eutrophication, sometimes with associated foaming in conventional wastewater treatment. Clogging not only contributes to systems failure in natural and constructed wetlands but it also reduces operational efficiency reducing the ability of resident organisms to biodegrade pollutants. This book will provide a holistic overview of natural wetlands and possible reasons for system failure in constructed wetlands.
Aromatic Plants: The Technology, Human Welfare and Beyond
Dr. Amit Baran Sharangi (Department of Plantation, Spices, Medicinal and Aromatic Crops, Faculty of Horticulture, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal, India)

In Series: Plant Science Research and Practices
Expected Publication Date: 05/25/2021
386 pp.
Hardcover: 978-1-53619-322-0 $ 230.00
e-book: 978-1-53619-398-5 $ 230.00

The history of aroma and fragrance dates back through several ages and civilizations. The sagacity of smell plays a remarkable role for human beings to recognize food. Best fruits can be judged when they are ripe and fit for consumption emitting lovely smell or aroma. The same attribute from flowers attracts insects leading to cross-pollination. India has enjoyed a paramount place in the fabrication of quality perfumes and aromatics since the prehistoric era. The celebrated Chinese voyager Fa-Hien described India as the land of aromatic plants. Indian cities like Delhi, Agra, Kannauj, Lucknow, Jaipur, Ghaziapur, Aligarh, Bharatpur, Mysore, and Hyderabad emerged as centers of national and international trade in perfumery and other aromatic compounds, and were known for their quality across Asia, Europe and Africa. Aromatic plants precisely possess odorous volatile substances in root, wood, bark, stem, foliage, flower and fruit. The typical aroma is due to an assortment of composite chemical compounds. At present, information on the chemistry and properties of essential oils of only about 500 aromatic plants species is known in some detail out of a total of about 1500. Of these, about 50 species find use as commercial source of essential oils and aroma chemicals. It is realized now that perfumes are not the essentials of sumptuousness as they were in the past. It has given birth to new streams of medicinal therapy, aromatherapy, involving the use of essential oils and aromatics derived from plants to treat diseases. Essential oils are also reported to be better than antibiotics due to their safety and broad-spectrum activity. Natural essential oils are also potentially safe insecticides. The essential oil obtained from Acorus calamus having β-asarone as an active principle produces sterility among a variety of insects of either sex. It has, therefore, been found very useful and secure for the storage of food grains. However, there is still very inadequate research for the cultivation of aromatic crops and extraction of essential oils across the globe.

This book has been designed to highlight the associated issues of aromatic plants including the aspects of their classification, importance, uses and applications for human wellbeing, botany, agrotechniques, major bioactive constituents, post-harvest extraction, chemistry and biochemistry of aroma compounds along with an informative modern global research on these plants throughout the world. I hope this book will cater the scholastic services, reward diverse professionals and stakeholders, and serve as an informative handbook for theoretical as well as practical purposes.

Elementary Botany
George Francis Atkinson

In Series: Botanical Research and Practices
Expected Publication Date: 05/03/2021
640 pp.
Hardcover: 978-1-53619-448-7 $ 310.00
e-book: 978-1-53619-518-7 $ 310.00

Part I, Physiology, deals with the life processes of plants, such as absorption, transpiration, conduction, photosynthesis, nutrition, assimilation, digestion, respiration, growth, and irritability.

Part II, Morphology and Life History of Representative Plants, includes a rather careful study of representative examples among the algae, fungi, liverworts, mosses, ferns and their allies, gymnosperms and angiosperms, with especial emphasis on the form of plant parts, and a comparison of them in the different groups, with a comparative study of development, reproduction, and fertilization, rounding out the work with a study of life histories and noting progression and retrogression of certain organs and phases in proceeding from the lower to the higher plants.

Part III, Plant Members in Relation to Environment, deals with the organization of the plant body as a whole in its relation to environment, the organization of plant tissues with a discussion of the principal tissues and a descriptive synopsis of the same.

Our Vanishing Wild Life: Its Extermination and Preservation
William T. Hornaday

In Series: Historical Manuscripts
Expected Publication Date: 05/03/2021
505 pp.
Hardcover: 978-1-53619-451-7 $ 270.00
Written by natural historian William Temple Hornaday and originally published in 1913, Our Vanishing Wild Life: Its Extinction and Preservation argues passionately for the importance of taking every possible effort to preserve and protect the natural world and all its animal and plant inhabitants, a theme that resonates to this day.

Mathematics and Statistics

Research in Mathematics at Cameron University
Ioannis K. Argyros (Professor, Department of Mathematical Sciences, Cameron University, Lawton, OK, USA), Samundra Regmi (Independent Researcher and Professional Mathematics Tutor, Learning Commons, University of North Texas at Dallas, Dallas, TX, USA), Janak Joshi (Assistant Professor, Department of Mathematical Sciences, Cameron University, Lawton, OK, USA) and Parshuram Budhathoki (Assistant Professor, Math Department, Broward College, Pembroke Pines, FL, USA)

In Series: Mathematics Research Developments
Expected Publication Date: 05/25/2021
437 pp.
Hardcover: 978-1-53619-417-3 $ 230.00
e-book: 978-1-53619-505-7 $ 230.00

Numerous problems from diverse disciplines can be converted using mathematical modeling to an equation defined on suitable abstract spaces usually involving the n-dimensional Euclidean space or Hilbert space or Banach Space or even more general spaces. The solution of these equations is sought in closed form. But this is possible only in special cases. That is why researchers and practitioners use iterative algorithms, which seem to be the only alternative. Due to the explosion of technology, faster and faster computers become available. This development simply means that new optimized algorithms should be developed to take advantage of these improvements. That is exactly where we come in with our book containing such algorithms with applications in problems from numerical analysis and economics but also from other areas such as biology, chemistry, physics, parallel computing, and engineering. The book is an outgrowth of scientific research conducted over two years.

This book can be used by senior undergraduate students, graduate students, researchers, and practitioners in the aforementioned areas in the classroom or as reference material. Readers should know the fundamentals of numerical-functional analysis, economic theory, and Newtonian physics. Some knowledge of computers and contemporary programming shall be very helpful to readers.

General Mathematics

Fixed Point Theory and its Applications to Real World Problems
Professor Anita Tomar
Professor M. C. Joshi

In Series: Mathematics Research Developments
Expected Publication Date: 06/15/2021
Hardcover: 978-1-53619-336-7 $ 230.00
e-book: 978-1-53619-479-1 $ 230.00

Fixed-point theory initially emerged in the article demonstrating existence of solutions of differential equations, which appeared in the second quarter of the 18th century (Joseph Liouville, 1837). Later on, this technique was improved as a method of successive approximations (Charles Emile Picard, 1890) which was extracted and abstracted as a fixed-point theorem in the framework of complete normed space (Stefan Banach, 1922). It ensures presence as well as uniqueness of a fixed point, gives an approximate technique to really locate the fixed point and the a priori and a posteriori estimates for the rate of convergence. It is an essential device in the theory of metric spaces. Subsequently, it is stated that fixed-point theory is initiated by Stefan Banach. Fixed-point theorems give adequate conditions under which there exists a fixed point for a given function and enable us to ensure the existence of a solution of the original problem. In an extensive variety of scientific issues, beginning from different branches of mathematics, the existence of a solution is comparable to the existence of a fixed point for a suitable mapping.

The book “Fixed Point Theory & its Applications to Real World Problems” is an endeavour to present results in fixed point theory which are extensions, improvements and generalizations of classical and recent results in this area and touches on distinct research directions within the metric fixed-point theory. It provides new openings for further exploration and makes for an easily accessible source of knowledge. This book is apposite for young researchers who want to pursue their research in fixed-point theory and is the latest in the field, giving new techniques for the existence of a superior fixed point,
a fixed point, a near fixed point, a fixed circle, a near fixed interval circle, a fixed disc, a near fixed interval disc, a coincidence point, a common fixed point, a coupled common fixed point, amiable fixed sets, strong coupled fixed points and so on, utilizing minimal conditions. It offers novel applications besides traditional applications which are applicable to real world problems. The book is self-contained and unified which will serve as a reference book to researchers who are in search of novel ideas. It will be a valued addition to the library.

**Optimized Iterative Methods with Applications in Diverse Disciplines**

_Samundra Regmi_

In Series: Mathematics Research Developments

Expected Publication Date: 06/15/2021

Hardcover: 978-1-53619-351-0 $ 230.00
e-book: 978-1-53619-508-8 $ 230.00

Numerous problems from diverse disciplines can be converted using mathematical modeling to an equation defined on suitable abstract spaces usually involving the n-dimensional Euclidean space, Hilbert space, Banach Space or even more general spaces. The solution of these equations is sought in closed form. But this is possible only in special cases. That is why researchers and practitioners use iterative algorithms, which seem to be the only alternative. Due to the explosion of technology, faster and faster computers become available. This development simply means that new optimized algorithms should be developed to take advantage of these improvements. That is exactly where we come in with our book containing such algorithms with applications in problems from numerical analysis and economics but also from other areas such as biology, chemistry, physics, parallel computing, and engineering. The book is an outgrowth of scientific research conducted over two years.

This book can be used by senior undergraduate students, graduate students, researchers, and practitioners in the aforementioned areas in the classroom or as reference material. Readers should know the fundamentals of analytical-functional analysis, economic theory, and Newtonian physics. Some knowledge of computers and contemporary programming shall be very helpful to readers.

**Mathematical Analysis**

**Decision-Making with Neutrosophic Set: Theory and Applications in Knowledge Management**

_Dr. Harish Garg_

In Series: Computational Mathematics and Analysis

Expected Publication Date: 06/25/2021

Hardcover: 978-1-53619-419-7 $ 230.00
e-book: 978-1-53619-522-4 $ 230.00

This book introduces readers to the concept of the neutrosophic set which can deal with dynamic and complex decision-making problems. With the complexity of the socio-economic environment, today's decision-making is one of the most notable ventures, whose mission is to decide the best alternative under numerous known or unknown criteria. This book provides a large amount of theoretical and practical information about the latest research in the field, allowing readers to gain an extensive understanding of both the fundamentals and applications of neutrosophic sets to solve different kinds of decision-making problems and mathematical programming such as medical diagnosis, pattern recognition, construction problems, technology selection etc.

**Number Theory**

**The Riemann Hypothesis and the Distribution of Prime Numbers**

_Naji Arwashan, PhD, PE (Senior Specialist of Computer-Aided Engineering with the automotive industry; Former Adjunct Professor with the University of Michigan-Dearborn, Troy, MI, USA)_

In Series: Mathematics Research Developments

Expected Publication Date: 06/15/2021

229 pp.

Hardcover: 978-1-53619-422-7 $ 160.00
e-book: 978-1-53619-482-1 $ 160.00

This book is an introductory and comprehensive presentation of the Riemann Hypothesis, one of the most important open questions in math today. It is introductory because it is written in an accessible and detailed format that makes it easy to read and understand. And it is comprehensive because it explains and proves all the mathematical ideas surrounding and leading to the formulation of the hypothesis. Chapter 1 begins by defining the zeta function and exploring some of its properties when the argument is a real number. It proceeds to identify the series’ domain of convergence and proves Euler’s product formula. Chapter 2 introduces complex
numbers and the complex analytic tools necessary to understand the zeta function in complex plane. Chapter 3 extends the domain of the zeta function for the first time by introducing the eta function. Presenting proofs by Sondow, it is shown that zeta can be defined for any complex number whose real part is positive. Next, the functional equation of the zeta function is derived in Chapter 4. This provides a method to extend the definition of zeta to the entirety of the complex plane. Chapter 5 is where the Riemann Hypothesis is properly introduced for the first time. It relates the zeros of the zeta and eta functions which leads to a simple formulation of the hypothesis. Chapters 6 and 7 connect the topics of zeta’s zeros and the distribution of prime numbers. Chapter 6 introduces Riemann explicit formula and explains the use of Mobius transform to rewrite the prime counting function in terms of the Riemann prime counting one and it provides a detailed numerical example on how to use the Riemann’s formula. Chapter 7 derives the von Mangoldt formula via the residue theorem and elucidates some of its important properties. Certain necessary mathematical tools, such as Fourier analysis and theta and gamma functional equations, are included in the appendices to make the chapters more concise and focused.

Probability and Mathematical Statistics

Characterizations of Recently Introduced Continuous Distributions III
G.G. Hamedani (Professor and Editor, JSTA, Department of Mathematics, Statistics and Computer Science, Marquette University, Milwaukee, Wisconsin, USA)
In Series: Mathematics Research Developments
Expected Publication Date: 04/10/2021
498 pp.
Hardcover: 978-1-53619-297-1 $ 270.00
e-book: 978-1-53619-472-2 $ 270.00
This monograph is, as far as the author has gathered, the third one of its kind which presents various characterizations of many important continuous distributions. It consists of two chapters. The first chapter lists cumulative distributions and probability density functions of six hundred and sixty seven newly proposed univariate continuous distributions. Chapter Two consists of four sections. Section 2.1 provides characterizations of the majority of the distributions mentioned in Chapter One, based on the ratio of two truncated moments. Section 2.2 takes up the characterizations of some of these distributions in terms of their hazard functions. Section 2.3 deals with the characterizations some of these distributions based on their reverse hazard functions. Characterizations of some of these distributions based on the conditional expectations of certain functions of the random variable are presented in Section 2.4. As pointed out in our previous Monographs (I & II), a good number of proposed distributions in this volume have already been introduced in the literature.

Probability Theory: A Logic of Science
Valery B. Nevzorov (Professor of Statistics, Department of Mathematics and Mechanics, St. Petersburg State University, St. Petersburg, Russia), Mohammad Ahsanullah (Professor Emeritus, Rider University, Lawrenceville, NJ, USA) and Sergey Annanjevskiy (Associate Professor, Department of Mathematics and Mechanics, St. Petersburg State University, St. Petersburg, Russia)
In Series: Applied Statistical Science
Expected Publication Date: 04/15/2021
249 pp.
Hardcover: 978-1-53619-173-8 $ 195.00
e-book: 978-1-53619-220-9 $ 195.00
This book is written for people who are interested to know the basics of probability theory. The basic knowledge of high school math will be enough to know the probability theory covered in the book. It covers basic theories of probability, statistical distributions, order statistics and record values, The use of characterization methods are described to identify various probability distributions. The book will be useful for undergraduate, graduate students and applied statisticians.
Physics and Astronomy

Special Topics

A Comprehensive Guide to Lamb Waves
Nitesh Prakash Yelve, Ph.D. (Department of Mechanical Engineering, Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, Maharashtra State, India)

In Series: Physics Research and Technology
Expected Publication Date: 04/15/2021
181 pp.
Softcover: 978-1-53619-418-0 $ 95.00
e-book: 978-1-53619-477-7 $ 95.00
This book presents the fundamental concept of Lamb wave propagation and its application for damage detection in metals and composites. The editor has taken utmost care to include a range of applications of Lamb waves, in the linear and nonlinear domains, in this book. Various damage location algorithms making use of linear characteristics of Lamb waves and a few case studies making use of nonlinear characteristics Lamb waves for damage detection are presented in a simple-to-understand way. Readers will find detailed descriptions for experiments, simulation, and signal processing. The last chapter that focuses on the evaluation of fatigue-induced material nonlinearity would help readers to understand the complex applications of Lamb waves. The forthcoming books in this series would include state-of-the-art applications of guided waves for damage detection, material characterization, and estimation of the remnant useful life of engineering structures.

Technology and Engineering

Materials Science

Scheelite and Zircon: Brightness, Colour and NIR Reflectance in Ceramics
Guillermo Monrós (Professor, University Jaume I of Castelló, Spain)

In Series: Materials Science and Technologies
Expected Publication Date: 06/15/2021
333 pp.
Hardcover: 978-1-53619-332-9 $ 230.00
e-book: 978-1-53619-502-6 $ 230.00
The subject of this book is the analysis of the performance in ceramics of scheelite (CaWO4) and zircon (ZrSiO4). The aesthetics of glazed ceramics and paints depends to a large extent on the so-called opacifiers that give them brightness and pigments that give them color. At present, zircon ZrSiO4 is the main opacifier of industrial ceramic glazes and the base of a widely-used pigment palette (cyan of vanadium in zircon, magenta of hematite in zircon and yellow of praseodymium in zircon). Likewise, scheelite CaWO4 can be used as a good opacifier by addition to glazes and is the basis of another family of inorganic pigments. These pigments are analyzed from the perspective of their cooling capacity of buildings and urban environments, associated with their high reflectance of solar NIR radiation (700-2500 nm), as well as a certain photocatalytic capacity over organic substrates and NOx; therefore, surfaces with these pigments show a certain air purification capacity producing cleaner and cooler environments, allowing a saving in the use of air conditioning and a moderation of the so-called urban heat island effect. In short, the brightness, color and NIR reflectance for cool surfaces in paints and ceramics using scheelite and zircon chemistry are discussed.
Business and Society

Intercultural Issues in the Global Auto Industry
Liviu Warter, PhD (Founder & President of the Center for Socio-Economic Studies and Multiculturalism in Iasi, Romania) and Iulian Warter, PhD (Founder & President of the Center for Socio-Economic Studies and Multiculturalism in Iasi, Romania)

In series: Business Issues, Competition and Entrepreneurship
Publication Date: 01/15/2021
128 pp.
Softcover: 978-1-53619-117-2, $95.00
e-book: 978-1-53619-142-4, $95.00

This monograph is focused on intercultural issues, particularly in the global auto industry. The foreign direct investments (FDI) reasons are the result of globalization, of the need of growth and of achieving synergies. Most of the professionals consider that FDI is one of the most significant business phenomena in the past decades, but warn about the FDI dangers. The most challenging part of the FDI process is the integration of two entities that present different organizational and national cultures.

This monograph emphasizes the relationship between culture and FDI performance in the global auto industry. The main goal of this book is to uncover intercultural issues that managers encounter during the FDI, M&A or global alliances. The expectation of the authors of this monograph is that the conclusions would help forewarn scholars and practitioners of the need to thoroughly understand the cultural issues influencing the global automotive industry. The monograph will be useful for academic researchers, postgraduate students, for MBA/Executive Education and for practitioners.

Human Resources

Innovations and Challenges in Human Resource Management for HR4.0
Rajesh Singh (Lovely Professional University, Phagwara, Punjab, India), Geeta Rana (Swami Rama Himalayan University, Dehradun, India), Ravindra Sharma (Swami Rama Himalayan University, Dehradun, India) and Anita Gehlot (Lovely Professional University, Phagwara, Punjab, India)

In series: Business Issues, Competition and Entrepreneurship
Publication Date: 12/14/2020
351 pp.
Hardcover: 978-1-53618-957-5, $230.00
e-book: 978-1-53618-991-9, $230.00

To sustain competitiveness in today’s highly local and global markets, an organization needs to excel in all its key dimensions. The world is facing a new industrial era marked by digitalization in various multidimensional sectors; experts call it Industry 4.0. Humans are slowly but steadily being replaced by mechanical automation and technological digitalization in driving the economy. The potential benefits of Industry 4.0 are improving the speed of production flexibility, improving service to customers and increasing revenue. Challenges in human resources management include strengthening the management system and processes of an organization to improve performance and create value for stakeholders.

Innovations and Challenges in Human Resource Management for HR4.0 helps to convey the importance of “HR4.0” in all aspects of business, not just product and process quality. It is about achieving excellence in everything that an organization does, and most importantly achieving superior business results.

This book provides international insights to manage business performance improvements and companies’ value creation dynamics. Readers will learn how to use multi-functional area tools, techniques, innovative frameworks, practices and approaches for understanding, assessing and managing the strategic value drivers of business excellence.

This book provides a rich repertoire of tools and techniques across business functions researched, tested and validated in various business settings, and provides a new stream of thoughts by a few fine researchers in the domain of business management.
Business Ethics

Business Ethics: Perspectives, Management and Issues
Cam Caldwell
Verl Anderson
In series: Business Issues, Competition and Entrepreneurship
Publication Date: 10/01/2020
410 pp.
Hardcover: 978-1-53618-376-4. $230.00
e-book: 978-1-53618-659-8. $230.00
Recent evidence readily confirms that ethical conduct in human interaction has declined in the context of business, but also in virtually every phase of life. An alarming number of government leaders at all levels have demonstrated by their conduct that their primary goal is the pursuit of self-interest for themselves, their party, and their constituents – regardless of whether the choices they make are in the long-term best interests of those whom they are obligated to serve. Academic institutions and their leaders similarly seem to be either tied to past assumptions and traditions that seem, or blatantly out of touch with the needs of their students and the communities that they serve. Increasingly, college and university academic programs are being taught by part-time and temporary faculty who are paid less than their elementary and high school counterparts who lack their educational preparation, level of knowledge, or responsibility in preparing students for their chosen careers. Non-governmental organizations also struggle to earn the respect of the public, and their trustworthiness has been called into question as chief executive officers and staff receive high salaries, but lack accountability for achieving results or acting with integrity. Those who work in the media are as a group no longer trusted to provide an objective and unbiased assessment of the news. Even religious institutions are under attack and their leaders are being asked to be accountable to the standards which their doctrines advocate.
Implicit in ethical conduct is the responsibility to identify the far goals of human achievement – rather than short-term interests that undermine long-term value creation and outcomes that best serve society. Abraham Maslow has wisely noted that the pursuit of efficiency must be evaluated in terms of the specific goals intended to be achieved, but the ramifications of individual and collective actions often seem to be out of focus, misdirected, and short-sighted.
The purpose of this book is to identify key ethics-related issues facing individuals and organizations in the 21st century, and to offer recommendations and encouragement to those who choose to raise the bar for their standards of conduct. This volume combines established thinking about ethics and morality with new insights and ethical perspectives that have never before been addressed by traditional business ethics. The authors are comfortable in challenging the status quo and failures of so many leaders and organizations who have been unable to earn the trust of the general public. In criticizing the failures of institutions and their leaders, this book is also a plea to those who lead to rethink the standards and criteria which they have adopted about duties that they owe to others. Many of the insights contained within this book invite readers to begin from within themselves by examining their identities and their assumptions about their ethical beliefs. The evidence about personal ethical standards suggest that individuals rarely make conscious decisions regarding their own actions, and fall into patterns that they later acknowledge to be questionable and less than ideal. This book challenges the way that leaders make decisions about moral conduct and asks those who read this book to reassess the impacts of the choices that they make. Finally, this volume encourages readers to discover the best version of themselves. Only when people strive to achieve their highest potential are those individuals likely to optimally benefit others and create a better world. Ultimately, ethics is about each person’s responsibility to constantly improve and to help others along the way.
We trust that this book will challenge the thinking of its readers, that it will become the source of dialogue and even possible disagreement about duties and obligations. Our intention is that this book will ultimately inspire individuals to think more clearly about the way that they interact with others and how they can best fulfill their highest purpose in life.

East European Culture and Business Ethics
Iulian Warter, PhD (Founder & President of the Center for Socio-Economic Studies and Multiculturalism in Iasi, Romania) and Liviu Warter, PhD (Founder & President of the Center for Socio-Economic Studies and Multiculturalism in Iasi, Romania)
In series: Business Issues, Competition and Entrepreneurship
Publication Date: 01/21/2021
138 pp.
Softcover: 978-1-53619-118-9. $95.00
e-book: 978-1-53619-143-1. $95.00
This book concentrates on some leading questions in business ethics research in the last two decades and tries to find explanations concerning cultural issues. It focuses on the alignment or congruence between business ethics and cultural contexts with a special emphasis on Eastern European countries. The core of this book is doing business in Central and Eastern Europe (CEE) in order to throw light on the cultural issues related to business ethics. Its primary purpose is a finer view of the impact of national, organizational and professional cultures in business ethics. The general questions encountered in this book are related to the nexus between culture and ethics in (CEE), national, organizational and professional cultures’ link to (CEE) countries’ ethics. The aim of this book is a deeper understanding of the cultural differences in Central and Eastern Europe. This might help organizations provide better opportunities for doing business across a wide cultural spectrum. With the increase of global mobility, cultural and ethical issues become more and more important. Multi-national corporations might garner a competitive advantage when they understand the importance of local culture and ethics. International business professionals may benefit from a deeper understanding of cultural values that affect the perceptions of individuals during negotiation and decision-making across cultures. Multinational companies that do not take into consideration or minimize the importance of cultural and ethical issues expose themselves to a higher risk of failure. The expectation of the authors of this book is that the conclusions would help alert international business scholars and practitioners of the need to thoroughly understand the cultural issues influencing ethics.

Economics

Brain Drain vs Brain Circulation (Central Asia)
Muzaffar Olimov (Professor, Tajik National University, Tajikistan), Jürgen Grote (Senior Researcher, DOC Research Institute, Berlin, Germany) and Behrooz Gharleghi (Senior Researcher, DOC Research Institute, Berlin, Germany)

In series: Economic Issues, Problems and Perspectives
Publication Date: 11/16/2020
344 pp.
Hardcover: 978-1-53618-755-7, $230.00
e-book: 978-1-53618-819-6, $230.00

The volume examines the issue of brain drain in Central Asia. The chapters analyse the causes of brain drain and the methodologies of addressing it with case studies in the region. They also investigate various policies that could lead to brain circulation and eventually brain gain. The volume demonstrates that some of countries in the region are facing the problem of brain drain more than others and no action has been taken, therefore it requires immediate action by policymakers and economists. The volume is a useful addition to the scant literature dealing with brain drain policies for a sustainable economic development, and policymakers will find it useful in designing policies for achieving development policies. The volume will also be useful for higher degree research students, especially in the area of economic and sustainable development.

Progress in Economics Research. Volume 45
Albert Tavidze

In series: Progress in Economics Research
Publication Date: 12/02/2020
222 pp.
Hardcover: 978-1-53618-880-6, $250.00
e-book: 978-1-53618-895-0, $250.00

This compilation discusses the two latest economic crises, 2009 and 2020, and the public policies used to mitigate the recession, improve economic growth, and save people from the dangerous coronavirus. The authors summarize the principal legislation and recommendations that, from the point of view of corporate governance, have been established in the Spanish context in relation to: risk control and management, the role of audit committees in the supervision of risk control and management function and transparency in all these issues. The development levels of central and eastern European countries which transitioned from socialist economies to market economies and experienced major changes in their institutional structures are assessed. Additionally, an optimal control problem of water management is examined in the context of the conjunctive use of two interrelated water sources: groundwater and rainwater.
The manuscript proceeds in three parts: Part I deconstructs the regional business ecosystem, highlighting a need for continuous improvement, frugal heuristic by SMEs. Key themes from the literature together with five (5) qualitative case research interviews are then synthesised into a new Heuristic Brand Management Framework (HBMF). It comprises a holistic fusion of the Aaker model, inbound marketing, thought leadership, a customer satisfaction feedback mechanism for decision makers in SMEs frequently encounter when managing their brand equity assets, the manuscript identifies the adoption of a resource-frugal heuristic by SMEs. Key themes from the literature together with five (5) qualitative case research interviews are then synthesised into a new Heuristic Brand Management Framework (HBMF). It comprises a holistic fusion of the Aaker model, inbound marketing, thought leadership, a customer satisfaction feedback mechanism for continuous improvement, frugality in resource allocation and use and a Power-cum-Task culture orientation. The manuscript also explores the search for new and more resource-frugal approaches to residential property investment in the Netherlands. Thus it adopts a hedonic approach to property price estimation and assessment as the basis for constructing a Liveability Framework supporting frugal residential property entrepreneurship in that country. The manuscript proceeds more intense, putting pressure on governments to refresh and reform their regulatory regimes. With all of the above and the geopolitical antecedents of the Middle East and Europe as a backdrop, this manuscript draws on a subset of twenty six countries from the World Bank’s Ease of Doing Business country-level dataset to analyse the business ecosystem in the Middle East and Europe. It unearths evidence of a regulatory quality attainment gap, proffering a number of recommendations for achieving its closure. Moreover, it adduces balance of payments data to challenge the conventional notion that success with improving the quality of the regulatory environment through implementation of reforms along the lines of the 10 Doing Business Reform (DBR) benchmarks consistently confers a substantial net direct investment dividend. Instead, it shows that some sample economies with fairly predictable and transparent regulatory regimes nonetheless exhibit a dependence on volatile net portfolio investment to shore up their external position.

With all of the above and the geopolitical antecedents of the Middle East and Europe as a backdrop, this manuscript draws on a subset of twenty six countries from the World Bank’s Ease of Doing Business country-level dataset to analyse the business ecosystem in the Middle East and Europe. It unearths evidence of a regulatory quality attainment gap, proffering a number of recommendations for achieving its closure. Moreover, it adduces balance of payments data to challenge the conventional notion that success with improving the quality of the regulatory environment through implementation of reforms along the lines of the 10 Doing Business Reform (DBR) benchmarks consistently confers a substantial net direct investment dividend. Instead, it shows that some sample economies with fairly predictable and transparent regulatory regimes nonetheless exhibit a dependence on volatile net portfolio investment to shore up their external position.

The manuscript also explores the search for new and more resource-frugal approaches to residential property investment in the Netherlands. Thus it adopts a hedonic approach to property price estimation and assessment as the basis for constructing a Liveability Framework supporting frugal residential property entrepreneurship in that country. The manuscript proceeds in three parts: Part I deconstructs the regional business ecosystem, highlighting a need for fundamental reforms; Part II reviews the literature on brand equity and teases out the cultural and cognitive strategies behind the growth of the Aaker and Inbound Marketing (IM) paradigms, and Part III synthesizes these perspectives into a new model that challenges the conventional wisdom of the Aaker-based brand equity (CBBE) as a foundation, the manuscript critically analyses the attention-interest-desire-action (AIDA) framework as well as the Keller and Aaker brand equity models. It proposes a Conceptual Model that synergistically amalgamates the Aaker model, inbound marketing (IM) and thought leadership (TL) as a new integrated consumer-based brand equity framework (ICBBEF) that supports small and medium-sized enterprise (SME) scaling in the digital age. By probing some of the cultural and cognitive inferences that decision makers in SMES frequently encounter when managing their brand equity assets, the manuscript identifies the adoption of a resource-frugal heuristic by SMEs. Key themes from the literature together with five (5) qualitative case research interviews are then synthesised into a new Heuristic Brand Management Framework (HBMF). It comprises a holistic fusion of the Aaker model, inbound marketing, thought leadership, a customer satisfaction feedback mechanism for continuous improvement, frugality in resource allocation and use and a Power-cum-Task culture orientation. The manuscript also explores the search for new and more resource-frugal approaches to residential property investment in the Netherlands. Thus it adopts a hedonic approach to property price estimation and assessment as the basis for constructing a Liveability Framework supporting frugal residential property entrepreneurship in that country.

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applied by sample SMEs; Part III investigates the theme of frugal entrepreneurship in the Dutch residential property market.

**Economic Development**

**Workforce Development: The Key to Prosperity in the 21st Century**

*Nicholas J. Bolden, PhD (Assistant Professor of Politics, Philosophy, and Public Administration, Columbus State University, Columbus GA, USA) and Cal Clark, PhD (Emeritus Alumni Professor of Political Science, Auburn University, Auburn, AL, USA)*

In series: *American Political, Economic, and Security Issues*

Publication Date: 11/20/2020

176 pp.

Softcover: 978-1-53618-811-0, $95.00
e-book: 978-1-53618-841-7, $95.00

For the century of approximately 1870 through 1970, America’s ongoing industrialization brought growing prosperity to much of its citizenry and, after World War II, a broad middle-class society. After the mid-1970s, however, de-industrialization or the movement of manufacturing production to other countries resulted in growing economic and social stress on many of the working class who did not possess a college education. Donald Trump was the first major U.S. politician to recognize this problem and promise to create “good jobs” for working-class Americans. Yet, his most dramatic policy initiatives in the areas of trade, immigration, and deregulation did not produce dramatic change during his first term.

A more positive trend is bubbling up from state and local governments, with the encouragement (but not funding) from the Trump administration. This is the growing importance of workforce development programs, which seek to develop the skills necessary for America’s 21st-century economy through education reform, industrial apprenticeships, and tax incentives. Does the future of the national economy rest in safe arms with the new re-industrialization strategy and education reform? States and local governments must ascertain what mix of higher education reform, K-12 reform, career readiness, and high-tech training is the best equation for the growing workforce deficit and waning middle-class. In addition, education reform must consider high-tech automation, robotics, and artificial intelligence as a curriculum component in education reform. This policy area must be constructed in ways that not only broadens the middle-class but helps the victims of deindustrialization and reindustrialization.

Chapter 1 provides an overview of the challenges facing the working class in the United States and an outline of the book. Chapter 2 describes the stage of industrialization (1870-1970) that created a middle-class society. Chapter 3 discusses the periods of deindustrialization (1970-2000) and reindustrialization in advanced manufacturing (early 21st century). Chapter 3 then analyzes the causes (globalization, organizational change, public policy, business strategy, and automation) and consequences (the emergence and shrinkage of a broad middle-class society) of the changing dynamics of industrialization. Chapter 4 presents a case study from the state of Alabama, demonstrating how manufacturing reduces inequality. Chapter 5 discusses how work-based learning programs promote racial diversity. Chapter 6 investigates modern apprenticeship and work-based learning programs. Finally, Chapter 7 considers the implications of this study and argues that workforce development policies hold the key to American prosperity in the 21st century.

**Finance and Investments**

**Fannie Mae and Freddie Mac: Background, Reforms and Legislation**

*Dominik Wurfel*

In series: *Financial Institutions and Services*

Publication Date: 10/09/2020

337 pp.

Hardcover: 978-1-53618-652-9, $230.00
e-book: 978-1-53618-672-7, $230.00

Congress chartered Fannie Mae and Freddie Mac, also known collectively as the government-sponsored enterprises (GSEs), to promote homeownership for underserved groups and locations by providing liquidity to the secondary mortgage market. National mortgage rates tend to fall as the supply of funds in this market increases, making homeownership more affordable. This book describes Fannie Mae’s and Freddie Mac’s activities and mission and summarizes the progress made to date on FHFA’s initiatives.
A loan that uses real estate as collateral is typically referred to as a mortgage. The U.S. mortgage market is one of the largest markets in the world, with approximately $10 trillion in debt outstanding. The mortgage market can be thought of as having two major components—the primary market in which mortgages are originated and the secondary market in which existing mortgages are bought and sold. This book recent developments and several housing finance issues stemming from them.

Foreign Direct Investments: Overview, Issues and Trends

Dale L. Lyles

A "foreign direct investment" is defined as an investment in which a resident or a firm in one country has long-term influence and control over at least 10% of the ordinary shares or voting powers of an incorporated firm, or equivalent for an unincorporated firm in another country. This compilation contrasts foreign direct investment decisions between hierarchical internalized multinational enterprises and the emerging network multinational enterprise. Money, goods and corporate rights, intellectual property, securities rights and requirements for the exploitation of natural resources as a form of foreign investment are also considered.

The concluding research analyzes the patterns of foreign direct investments and regional disparities in India from 1990 to 2020, comparing states with coastal locations, industrial infrastructure and port availabilities to interior backward states.

Financial Crises: Types, Causes and Consequences

Shen Wei (KoGuan Distinguished Professor of Law, Shanghai Jiao Tong University, KoGuan Law School, Shanghai, China)

While the world is witnessing a new wave of financial slowdown and great recession due to the coronavirus pandemic, the understanding of financial crises has not been complete. The contributors of this book look into financial crises from economic, legal, political science, social science lens with the aim of understanding the types, causes, consequences and impacts of financial crises in a comprehensive way. More importantly, the authors investigate regulatory responses, regulatory effectiveness, regulatory responses by applying a variety of approaches and methodologies through the study of financial, corporate, business, healthcare, capital market, banking sectors. This is a timely contribution to our understanding of financial crises and preparation for the next financial recession on the horizon.
**Industries / Tourism and Hospitality**

**Exploring Cities and Countries of the World. Volume 2**  
*Kathie Summers*  
In series: *Exploring Cities and Countries of the World*  
Publication Date: 09/24/2020  
218 pp.  
Hardcover: 978-1-53618-514-0. $250.00  
e-book: 978-1-53618-573-7. $250.00  
Exploring Cities and Countries of the World. Volume 2 first provides a brief overview of Pakistani history, culture and economy, particularly providing insight on the cultural diversity of the country in terms of language, food, religion, arts, gender orientation and family structure.  
The authors analyse spatial and temporal urban expansion in the medium-sized city of Coimbra in Southern Europe during a ten year period. A better understanding of these dynamics may be a helpful contribution to the planning and organisation of local human activities for sustainable urban development.  
Street food in Italy, born many centuries ago, is discussed in the context of its cultural implications, along with advice for choosing healthier and more sustainable options. Some typical cakes such as the cassata and the pastiera are described, along with some considerations for bakery products of the future.  
The authors also analyze and discuss public policies of gastronomy actors focused on local cuisine, highlighting that policies of this nature consider that sustainable tourism can represent a considerable instrument of social strength and economic development.  
The relationship between gastronomy and destination brands is also examined, expanding these reflections by contextualizing gastronomy in Minas Gerais. Subsequently, the status of science research in Singapore is described, along with the crucial role this has played in making Singapore a model for sustainable development.

**Management**

**Emerging Human and Techno-Human Business Management Dynamics in a Globalized Environment**  
*Christina Koutra, PhD (Associate Professor in Management, Human Resource Management Department, College of Business, Abu Dhabi University, Abu Dhabi, UAE) and Hafiz Imtiaz Ahmad, PhD (Assistant Professor, Department of Accounting and Finance, Higher Colleges of Technology, Al Ain, Abu Dhabi, UAE)*  
In series: *Business Issues, Competition and Entrepreneurship*  
Publication Date: 11/04/2020  
314 pp.  
Hardcover: 978-1-53618-602-4. $195.00  
e-book: 978-1-53618-667-3. $195.00  
An exponential stride in globalization, impressively expedited by advanced technology, has brought about immense changes in the backdrop of world markets. Big data and digital technologies like Augmented Reality, Virtual Reality and Artificial Intelligence, assisted this progression by improving efficiency and effectiveness of the way ‘things are done’! All of these factors, in conjunction, have highly influenced the how, where and when of business management today! Leveraging on them has enabled advanced markets to establish themselves further, and new markets to start emerging spectacularly! In this novel environment of emerging human and techno-human business management dynamics, virtual influencers and gamification started becoming the norm of the day. What’s more, businesses are in constant competition to achieve brand loyalty among their customers through bolstering up the branding of their products and services. Advancement in technology though comes at a price, as it leads to an increase in fraudulent activities. In this climate, ethical leadership is required to lead people. Management by mission and evidence-based management can be tools to steer towards better and more transparent decision making in organizations. Amidst this, the role of crisis management is vital to assist in crisis and disaster preparedness.
Public Finance

Public Debt: Impact, Management and Challenges
Antoine Bélanger
In series: Economic Issues, Problems and Perspectives
Publication Date: 03/04/2021
196 pp.
Softcover: 978-1-53619-326-8, $95.00
e-book: 978-1-53619-374-9, $95.00
This book comprises four chapters, each of which examines public debt from a specific economic perspective. Chapter 1 studies potential fiscal externalities of the public debt in the framework of a monetary union. Chapter 2 examines the theoretical literature concerning how and if public debt impairs economic growth and finds no univocal and straightforward answer. Chapter 3 discusses the economic impact of the SARS-CoV-2 virus and addresses the question of whether limits to public debt ought to be respected or disregarded in the face of huge unemployment, collapsing tax revenues, and generous public expenditure programs. Lastly, Chapter 4 analyzes the response of central banks in emerging inflation targeting countries with floating exchange rates to changes in public debt.

Small Businesses

Small Business Issues during the COVID-19 Pandemic
Clovis Lalonde
In series: Business Issues, Competition and Entrepreneurship
Publication Date: 09/24/2020
392 pp.
Hardcover: 978-1-53618-455-6, $230.00
e-book: 978-1-53618-547-8, $230.00
The Small Business Administration (SBA) administers several types of programs to support small businesses, including loan guaranty and venture capital programs to enhance small business access to capital; contracting programs to increase small business opportunities in federal contracting; direct loan programs for businesses, homeowners, and renters to assist their recovery from natural disasters; and small business management and technical assistance training programs to assist business formation and expansion. This has grown especially acute in recent months due to the widespread, adverse impact of the novel coronavirus (COVID-19) pandemic on the national economy. This book looks at some of the issues small businesses may face during the pandemic.

Special Topics

Sustainable and Shared Value Creation: Innovative Strategies for Organisational Success
Dr. Asoke Rocky Mehera (Prince2 Certified Project Practitioner Lecturer – Macleay College, Melbourne; Macleay College, Melbourne, Australia), Professor Sardar Islam Ph.D. (CPA (Accounting), LL.B. (Law), M. A. (First Class), B. A. (Hons), A Short Course on Counselling. Professor, ISIIC, VU Research; Inst. of Sustainable Industries and Liveable Cities, Victoria University, Melbourne, Australia) and Dr. Selvi Kannan PhD (Gaicd Faim Maipm, Academic Research Fellow Institute of Sustainable Industries and Liveable Cities, Course Chair Management & Innovation, (Postgraduate & Undergraduate) Victoria University Business School, Melbourne; Visiting Research Fellow, Griffith University, QLD, Australia)
In a post-Global Financial Crisis (2008) and post-COVID-19 (2020) competitive world, an organisational strategy needs to be promoted for gaining sustained competitive advantage by creating value. So, there is a need for a thorough study to explore the current value creation practices in commercial organisations and recommend a framework to accelerate the process of value creation.

This book explores how sustainability and shared value are facilitating the process of value creation within banking organisations and property organisations. Considering a multiple case study approach and constructivist paradigm, eight Australian case studies are exemplified to denote how practical issues can be examined through the new sustainability lens. The four thematic components explored in this book are a) clean technology, b) sustainability vision at the bottom of the pyramid, c) reconceiving products/services and d) redefining the value chain.

In the context of social and economic value creation by the Australian organisations, the underlying objectives of the book are a) to explore the adoption of components of the applied sustainable value and shared value business models by Australian banking and property organisations for social and economic value creation; and b) empirically develop an alternative business model for the Australian banking and property industries, based on emerging components from industry-wide interview responses.

Our research resulted in many findings that showed a number of industry-wide differences. However, the notable and main difference was that a) banking organisations predominantly leverage sustainability based on product/service innovation at the bottom of the pyramid level, and b) property organisations predominantly leverage environmental sustainability based on the application of clean technology through redefining the value chain.

The primary interview data analysis suggests that the selected Australian sustainable and shared value organisations also emphasise the co-creation of value based on their engagement with customers, stakeholders, and communities. The secondary data analysis suggest that the selected Australian property organisations ensure a higher increase in net profit after tax and return on equity compared to the selected banking organisations.

The main recommendation emanating from industry case interviews and presented in this book is an empirically developed alternative business model for value co-creation based on two new thematic components, which are a) stakeholder engagement and b) community resilience.

The book will come as a guide to future academic researchers and practice managers in implementing the recommended value co-creation business model to create social and economic value.

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**Education and Public Policy**

**Re-Conceptualizing the Paradox in (Education) Policy Implementation: Unravelling Perspectives on the Policy/Practice Gap**

**Hope Pius Nudzor**

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

Publication Date: 03/09/2021

220 pp.

Hardcover: 978-1-53619-226-1, $160.00

A review of current (education) policy and practice endorses the view of an apparent paradox in policy implementation. Although tremendous investments (in terms of energy, time and financial resources) are made in enacting policies, there is ample evidence to suggest that policy actors are impervious to policy information. Change agents and implementers of policy are often seen as pursuing different agendas when it comes to the task policy implementation. As aptly asserted by Sabatier and Jenkins-Smith (1993, cited by Shulock, 1999, p. 228), ‘policymakers and implementers’ core beliefs are unaffected by policy information, major policy change results rather from external factors such as inflation and elections’.

This book re-conceptualizes this policy phenomenon for rumination. The book essentially unravels perspectives on the policy implementation paradox, and through that exemplifies the ‘best’ suited approach for demystifying the policy/practice gap to bring understanding to the messiness and contested nature of (education) policy processes. To help draw conceptual leverage on the phenomenon described as the ‘policy implementation paradox’, this eight chapter book performs two major functions. First, Chapters 1 to 4 set the context for the book. Chapter 1 defines (education) policy, and in the process, the traditional problem-solving definition of policy is juxtaposed with the process model, and through that a
third conception (i.e. the theoretical eclecticism approach) is gauged to help provide both practical and theoretical bases for understanding how policy and practice exist in dynamic and iterative relationships. Chapters 2 and 3 give insights into how education policy-making is made and implemented respectively to unravel some of the influences on policy processes. Chapter 4 explicates (from within relevant literature) the policy paradox to assist readers to understand perspectives that are advanced in latter chapters to unravel and/or explain the existence or occurrence of this policy phenomenon. Second, Chapters 5 to 7 draw on literature from disparate sources to unravel perspectives on the policy implementation paradox, whilst Chapter 8 presents the key messages that are tangential to achieving the objectives of the book. Overall, the Chapter 8 performs three functions, namely: summarises perspectives presented in the scholarly literature to demystify and unravel the policy implementation paradox; and outlines the relevance (and/or justifications) of the post-modernist conception of policy as both ‘text’ and ‘discourse’ as a framework for understanding the policy implementation paradox and the dynamism of policy processes at large. The contribution of this book is seen particularly in its ability to leverage the post-modernist conception of policy as both ‘text’ and ‘discourse’ to stress the importance of recognizing the role of implementation in actually changing policy. Brought directly into the context of the policy implementation paradox, the book (drawing on the post-modernist conception of policy) clearly propels the dynamism of policy processes, and uses this to explain the reasons why policy implementation outcomes most often differ from policy-makers’ intentions. First, the book makes the point aptly and forcefully that because policy processes are dynamic, there is usually conflicts among those who make policy as well as those who put policy provisions into practice, about what the important issues or problems for policy are and what the desired policy goals ought to be. Second, it puts down the issue of disconnect between policy intentions in theory and policy implementation outcomes in practice invaribly to the active processes involved in interpreting policy. Policy statements, in the view of the book and in the post-modernist tradition, are almost always subject to multiple interpretations and re-interpretations depending upon the standpoint of the people doing the interpretive ‘work’. Third, the policy/practice gap is explained as existing and/or occurring because the practice of policy on the ground is extremely complex, both that which is being ‘described’ by policy and those that are ‘intended’ to put policy into effect or practice. The point, according to the post-modernist thinking on which this book draws, is that simple policy descriptions of practice do not capture the multiplicity and complexity of the practice of policy on the ground, as such, the implementation of policy in practice almost always means outcomes differ from policy-makers’ intentions. Against the backdrop of these three reasons alluded to, the book attributes the underlying causes of the policy implementation paradox to two interrelated factors. One, it is argued that the paradox in policy implementation occurs mainly because of what post-modernist thinkers call policy refraction. That is to say, because policies in practice tend to evolve through the interactions of a multiplicity of actors, they become distorted and less coherent as they are interpreted and put into practice by the ‘ground-level’ actors and implementers. Two, it is contended that the emergence of post-modern theory (with its contemporary understanding of the nature of reality and how to ‘go on’ in life) has undermined the ‘modernist’ philosophy to such an extent that older ideas of fixed structures conditioning behaviour and imposing regularity and predictability on social life have become considerably weakened, if not demolished completely. Essentially, the book argues that the post-modern theoretical movement has had tremendous effect of stressing the unpredictability of human behaviour in policy implementation processes, and by extension, the unpredictability of policy outcomes as against policy intentions.

**Elementary and Secondary Education**

**Early Childhood Teachers: Global Practices, Challenges and Prospects**

*Manuela Schröder*

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

Publication Date: 11/13/2020

147 pp.

Softcover: 978-1-53618-649-9. $82.00

e-book: 978-1-53618-854-7. $82.00

This compilation first discusses the formation of the teacher and the production of images by children.

Following this, the authors present prospects, challenges and future implications for the development of the teaching profession in Nordic countries.

The schooldays of children with hearing loss are assessed in terms of their perceived challenges due to hearing loss and peer support received from each other.

The closing study describes how early childhood education of the Sámi in Finland is implemented according to Sámi early childhood educators.
General Education

Progress in Education. Volume 65
Roberta V. Nata
In series: Progress in Education
Publication Date: 09/18/2020
277 pp.
Hardcover: 978-1-53618-456-3. $250.00
e-book: 978-1-53618-546-1. $250.00

Progress in Education. Volume 65 opens with an experimental study examining whether the language mindset of English as a Foreign Language pre-service teachers significantly relates to their task-oriented state-anxiety, changes in epigenetic activity, and task performance on a translation task. Following this, the authors review published research studies focusing on the use of Facebook, Instagram, and Twitter by students and teachers in higher education. This compilation also examines intellectual maturity, taking into account the specific features of interaction between teaching staff and learners in conditions of anthropological crisis. The authors analyse the new research models in education sciences born from the emergence of information and communication technologies, with the objective of determining the structures presenting in the last decade. The phenomenon of Massive Open Online Course courses is described, seeking to objectively determine what their advantages and disadvantages are, as well as how to improve their implementation. The concluding chapter reports on the results of a pilot study introducing a chatbot to assist with the development of learning communities at a small, largely international London university.

Special Education / Communicative Disorders

Manual Sign Acquisition in Children with Developmental Disabilities
Nicola Grove, Ph.D. (Tizard Centre, University of Kent, Horningsham, Wiltshire, England) and Kaisa Launonen (Department of Psychology & Logopaedics, Faculty of Medicine, University of Helsinki, Finland)
In series: Languages and Linguistics
Publication Date: 02/15/2021
460 pp.
Softcover: 978-1-53619-208-7. $89.00
hardcover 978-1-53615-377-4, e-book: 978-1-53615-378-1. $89.00

Manual signs are used worldwide to support the communication and language development of children who have developmental disabilities. This book provides an overview of forty years of research and practice by recognised experts, from a developmental perspective. Uniquely, the book includes contributions on both sign languages and sign systems, linking the two fields of Deaf studies and Augmentative and Alternative Communication which have historically been seen as separate. This text is the most authoritative single text to date on the topic, providing an invaluable resource for speech pathologists, researchers, psychologists and educators. The main sections of the book include: the typical development of sign language and of gesture; literature reviews on sign acquisition in children with disabilities such as Down syndrome, autism spectrum disorders, Llandau Kleffner syndrome and deaf blindness. An important chapter deals with the latest research on sign language impairments in deaf children with developmental language difficulties, or autism spectrum disorders. The third section of the book addresses assessment and intervention, covering vocabulary, sign production difficulties and intelligibility, grammar and multi-signing, and pragmatics and discourse skills. The final two sections are concerned with use of signs in context: in the home, in school, and in different cultures. Throughout, care is taken to ensure that the voices of users are present and vivid, whether these be family members, teaching staff or the children themselves, with an entire chapter given over to an interview with a young adult’s reflections on her use of sign since childhood. The book concludes with a call for a multimodal perspective on augmentative communication to be adopted in the future.
Academic Plagiarism: Librarians’ Solo and Collaborative Efforts to Curb Academic Plagiarism

Russell Michalak (Goldey-Beacom College, Wilmington, DE, USA; Rysavy & Michalak Consultants, Wilmington, DE, USA) and Monica D.T. Rysavy, Ph.D., Ed.D. (Goldey-Beacom College, Wilmington, DE, USA; Rysavy & Michalak Consultants, Wilmington, DE, USA)

In series: Education in a Competitive and Globalizing World
Publication Date: 11/25/2020
196 pp.
Softcover: 978-1-53618-804-2. $95.00
e-book: 978-1-53618-845-5. $95.00

This edited collection is a compilation of practical case studies from academic libraries and librarians working with other college departments, faculty, and/or students. It chronicles their efforts to combat ongoing concerns related to intended and accidental student plagiarism due to the variety of definitions of plagiarism.

The contributors to this collection are associated with colleges and universities from around the United States. The authors have a broad range of educational and professional experience and offer unique insights into the wide variety of methods used to help combat student plagiarism in academic libraries.

This collection begins with the work of Sarah Clark (University of Manitoba) and Vickie Albrecht (University of Manitoba) as they share how the Academic Integrity Office, Academic Learning Centre, and Libraries at their university collaborated to pilot a program to deliver educational support to students involved in academic misconduct. Their chapter discusses the details of this pilot, as well as the challenges and opportunities that exist in offering educational support in a post-discipline setting.

The work of Amy Dye-Reeves (Texas Tech University) shares how a librarian (Dye-Reeves) formed a partnership with the department of clinical psychology at Murray State University to create an academic dishonesty workshop. She describes the collaborative processes taken to develop a disciplinary-specific academic integrity workshop to curb students’ plagiaristic behaviors.

Sherri Brown (Florida State College at Jacksonville) shares how librarians and English faculty collaborated to design an assessment of students’ information literacy skills in an English course. They subscribed to ProQuest’s Research Companion database to identify how to cite correctly, paraphrases, and summarizing. This chapter shares the results from the assessment.

Monica D. T. Rysavy (Rysavy & Michalak Consultants) and Russell Michalak (Partners in Rysavy & Michalak Consultants and Directors at Goldey-Beacom College) discuss how the Office of Institutional Research & Training and the Library and Learning Center’s Information Literacy Assessment (ILA) program teaches students how to cite, and to write. The authors, who appended a survey to the ILA program, asked students to provide their definition of plagiarism and rate their perceptions of their peers’ plagiaristic behaviors at Goldey-Beacom College.

The contribution of Kimberley K. Vardeman (Texas Tech University) Cynthia L. Henry (Texas Tech University) discuss how as librarians, they partnered with IT, Worldwide E-Learning, and the Ethics Center to integrate the software (Turnitin and iThenticate) into the Learning Management System and to educate instructors about it. This chapter shares the benefits and drawbacks of librarians’ serving as the role of enforcing academic integrity as opposed to serving as a support resource for the campus.

Navadeep Kahnal (University of Missouri at Columbia) and Rhonda K. Whithaus (University of Missouri at Columbia) describe how students, as new initiates and trainees in the scholarly communication field, need to be trained not to plagiarize through education. The training students receive should show them the correct practices of scholarly communication and the reasons for it as well as the consequences of committing plagiarism.

This collection is concluded with the work of Emmett Lombard (Gannon University) who discusses librarians’ accommodations of international students, and how and why international students use the library. This chapter helps to frame how academic librarians can help international students avoid plagiarism.

We believe this collection of chapters provides a unique overview of academic libraries and librarians partnerships with other departments at colleges and universities to help combat the continued concerns related to student plagiarism – both intended and accidental – due to the variety of definitions of plagiarism.
Communication and Mental Health Promotion in Early Childhood Education
Panagiotis J. Stamatis (Associate Professor
Department of Sciences of Preschool Education and Educational Design,
University of the Aegean, Greece) and Eleni N. Nikolaou (Assistant Professor
Department of Sciences of Preschool Education and Educational Design,
University of the Aegean, Greece)
In series: Education in a Competitive and Globalizing World
Publication Date: 09/02/2020
216 pp.
Hardcover: 978-1-53618-509-6, $160.00
e-book: 978-1-53618-556-0, $160.00
This book attempts to shed light on Mental Health Promotion and Communication both examined as key factors for improving interpersonal relationships in Early Childhood Education. It is a book that promotes common mental health issues and counselling interventions, mental health promotion in pre-school and early childhood context, communication in the school environment between teachers, students and parents. In addition, it discusses common mental health issues that teachers have to deal with in early childhood education and describes counselling interventions in school context as well as strategies for addressing these issues in the school environment.
Within this framework, this book actually focuses on the definitions’, forms’ and activities’ of Mental Health Promotion and Communication Impact upon relationships and interactions taken place in everyday Early Childhood Education environment. Moreover, it stresses the importance of cultivating the emotional intelligence of all the members of school community in designing preventive interventions. An emotional intelligent school unit can contribute to the prevention of mental health issues. Emotional intelligence is related to communication skills and communication competence. The development of emotional intelligence and communication competence fosters healthy interpersonal relationships within the school community and reduces emotional and behavioral difficulties. It can also provide parents with ideas for improving their relationship with their children, eliminating, thus, communication problems and negative parenting practices which are associated with mental health problems.
This book is aiming at providing readers with practical ideas and suggestions in order to avoid conflict situations that harm their relationships with the valuable others, parents, teachers, students or classmates. In this book special terms and rarely used vocabulary are avoided, so it will be easy to be read not only by professionals, scholars or experts but also by the students, parents and all interested reading public which concerns about relationships’ improvement among school community members. Moreover, this book attempts to improve teaching procedure and ameliorate learning effectiveness, keeping classroom in calmness and classroom participants in discipline, according to modern classroom management rules.

Developing Teacher Competences: Key Issues and Values
Ilshat Gafurov (Kazan Federal University, Kazan, Russia), Aydar Kalimullin (Kazan Federal University, Director of the Institute of Psychology and Education, Kazan, Russia), Roza Valeeva (Kazan Federal University, Head of Pedagogy Department, Institute of Psychology and Education, Kazan, Russia) and Nick Rushby (Deputy Editor, Education and Self Development Journal, Kazan Federal University, Kazan, Russia)
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Hardcover: 978-1-53618-227-9, $230.00
e-book: 978-1-53618-536-2, $230.00
This special edition presents a snapshot from around the world of the current state of the research devoted to the issues of professional development of teachers. Teachers’ professional and pedagogical activity is significantly changing today. In many respects, these changes are explained by a new understanding of the purpose and result of education, which is formulated in the documents of educational reform in Russia and in the world, in the context of achieving a new quality of mass education. The question that becomes extremely important is: “How exactly should the teacher's professional and pedagogical activity change in order to provide a new quality of education meeting the “challenges of the time”?. These issues are described in the works of the leading Russian and foreign researchers in the field of teacher education who participated in the Fifth International Forum on Teacher Education held on 29-31 May, 2019 in Kazan Federal University (IFTE-2019) (http://ifte.kpfu.ru/en/home-page/). Researchers share their views and
research results on the issues of modernization and development of the content of teacher education. They discuss questions related to values and priorities within the field of modern teacher education, to modernization processes and contents of teacher education including the requirements of a competency-based approach. Key issues of teachers’ professional development within this and other essential topics related to teacher education are also touched upon in 16 papers included into this book. The authors of the papers issue represent a variety of positions and address a number of the questions raised in the high quality debate. The evidence they present emanates from different nations and different universities.

**Education in Africa: Perspectives, Opportunities and Challenges**
Gilbert Motsaathebe, PhD (Department of Journalism, Film and Television, University of Johannesburg, Johannesburg, South Africa)

In series: *Education in a Competitive and Globalizing World*
Publication Date: 02/10/2021
263 pp.
Hardcover: 978-1-53619-043-4, $195.00
e-book: 978-1-53619-071-7, $195.00
This book comes at a time when Africa is attempting to reinvigorate itself, putting itself on a path for continued stability and economic growth. These reformations have been more pronounced in the educational system, as educational institutions in Africa try to find new ways of making themselves more relevant and repositioning themselves to respond to numerous problems confronting the continent. The book tackles wide-ranging and topical issues that include the decolonisation of education, the implications of COVID-19 on institutions of higher learning, pandemic discourse and education in Africa, gender issues in education, indigenous knowledge systems, transnational education (TNE) partnerships and distance learning issues. This book is a timely contribution that includes views from seasoned scholars from different parts of the continent, such as Ghana, Uganda, Nigeria, Zimbabwe, South Africa and Kenya, as well as the African Diaspora such as Germany and the United Kingdom. The book will be a useful resource for educators, policymakers and students in various sub-fields related to education.

**Education in America: Perspectives, Challenges and Opportunities**
Allison L. Palmadessa, Ph.D. (Associate Professor of History, Director of Supplemental Instruction, School of Humanities, Greensboro College, North Carolina, USA)

In series: *Education in a Competitive and Globalizing World*
Publication Date: 12/22/2020
256 pp.
Hardcover: 978-1-53618-519-5, $160.00
e-book: 978-1-53619-019-9, $160.00
Throughout American history, education has served as an institution of support, safety, growth, stability, and has risen to serve the public in times of great national need. In 2020, educational institutions have demonstrated the strength of schools, the creativity and innovative practices of educators, and the public’s desire and need for compulsory and higher education to support the youth of America to lead the nation in new directions. Yet, despite the work of educators and even entire institutions, schools, colleges, and universities in the United States are still deeply flawed and in need of support for continued growth to meet the needs of the public in the 21st century. We are living in tumultuous times, whether the challenges come from known enemies, internal social unrest, vicious politics and lacking leadership, discrimination in multiple forms, and a global, deadly pandemic, the difficulties that face members of the American community are deeply entrenched and are positioned to be a formidable force for the foreseeable future. Until the institution, its leaders, and policy-makers acknowledge the relationship between these challenges and the needs of the youth, education’s most important asset, the teachers, are left to fight a battle that cannot be won by individual effort. The future of American education depends upon institutionalized changes in how youth and adults are prepared to be active, participative, members of society. The works in this collection highlight vulnerabilities in education, focusing on matters of social justice; each chapter contributes measures to confront injustices in education and offers resolutions. The needs are clear, the works are persuasive, and the recommendations applicable.
Educational Leadership: Perspectives, Management and Challenges

Dr. Viktor Wang (2016 Presidential Award, Harvard University Library, Stanford University Libraries, University of Illinois, and Urbana-Champaign University of Technology, Sydney)

In series: Leadership in a Changing World
Publication Date: 10/28/2020
402 pp.
Hardcover: 978-1-53618-566-9. $230.00
e-book: 978-1-53618-798-4. $230.00

All 21st century leaders must be forward looking and have a well-developed capability to anticipate or envision the future. They will need to have wisdom and the ability to think outside the box and possess the ability to turn crises and threats into opportunities. Thus, the topic of educational leadership remains a hot topic for debate and development. This book provides a strong base of reliable, verifiable knowledge needed to foster development of educational leadership capabilities across a diversity of domains and it shares a diversity of perspectives, experiences, theories and philosophies related to educational leadership across all levels of education.

Globalization Unchained: Seven Major Challenges Facing Education

Ilghiz M. Sinagatullin (Professor, Doctor of Pedagogical Sciences, Department of Pedagogy and Methods of Pre-School and Elementary Education, Birsk Branch, Bashkir State University, Birsk, Republic of Bashkortostan, Russian Federation)

In series: Education in a Competitive and Globalizing World
Publication Date: 11/20/2020
341 pp.
Hardcover: 978-1-53618-842-4. $230.00
e-book: 978-1-53618-862-2. $230.00

The author indicates that the phenomenon of globalization and its relation to education has never dropped from the agenda within the previous three to four decades. Some politicians, scholars, educators, and students vehemently hate and do not accept this phenomenon. Others are somewhere in the middle: They are trying to gain an insight into this notion. Still others completely accept the idea of globalization, show their full understanding of this actuality, and associate with it current progressive changes in the new century’s sociocultural and educational space. Sweeping all over the world and posing huge challenges to education, contemporary globalization:
• represents a grandiose challenge itself, permeating all cells of human society;
• necessitates the realization of global education, a key objective of which is developing school, college, and university students’ global competence for them to productively function within their own microculture, mainstream culture, and within an interdependent world;
• has brought into the world scene the neoliberal agenda, the advocates of which call out loud for employing market principles across educational systems;
• has brought into the global educational space the English language, which has become a necessity for young people across the world, including also far-thinking and forward-looking educators and teacher educators;
• promotes a rapid moving from the classical to information paradigm;
• makes us pay particular attention to rural education, an entity too often ignored, unnoticed or wrongly interpreted by educators, teacher educators, and education policy makers;
• necessitates that those who teach and learn, lured by the charms of globalization and digitalization, should not forget the greatest educators and thinkers of the past, whose invaluable ideas and inestimable pedagogical experience have a strong influence on the contemporary generation of the teaching/learning public.
The author’s suggestions and recommendations in solving the challenges facing education are full of professional ingenuity and foresight. He supports the theoretical implications by pertinent examples drawn from his professional experience and observations. This book is special because it is aimed at discussing the problems that may interest educators all over the world, which increases its international status and power. The book may be a good source for secondary school teachers, teacher educators, pre-service and in-service teachers, education policy makers as well as parents. Ilghiz M. Sinagatullin is the author of more than 150 publications on education and related domains. Among them are Constructing Multicultural Education in a Diverse Society (2003), The Impact of Globalization on Education (2006), and Teaching is More Than Pedagogical Practice: Thirty-Three Strategies for Dealing with Contemporary Students (2009).

Science and Mathematics Education for 21st Century Citizens: Challenges and Ways Forwards
Laurinda Leite (University of Minho, Campus de Gualtar, Braga, Portugal), Elizabeth Oldham (Trinity College Dublin, The University of Dublin, Ireland), Ana S. Afonso (University of Minho, Braga, Portugal), Floriano Viseu (University of Minho, Braga, Portugal), Luís Dourado (University of Minho, Braga, Portugal) and Maria Helena Martinho (University of Minho, Braga, Portugal)

This book addresses the challenges that face science and mathematics education if it is to be relevant to 21st century citizens, as well as the ways that outstanding specialists from several countries around the world think it should deal with those challenges. Starting with the issue of science and mathematics teacher education in a changing world, it moves on to deal with innovative approaches to teaching science and mathematics. It then discusses contemporary issues related to the role played by technology in science and mathematics education, the challenges of the STEM agenda, and ways of making science and mathematics education more inclusive. Finally, it focuses on assessment issues, as the success of science and mathematics education depends at least in part on the purposes for which, and ways in which, students’ learning is assessed.

There is a worldwide trend towards providing meaningful science and mathematics education to all children for the sake of literacy and numeracy development and a need to produce enough science and technology specialists. This trend and need, coupled with the concern raised by students’ disengagement in these two knowledge areas and the role that technology may play in countering it, put increasingly high demands on teachers.

As shown in this book, science and mathematics education may offer a unique contribution in developing responsible citizens by fostering skills required in order to assume wider responsibilities and roles, focusing on personal, social and environmental dimensions. For instance, it offers unique insights into how teachers can build on students’ complicated and interconnected real-worlds to help them learn authentic and relevant science and mathematics. Additionally, the book highlights potential positive relationships between science and mathematics, which are often envisaged as having a conflicting relationship in school curricula. By uncovering the similarities between them, and by providing evidence that both areas deal with issues that are relevant for citizens’ daily lives, the book explores ways of linking and giving coherence to science and mathematics knowledge as components of everyday life settings. It also provides directions for future research on the educational potential of interconnecting science and mathematics at the different educational levels.

Therefore, this is a worthwhile book for researchers, teacher educators and schoolteachers. It covers theoretical perspectives, research-based approaches and practical applications that may make a difference in education that is relevant and inclusive for citizens in the 21st century.

The Digital Era of Learning: Novel Educational Strategies and Challenges for Teaching Students in the 21st Century
Christopher S. Keator, Ph.D. (Assistant Professor, Department of Biomedical Sciences, Western Michigan University Homer Stryker M. D. School of Medicine, Kalamazoo, Michigan, USA)

In series: Education in a Competitive and Globalizing World
Publication Date: 11/04/2020
326 pp.
Hardcover: 978-1-53618-750-2, $230.00
e-book: 978-1-53618-814-1, $230.00
Students of the 21st century, typically those of the Millenial (also referred to as ‘Gen Y’) or Gen Z generations, were born into a digitally advanced world. Unlike in the 1960’s when the smallest computers occupied entire rooms at the National Aeronautics and Space Administration (NASA) complex, today’s digital landscape is smitten with the abundant use of modern laptops, tablets and smart phones. Modern computing technology has evolved due to the marriage with extremely powerful computing software, which collectively has resulted in the commonplace use of modern technology on a regular basis throughout all aspects of everyday life. This relatively unrestricted access to computers is coupled with an unfettered access to the internet, providing ‘users’ unlimited freedoms to search for boundless amounts of information. This constant stream of electronically-accessible information, the ‘digital highway’, has subsequently led to the creation of novel strategies to teach today’s students. Today’s students, or more aptly referred to as ‘modern learners’, are quite unique compared with previous students of the Baby Boomer or Gen X generations. Students of the Gen X generation were the first students to experience wide-spread access to computers during high school and undergraduate studies, whereas the majority of students from both the Gen Y and Gen Z generations have been literally bombarded with computer technology since birth. This access has created an ‘on-demand’ lifestyle that relies on searchable databases, instant access to live-streaming events and the ability to communicate electronically (in various formats) from almost anywhere on the face of the planet. This on-demand lifestyle has permeated every facet of everyday life to the degree that many of these technologies are now incorporated routinely into all forms of business and science, and used throughout all levels (elementary, secondary and professional) of education. Thus, the constant use of modern technology – coupled with the on-demand lifestyle – has led to profound changes in learner expectations, resulting in the need for educators to develop new strategies and face unique challenges on a regular and often recurring basis. This book provides a detailed overview into those educational strategies and various challenges faced by today’s educators. It is conveniently divided into two parts. The first part includes chapters examining different strategies for teaching a wide variety of students covering multiple age groups. The second part includes chapters providing unique insights into some of the varied challenges facing today’s educators. The vast majority of strategies – and challenges – are focused on how the emerging technology of the early 21st century has resulted in profound influences for both learner and educator expectations and limitations, and how technology has opened up endless opportunities that will ultimately alter the modern educational landscape.

The Next Big Thing in Education
Leehu Zysberg
In series: Education in a Competitive and Globalizing World
Publication Date: 10/09/2020
365 pp.
Hardcover: 978-1-53618-497-6, $150.00
e-book: 978-1-53618-668-0, $150.00
The next big thing in education is an anthology of forward looking insights by leading scholars, leaders and practitioners in the field of education regarding what may lie ahead for students and educators alike. As communities and leaders the world over struggle to adapt and thrive vis-à-vis ever growing challenges, education, in all its forms, is acknowledged as one of the major resources that will help propel individuals and societies into the unfolding millennium. That being said, what lies ahead? What opportunities, changes, and challenges are we about to meet as we step forward into the unknown? This book picks the brains of some of the leading minds in the field of education and asks them a simple, yet challenging question: “what is the next big thing in Education?”. ’The answers we received paint a fascinating, multifaceted and complex picture. Educators, students, researchers, theoreticians and members of the general public who take special interest in education and human development may find inspiration, directions for future planning and even ideas for future research.

Universal Primary Education in Africa: English Speaking Countries
Daniel N Sifuna, PhD (Professor of History of Education and Comparative Education, Department of Educational Foundations, Kenyatta University, Nairobi, Kenya), Isabella Musyoka –Kamere, PhD (Senior Lecturer of History of Education and Comparative Education, Department of Educational Foundations, Kenyatta University, Nairobi, Kenya) and Kisilu Kombo, PhD (Associate Professor of Sociology and Philosophy of Education, Department Educational Foundations, Kenyatta University, Nairobi, Kenya)
In series: African Studies
Publication Date: 03/09/2021
Many countries all over the world are struggling to achieve for all. As part of such effort, they have strategized to provide universal primary education which normally refers to the enrollment of all school age children in primary schools, namely achieving one hundred percent of the net enrollment. While such efforts have been realized in many developing countries, it is a major challenge in most developing countries, especially in Africa following the attainment of independence. This book focuses on the influence of donor agencies in setting for the development of education in Africa leading to the preliminary interventions by different African English countries through the provision of free primary education. It is noted that most of the countries which introduced fee remission through free primary education experienced massive enrollments as many children from disadvantaged groups took advantage of the policy intervention to send their children to school. However, the push for it came to be identified with increasing deterioration in the quality of primary education right from the provision of physical facilities, teaching and learning materials, deployment of teachers, performance and transition from primary to secondary education. The quality of infrastructure and teaching and learning materials were in a deplorable state, especially in the rural areas, where such enrollments were well above the official recommended number of pupils per classroom. It proceeds to provide an interesting and easy to read accounts of the development of universal primary education in selected countries analyzing successes and challenges. Among the key challenges identified in the implementation of the UPE policy include; the lack of adequate planning, financing, inadequate infrastructure, and the HIV/AIDS scourge. On the basis of the above challenges, it is important that policy measures are put in place to improve the quality of primary education in many countries.

**HUMANITIES**

**Art**

**Women Painters of the World**

*Walter Shaw Sparrow*

In series: *Historical Figures*

Publication Date: 12/10/2020

357 pp.

Hardcover: 978-1-53619-006-9. $230.00

e-book: 978-1-53619-015-1. $230.00

Women Painters of the World presents an illustrated history of Women painters from the time of Caterina Vigri (1413-1463) to Rosa Bonheur and more.

**History**

**How They Succeeded: Life Stories of Successful Men Told by Themselves**

*Orison Swett Marden*

In series: *Historical Figures*

Publication Date: 03/04/2021

220 pp.

Hardcover: 978-1-53619-274-2. $160.00

e-book: 978-1-53619-317-6. $160.00

How They Succeeded is the life-stories of successful men and women. Each story contains the elements that make men and women successful; and they are intended to show that character, energy, and an indomitable ambition will succeed in the world, and that in this land, where all men are born equal and have an equal chance in life, there is no reason for despair.
There is no pleasanter mode of learning geography than by studying the works of distinguished travellers. The narratives which are contained in this book have been selected with a view to variety of interest. They range over Mexico, Western Australia, Central Africa, and Central Asia. They include the experiences of the hunter, the war correspondent, the geographical explorer; and a lady traveller.

An interesting and very detailed history of ancient Egypt with an emphasis on the architecture.

In spite of many differences, no age has had closer affinities with Ancient Greece than our own; none has based its deeper life so largely on ideals which the Greeks brought into the world. History does not repeat itself. Yet, if the twentieth century searched through the past for its nearest spiritual kin, it is in the fifth and following centuries before Christ that they would be found. Again and again, as we study Greek thought and literature, behind the veil woven by time and distance, the face that meets us is our own, younger, with fewer lines and wrinkles on its features and with more definite and deliberate purpose in its eyes. For these reasons we are to-day in a position, as no other age has been, to understand Ancient Greece, to learn the lessons it teaches, and, in studying the ideals and fortunes of men with whom we have so much in common, to gain a fuller power of understanding and estimating our own. This book—the first of its kind in English—aims at giving some idea of what the world owes to Greece in various realms of the spirit and the intellect, and of what it can still learn from her.
European History

A Walking Tour of Italy’s WWII Battlefields: Breaking the Gustav and Hitler Lines
Frank de Planta de Wildenberg (Lt Col (Retd), Lead Author and History Tour Guide) and Robert Irving Desourdis (Master Solution Architect, Desourdis Collaboration, LLC, Olympia, Washington, USA)
In series: Europe: Past, Present and Future
Publication Date: 03/04/2021
243 pp.
Hardcover: 978-1-53619-076-2, $195.00
e-book: 978-1-53619-145-5, $195.00
The Italian Campaign is truly an amazing, and often heartbreaking, story, and it certainly generates sympathy as well as respect for the soldiers who fought there, particularly the sacrificed Texas and Polish soldiers as well as the British “D-Day Dodgers.” In addition to the British soldiers, you gain a new and far greater appreciation of the men in the 36th Texas and Polish Divisions because of their commitment, heroism and sacrifice in these battles, much less the many others from multiple nations who fought in Italy in 1943 and 1944. This book is the second title in the NOVA Science Publishers Homeland Security Series presenting a walking tour of World War II battle sites in mainland Italy:

- A Walking Tour of Italy’s WWII Battlefields: From the Salerno Landings to San Pietro Infine
- A Walking Tour of Italy’s WWII Battlefields: Breaking the Gustav and Hitler Lines
- A Walking Tour of Italy’s WWII Battlefields: From the Anzio Landings to Rome.

These books were derived from the sights and sounds experienced while on Marty Gane’s South Mountain Expeditions 2014 tour called WWII Invasion of Italy: From Sicily to Rome. The late Edwin Cole Bearss [1] was the lead South Mountain historian for the tour, and helped select our expert history guide British Lt Col (Retd) Frank de Planta de Wildenberg, a deservedly renown Italian battlefield tour leader. Franks designed the tour route, providing the specific strategic and tactical on-the-ground details we experienced at each stand (tour location) we visited. Ed Bearss provided insightful commentary and likened situations to his own combat experience as a Marine in the WWII Pacific theater. This book provides the images and narration of Frank and Ed as we were taken on the tour of battle sites as the Allies tried four times to break through the Gustav Line and then another battle for the Hitler Line. Nowhere has the importance of terrain in ground combat more apparent, and perhaps more exaggerated, than in Italy, and even more so in and around Montecassino. This book documents Frank’s and Ed’s accurate and insightful narrative and many photographs drawn from tour video. We were continuously impressed with the full visibility of the Liri Valley floor from the surrounding heights above Rte. 6, the chosen Allied route to Rome. These heights enabled domination of the battles fought for the Gustav Line by physically underpowered and tactically overmatched Allied armies. Creating this book series brought back many emotive sights, sounds, stories and emotions (unfortunately, not the food) experienced on the tour. We hope it provides some sense of that experience for the reader.

A Walking Tour of Italy’s WWII Battlefields: From the Salerno Landings to San Pietro Infine
Frank de Planta de Wildenberg (Lt Col (Retd), Lead Author and History Tour Guide) and Robert Irving Desourdis (Master Solution Architect, Desourdis Collaboration, LLC, Olympia, Washington, USA)
In series: Europe: Past, Present and Future
Publication Date: 03/04/2021
182 pp.
Hardcover: 978-1-53618-572-0, $160.00
e-book: 978-1-53618-665-9, $160.00
The Italian Campaign is truly an amazing, and often heartbreaking, story, and it certainly generates sympathy as well as respect for the soldiers who fought there, particularly the sacrificed Texas and Polish soldiers as well as the British “D-Day Dodgers.” In addition to the British soldiers, you gain a new and far greater appreciation of the men in the 36th Texas and Polish Divisions because of their commitment, heroism and sacrifice in these battles, much less the many others from multiple nations who fought in Italy in 1943 and 1944. This book is the first title in the NOVA Science Publishers Homeland Security Series presenting a walking tour of World War II battle sites in mainland Italy:
A Walking Tour of Italy’s WWII Battlefields: From the Salerno Landings to San Pietro Infine
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A Walking Tour of Italy’s WWII Battlefields: From the Anzio Landings to Rome.

These books were derived from the sights and sounds I experienced while on Marty Gane’s South Mountain Expeditions tour called WWII Invasion of Italy: From Sicily to Rome, which she conducted in September 2014. The late Edwin Cole Bearss was the lead South Mountain historian for the tour, and helped select our expert history guide British Lt Col (Retd) Frank de Planta de Wildenberg, a deservedly renown Italian battlefield tour leader. Franks designed the tour route, providing the specific strategic and tactical on-the-ground details we experienced at each stand (tour location) we visited. Ed Bearss provided insightful color commentary and likened situations to his own combat experience as a Marine in the WWII Pacific theater.

This book provides the images and narration of Frank and Ed as we were taken from the Allied seaborne landings at Salerno to the fights for the high ground surrounding the beachhead to the devastation wrought at San Pietro Infine, the subject of a well-known period film by John Houston. During the development of the Ed Bearss memoir trilogy books (see Footnote 7 above), I created the preliminary Italian tour history that has been reviewed, vastly improved and supplemented by Frank de Planta, necessarily and deservedly the book’s first author. Working with someone like Frank de Planta, as with both Ed Bearss and Barney Nolan in their memoirs, has proven (almost) as enjoyable as touring the Italian battlefields. Creating this book series brought back many emotive sights, sounds, stories and emotions (unfortunately, not the food) I felt while on the tour. We hope it provides some sense of that experience for the reader.

Many excellent academic books have been written explaining Italian battlefield events to the detail, and we include these books in Frank’s exhaustive bibliography. However, this book brings the tour experience, being there on the ground, as close as possible to reality for the reader by showing you many images from where the armies fought and died to set Italy free and attack the “soft underbelly” of the Third Reich. Its purpose is to have the reader experience the tour as we did, incorporating images from the extensive video I took that September in Italy. It was hard to imagine the violence that happened there over 75 years ago. Our tour guide, Frank de Planta, with color commentary from Ed Bearss, provided an emotive and accurate explanation of the events, the scenes, and the sacrifice. We hope this book provides at least a fraction of the experience many on this tour experienced there.

Croatia: Past, Present and Future Perspectives
Matko Marušić (University of Split, Croatia)

In series: Europe: Past, Present and Future
Publication Date: 09/24/2020
453 pp.
Hardcover: 978-1-53618-300-9. $230.00

Croatia is today popularly known as a beautiful country, with an excellent soccer team, but the rest of its long history is still not well known outside scholarly circles. It is less known for example that Croatia started as an ancient kingdom established in the 7th century. It lost its independence in the 11th century and had a troubled history until the first democratic elections in 1990 and independence in 1991. Since the Great Schism in the 11th century, Croatia has been the easternmost country of the Catholic West facing the Orthodox East. Attacked by the Ottoman Turks in the 15th century, it has been called ever since Antemurale Christianitatis (The Bulwark of Christianity). Croatia went through difficult times during the two World Wars and in the inter-war and the post-war periods until it won its independence and later gained membership to the European Union in 2013. This book reveals important information about its history, the struggles it endured to gain independence, the key problems of post-communist social and economic transition, and prospects for the future, summarized at the end as an analysis of its strengths and weaknesses, as well as its external threats and opportunities. The book is divided into two parts, “Croatian History Timeline” and “Past in Present and Future”, because the Croatian past informs its present and future in a profound way.

There are few sources in English that present so many until-now unknown aspects of this European country as does this book. It may be said that it is the first reliable and objective guide to give essential understanding of the Republic of Croatia published so far in the English language.
Georgia - The Land of Unique People and Songs
Anzor Erkomaishvili (Music Director, Ensemble “Rustavi”
Head, International Center for Georgian Folk Song, Tbilisi State Conservatory, Tbilisi, Georgia)

In series: Georgian Classics
Publication Date: 12/14/2020
313 pp.
Hardcover: 978-1-53618-843-1. $95.00
e-book: 978-1-53618-908-7. $95.00

The author of this book, Anzor Erkomaishvili, is one of the most well recognized individuals in Georgia: a singer and choirmaster; a composer and performer; one who seeks out and publishes unique recordings scattered in the archives of various countries; the founder of the world famous Rustavi Ensemble; and a steadfast director for half a century…

This ensemble has held up to 6,000 concerts in 80 countries and has recorded more than 900 folk songs and released them on CD. These tour impressions have not been depicted in any of Anzor Erkomaishvili’s books. This ensemble receives ovations in world famous concert halls. Volumes of books are filled with the impressions of audience members enraptured by what they have heard.

“The talent and expertise revealed by the singers, dancers, and instrumentalists of the Rustavi Ensemble evoke delight,” the New York Times wrote (April 7, 1991) following a concert at the Beacon Theater on Broadway.

It is possible to say that these writings by Anzor Erkomaishvili can be considered his “selected works”. The book consists of eight chapters.

The first chapter is titled “At the Origins”. Here the author tells us about his ancestors and the search for Georgian recordings scattered about in foreign archives.

The second chapter is “On Tour”. Here two countries are singled out from a gigantic tour map: France and the United States of America.

“Unforgettable Encounters” is the third chapter. This chapter describes meetings with intriguing people.

The fourth chapter is “A Man’s Fate”. Here you will read some essays permeated with special artistic expressions and emotions.

“Mysterious Voices” is the fifth chapter. Here the reader will get acquainted with some impressionable portraits of unique performers of Georgian folk singing.

The sixth chapter is “Precious Silhouettes”. Some interesting essays introduce readers to distinguished Georgian composers and opera singers.

“To Save Singing” is the title of the seventh chapter. The author’s credo is disclosed in this chapter: “If we want to save folk singing, we must teach it to children and make them fall in love with it.” The way this credo became embodied within the creation of the Martve Children’s Ensemble and its great success is discussed.

The last chapter is titled “Reflections”. Here are some thoughts the richly creative biographer has jotted down at various times.

These are statements imbued with a humility characteristic of Erkomaishvili and expressed with the excellence and laconic forms that Jorje Luis Borges demanded from this genre.

Latin American and Caribbean History

Cuba: Past and Present
Jeffrey K. Martinez

In series: Latin American Political, Economic, and Security Issues
Publication Date: 09/18/2020
111 pp.
Softcover: 978-1-53618-524-9. $82.00
e-book: 978-1-53618-555-3. $82.00

Based on extensive research at the Cuban National Archive, Cuba: Past and Present examines how the Spanish Administration established the embargo of properties during the Ten Years War in April 1869.

Results of training in pregraduate and postgraduate studies in the universities of Holguín and Cienfuegos are examined in an effort to study the processes of inclusion in higher education.

The authors investigate inequality trends in Cuba in recent decades through applying quantitative and qualitative methodologies on existing household/individuals surveys.
Encyclopedia of Latin America (12 Volume Set)
Anders N. Toft and Jacob M. Andreasen
In series: Central America and the Caribbean
Publication Date: 02/05/2021
3672 pp.
Hardcover: 978-1-53618-629-1, $1,850.00
e-book: 978-1-53618-793-9, $1,850.00
Encyclopedia of Latin America organizes researchers from around the world in Latin American studies and related disciplines and maintains an up-to-date reference work for readers worldwide. Please review the Table of Contents for more in-depth information.

Honduras: Economic, Political and Social Issues
Eric S. Riordan
In series: Central America and the Caribbean
Publication Date: 10/02/2020
108 pp.
Softcover: 978-1-53618-523-2, $82.00
e-book: 978-1-53618-554-6, $82.00
This compilation first details the ways the Plan for the Alliance for Prosperity in Honduras sought to generate sources of employment, develop human capital, improve citizen security and access to justice, and strengthen institutions. The authors go on to explore the transformation of the Honduran agricultural sector in the context of the modernization process of the past four decades. A framework for discussion on agricultural value chains, competitiveness, sustainable landscape and markets is proposed in closing.

U.S. History

History of the Expedition under the Command of Captains Lewis and Clark, Volume 1
Meriwether Lewis and William Clark
In series: American History, Culture and Literature
Publication Date: 01/13/2021
342 pp.
Hardcover: 978-1-53619-057-1, $230.00
e-book: 978-1-53619-165-3, $230.00
History of the Expedition under the Command of Captains Lewis and Clark, is a fascinating account of the first exploration of the Missouri River, the journey over the Rocky Mountains, and the Columbia River to the Pacific Ocean. This 2 volume book contains an accurate diary of the journey to discover the Northwest Passage, commissioned by and reported to Thomas Jefferson.
History of the Expedition Under the Command of Captains Lewis and Clark. Volume II
Meriwether Lewis and William Clark
In series: American History, Culture and Literature
Publication Date: 02/05/2021
387 pp.
Hardcover: 978-1-53619-058-8, $230.00
e-book: 978-1-53619-166-0, $230.00
History of the Expedition under the Command of Captains Lewis and Clark, is a fascinating account of the first exploration of the Missouri River, the journey over the Rocky Mountains, and the Columbia River to the Pacific Ocean. This 2 volume book contains an accurate diary of the journey to discover the Northwest Passage, commissioned by and reported to Thomas Jefferson.

Metropolitan Areas: Past, Present and Future Perspectives
Mărgărit–Mircea Nistor (Researcher, Earthresearch Company, Department of Hydrogeology, Cluj-Napoca, Romania)
In series: American History, Culture and Literature
Publication Date: 11/04/2020
271 pp.
Hardcover: 978-1-53618-720-5, $195.00
e-book: 978-1-53618-797-7, $195.00
The present collection ‘Metropolitan Areas: Past, Present and Future Perspectives’ represents a complex material with respect to the cities, urban places, and metropolitan areas. This book may be considered as a course for students and scientists that are focused on the Human Geography, Space and Spatial Planning, Territory and Cities Evolution. The first chapter illustrates very well the wonderful city of Saint Petersburg, Russia. In the second chapter, the sustainability in the metropolitan areas is presented. The details of the challenges and geotechnologies in the urban management were well presented with the study case of metropolitan area of Rio de Janeiro, that is in chapter 3. In the chapter 4, the conservation and revitalization of the historic centers from Italy were analyzed. The transportation and communications in the cities and urban areas of Mures County, Romania were analyzed in detail in the chapter 5. The core indicators, correction factors, and sustainability of the London metropolitan area were treated in the chapter 6. The last chapter is referring to the groundwater vulnerability in the Ruhr region, Germany. This book, combines both theoretical and practical aspects of the analyses of the urban and metropolitan areas. We encourage the readers to study this collection for several aspects: is a scientific book, it has a consistent basis, and it contribute for courses of academic professionals.

Susan B. Anthony: Rebel, Crusader, Humanitarian
Alma Lutz
In series: Historical Figures
Publication Date: 11/20/2020
395 pp.
Hardcover: 978-1-53618-883-7, $230.00
e-book: 978-1-53618-912-4, $230.00
To strive for liberty and for a democratic way of life has always been a noble tradition of our country. Susan B. Anthony followed this tradition. Convinced that the principle of equal rights for all, as stated in the Declaration of Independence, must be expressed in the laws of a true republic, she devoted her life to the establishment of this ideal. While her goals for women were only partially realized in her lifetime, she prepared the soil for the acceptance not only of her long-hoped-for federal woman suffrage amendment but for a worldwide recognition of human rights, now expressed in the United Nations Charter and the Declaration of Human Rights. She looked forward to the time when throughout the world there would be no discrimination because of race, color, religion, or sex.
The Colonies 1492-1750
Reuben Gold Thwaites
In series: American History, Culture and Literature
Publication Date: 10/16/2020
342 pp.
Hardcover: 978-1-53618-625-3, $230.00
e-book: 978-1-53618-648-2, $230.00
In this book American colonization is considered in the light of general colonization as a phase of history. Englishmen in planting colonies in America brought with them the institutions with which they had been familiar at home: it is shown what these institutions were, and how, in adapting themselves to new conditions of growth, they differed from English models. As prominent among the changed conditions, the physical geography of America and its aboriginal inhabitants receive somewhat extended treatment; and it is sought to explain the important effect these had upon the character of the settlers and the development of the country. The social and economic condition of the people is described, and attention is paid to the political characteristics of the several colonies both in the conduct of their local affairs and in their relations with each other and the mother-country. It is shown that the causes of the Revolution were deep-seated in colonial history. Attention is also called to the fact, generally overlooked, that the thirteen mainland colonies which revolted in 1776 were not all of the English colonial establishments in America.

Emergent Literacy Spectrum of Bilingual Children in India
Prema K.S. Rao, PhD (Former Professor of Language Pathology, All India Institute of Speech and Hearing, Manasagangothri, University of Mysore, Mysuru, India)
In series: Languages and Linguistics
Publication Date: 12/04/2020
156 pp.
Softcover: 978-1-53618-925-4, $95.00
e-book: 978-1-53618-948-3, $95.00
Literacy is an individual’s ability to read and write. The complexities of skills required to be literate raise an intriguing question: “how does one become literate?” Literacy skills emerge during early childhood (known as emergent literacy) and lead a child towards the path of reading. Many precursors such as oral language skills, phonological awareness skills, and written language (print) awareness skills facilitate the development of emergent literacy. The subcomponents within each of these precursors have a very intricate relationship with one another. The attempts made over the last few decades to understand the components of literacy, the stages of literacy acquisition in children, and literacy failure in school children are evident in research reports, but the focus appears to be skewed towards monolingual children. As a result, a void exists when one encounters a bilingual child for assessment. However, studies from linguistically diverse countries in recent years highlight the differences in early literacy behaviors of monolingual children and bilingual children. As a consequence, the knowledge gap is slowly narrowing to recognize the emergent literacy spectrum in bilingual children who are known to have cognitive advantages. Since cognition, language, and literacy fall on a continuum, there are bound to be advantages for bilingual/multilingual children in the development of early literacy behaviors. The available information supports the idea of cognitive benefits derived through exposure to languages, emphasizing that communication is more important than the specific linguistic units used by the teachers. Emergent Literacy Spectrum of Bilingual Children in India describes the concepts, components, and dimensions of literacy and emergent literacy; bilingualism; language and script-diaspora in the Indian context; the continuum of language and literacy; language policy for education in India; challenges for identification, assessment, and promotion of emergent literacy skills in India; and typical examples in Indian languages with research evidence for understanding the spectrum of emergent literacy in bilingual children. A theoretical rationale is given for each of the concepts followed by simple descriptions, examples, and illustrations. The book provides crucial knowledge and useful tips for professionals, teachers, and informed parents in their teaching-learning activities with children. Researchers may explore the ideas discussed in the monograph by pursuing studies to augment our knowledge of the acquisition of literacy in bilingual children. The author’s many years of experience as a speech-language pathologist in the Indian subcontinent suggests that there is scanty information on emergent literacy in Indian bilingual children. Several interactions held with professionals and preschool teachers during workshops and seminars have indicated that there is a great need to enhance the knowledge base on emergent/early literacy, its development, and the likelihood of failures in literacy acquisition in children. The publication is useful to all professionals working with young children, educational administrators as well as policymakers.
Literacies, Culture, and Society towards Industrial Revolution 4.0: Reviewing Policies, Expanding Research, Enriching Practices in Asia

Fuad Abdul Hamied (English Education Department, Indonesia University of Education, Universitas Pendidikan Indonesia, Bandung, Indonesia)

In series: Languages and Linguistics
Publication Date: 01/27/2021
381 pp.
Hardcover: 978-1-53618-963-6, $230.00
e-book: 978-1-53619-039-7, $230.00

This book began as one of the publication outlets for two flagship conferences in 2019: 12th Conaplin (Conference on Applied Linguistics) and 3rd Icollite (International Conference on Language, Literature, Culture, and Education) which bring forth broad topics in the fields of education, applied linguistics, and literature organized by the Indonesia University of Education (UPI – Universitas Pendidikan Indonesia). Conaplin is one of the first annual conferences held by UPI, organized by the Language Centre in collaboration with the English Language Department. Icollite, on the other hand, emerged from the local scientific forum into an international conference to showcase the latest insights offered by new doctoral graduates in the Faculty of Language and Literature Education.

For the themes of 2019 put forth by the two conferences, 12th Conaplin’s “Applied Linguistics and Industrial Revolution 4.0: Reviewing Policy, Expanding Research, Enriching Practices” and 3rd Icollite’s “Bridging Literacies, Culture, and Society towards Education 4.0”, we highlight the importance of current buzz words in the language and education fields. We have observed that the proliferation of the use of these terms signals how communities in general, especially those in higher education, are grappling with responding to rapid changes in the IR 4.0. In the era we live in, humanity is being reshaped at an unprecedented speed and scale, mainly due to the advancement of technology. In order to maintain balance in our educational system so that social and cultural aspects can work harmoniously with the advancement of technology that can sometimes be isolating and impersonal, we collectively need to identify new and innovative ways in which we support the full potentials of our students, colleagues, and communities in interconnected global interactions. To this end, we need to review our existing policies in education, expanding our research to foster more collaboration and interdisciplinary connection to provide solutions and alternatives to problems that might arise as the consequence of the changing times.

Philosophy

Creative Intelligence: Essays in the Pragmatic Attitude


In series: World Philosophy
Publication Date: 09/24/2020
252 pp.
Hardcover: 978-1-53618-623-9, $195.00
e-book: 978-1-53618-642-0, $195.00

Creative Intelligence: Essays in the Pragmatic Attitude represents an attempt at intellectual cooperation. No effort has been made, however, to attain unanimity of belief nor to proffer a platform of “planks” on which there is agreement. The consensus represented lies primarily in outlook, in conviction of what is most likely to be fruitful in method of approach. As the title page suggests, the volume presents a unity in attitude rather than a uniformity in results. Consequently each writer is definitely responsible only for his own essay. The reader will note that the Essays endeavor to embody the common attitude in application to specific fields of inquiry which have been historically associated with philosophy rather than as a thing by itself. Beginning with philosophy itself, subsequent contributions discuss its application to logic, to mathematics, to physical science, to psychology, to ethics, to economics, and then again to philosophy itself in conjunction with esthetics and religion. The reader will probably find that the significant points of agreement have to do with the ideas of the genuineness of the future, of intelligence as the organ for determining the quality of that future so far as it can come within human control, and of a courageously inventive individual as the bearer of a creatively employed mind.
Philosophy and the Everyday Lives

Fristian Hadinata (Philosophy Department, Faculty of Humanities, Universitas Indonesia, Depok, Indonesia) and James Farlow Mendrofa (Philosophy Department, Faculty of Humanities, Universitas Indonesia, Depok, Indonesia)

In series: World Philosophy
Publication Date: 02/17/2021
264 pp.
Hardcover: 978-1-53619-154-7. $195.00
e-book: 978-1-53619-219-3. $195.00

Studying philosophy means unraveling reality in all its aspects. By contextualizing today’s reality in its social, political, ecological, spiritual and also aesthetic context, the chapters in this edited volume present research findings complementing or even challenging ongoing scholarly discussions in philosophy and humanity. The chapters are divided into five sections based on the issues being discussed: (1) Law and Politics, (2) Economy, (3) Humanity and Wellbeing, (4) Rethinking Spirituality, and (5) Arts. Besides the obvious urgency to problematize these issues due to the dynamics of paradigm and theories in the field of philosophy, there will always be a need to constantly create new conversations. The wide variety of aspects of humanity that are being analyzed in the chapters are done by non-Western scholars, in this case Indonesian scholars, and this provides alternative ways of interpreting philosophical concepts in relation to everyday realities. The issues being discussed might seem universal as depicted in the choices of texts, which come from different countries. However, the specificity of each context contributes to a more complex discussion of various philosophical aspects. The readings and interpretations of the philosophical theories build a non-Western scholarship which is definitely needed to enrich the process of knowledge production in the humanities and social sciences. The multiplicity of the texts chosen as case studies in each chapter is the primary specialty of this edited volume since there are not a lot of projects that cover multiple issues coming from different locales in one book with an interdisciplinary approach.

Preeminence of Myth and the Decline of Instrumental Reason

Žilvinas Švigaris (Vilnius University, Lithuania) and Pat Arneson (Professor, Duquesne University, Pittsburgh, PA, USA)

In series: Contemporary Cultural Studies
Publication Date: 09/24/2020
259 pp.
Hardcover: 978-1-53618-499-0. $160.00
e-book: 978-1-53618-557-7. $160.00

Jean Gebser (1905–1973) was a philosopher who examined how cultures are generated, situated and oriented in the world. He explored meaningful interconnections between cultures, seeking to provide a fuller account of their nature and workings. Gebser was a man of science, the arts and mysticism, who was interested in the direct human experience of unity with the divine. He perceived the fullness of humankind to occur in the coalescence of spirituality and consciousness. This essay provides an intellectual biography of Gebser’s two-volume work, The Ever-Present Origin, Part I: Foundations of the Aperpectival World and Part II: Manifestations of the Aperpectival World. An overview of the chapters in this volume, emphasizing the preeminence of myth and the decline of instrumental reason, is then presented. Gebser’s writing offers a valuable contribution to understanding how humans are situated in the all-of-life with respect to our contemporary spatiotemporal condition of chaos. The collection of essays represents the Gebserian way to explicate the limits of modern Western deficient mental structure, in the form of “instrumental reason”. The work of Gebser is well known in various parts of the world and has now appeared in Lithuania where it is received with great interest, specifically in light of questions of national identities, mythological backgrounds, and questions of globalization. The essays represent research from scholars of diverse disciplines and civilizations; their contributions to Gebser’s scholarship and the understanding of the current turmoil form a framework on how any local culture can benefit from Gebser’s work.
The Earth in Fragments: A Memoir by Michael Charles Tobias

Michael Charles Tobias

Publication Date: 01/05/2021
349 pp.
Hardcover: 978-1-53618-987-2, $145.00

As a child, Michael Charles Tobias encountered a wolf caged in a zoo. Gazing upon the pacing, desperate animal, Tobias asked his Father, “Why is he in jail?” For over half a century, Tobias has roamed the earth in search of an answer. This memoir is a testimony to Tobias’ field research, expeditions, deliberations, and some answers to that haunting question. Systems ecologist, philosopher, historian of ideas, anthropologist, ethicist and philanthropist, Tobias has emerged as one of the most influential and far-reaching ecological philosophers of this generation. The Earth in Fragments: A Memoir by Michael Charles Tobias chronicles many of his most incisive areas of research, activism and philosophical inflections.

Much of the data, conveyed in a personal and enlightening series of recollections, lends incisive clarity to the emergence and escalating challenges of the environmental and life sciences fields. Tobias shares glimpses into many of the often ethically-harrowing research conundrums confronting him and his wife, Jane Gray Morrison, as they have effectively endeavored throughout the globe, focusing upon animal rights and conservation biology initiatives. Their more than 50 books and 75 films have shed a powerful spotlight on many of the most pressing issues of our time.

The anecdotes pour forth, from an ancient monastery in the Sinai, across the Himalayas, to the Arctic and Antarctic, where Tobias was among the first to draw global attention to the crises mounting across the Last Continent. We see him behind the scenes, directing the ambitious ten-hour drama, “Voice of the Planet” in two-dozen countries, examining the Gaia Hypothesis; conducting a project in the heart of the 1989 catastrophic oil spill in Alaska; his irrepressible quest to understand the runaway train of human overpopulation across the planet in his book and accompanying PBS film “World War III.” We follow his probing philosophical meditations-in-action as an animal liberationist from California, Mali, Kenya, China, Greece and Russia. We see his appeal for a “new human nature” in cutting-edge scientific research calling for an interspecies revolution that is at once pantheistic, ethically holistic, and as imaginative and ecologically paradoxical as it is pragmatic.

The reader is led through a dazzling and provocative labyrinth of deeply moving eco-science in countries like New Zealand, Madagascar, Brazil, Chile’s Rapa Nui, and throughout Europe, West Africa and Asia. From the Ecuadorian Amazon to Haiti; from Mozambique, Yemen, and Namibia to Borneo, Tobias and Morrison have worked to bring critical conservation strategies and policy priorities to government leaders and scientists throughout the world. With insights from paleontology, Renaissance art history, deep demography, and the most recent advances in biodiversity conservation and biosemiotics, Tobias leads readers on an exquisite and uplifting journey that, while describing much devastation, provides hopeful glimpses into a near future that is not only possible, but essential for the well-being of the world, as viewed, lived and chronicled by one man at the heart of the Anthropocene.

Religion

A Visit to the Holy Land, Egypt, and Italy

Ida Pfeiffer

Publication Date: 12/08/2020
344 pp.
Hardcover: 978-1-53618-933-9, $230.00
e-book: 978-1-53618-952-0, $230.00

Ida Pfeiffer travelled alone in an era when women didn't travel. She commenced her journey alone, without companions, but fully prepared to bear every ill, to bid defiance to every danger, and to combat every difficulty. That this undertaking should have succeeded may almost be looked upon as a wonder. Every evening, though often greatly exhausted with heat, thirst, and the hardships of travel, she never failed to make notes in her diary. A Visit to the Holy Land, Egypt, and Italy is the translation of her diary.
We notice that if God is all powerful, He could prevent the innocent from suffering. If God is all good than He would not want the innocent to suffer. This creates a problem of evil that is still debated. If God is all powerful, He can prevent evil and He is all good, so He should prevent evil. However, evil exists; therefore, God can prevent evil and He is not all good. This makes it impossible to condemn some acts as evil. When evil is not condemned, it thrives. The five religions considered in this book demand that people embrace goals and values. This book investigates the inadequacies of this secular approach when dealing with the purpose of life and the problem of evil by contrasting the behavioral imperatives of secular culture with what the sacred texts of Judaism, Christianity, Islam, Hinduism, and Theravada Buddhism say.

Religion and Public Life
Dr. David Muskhelishvili (Doctor of Historical Sciences, Professor, Academician, Member of Georgian Academy of Sciences, Georgia)
In series: Religion and Society
Publication Date: 01/29/2021
205 pp.
Softcover: 978-1-53618-904-9, $95.00
e-book: 978-1-53619-157-8, $95.00

Liberal theologians believe in the necessity of a revision of Christian doctrine, trusting that science excludes the belief in divine intervention. However, divine intervention is perfectly in agreement with the laws of nature and science. Accordingly, there is no reason to reject the Bible and traditional Christian doctrine. A new model of the coexistence of religious and secular discourses is revealed in this collection.

Most of the existing papers focus on the problem of the relationship between church and state in the modern era. In this collection, different experiences are presented along with their significance for specific countries, mostly the Georgian experience on the issues of church and state relations.

Today, there is a lack of spirituality around the world. Traditional spiritual values are inhibited; in many European countries, the activity of church figures is stalled, and people are not allowed to choose education based on traditional values. This causes great dissatisfaction in society, as it is believed that traditional spiritual values are the main markers of national identity, and their development and preservation are essential.

Hence, this book will be of great interest for readers interested in the problems of spirituality in both Christian and non-Christian countries. It will be of interest for scholars, as well as for political figures who often encounter such problems in their activities.

See No Evil: Secularization versus Sacred Scriptures
Jonathan E. Leightner (Full Professor, Augusta University, Lincolnton, Georgia, USA)
In series: Religion and Society
Publication Date: 03/04/2021
259 pp.
Hardcover: 978-1-53619-270-4, $195.00
e-book: 978-1-53619-315-2, $195.00

The subjective depends on the situation, the people involved, the time, and the environment. The objective is true for all situations, all people, all times, and in all environments. Many issues are uncontroversibly subjective. However, is anything objective? Current intellectual secular culture (which includes Post-Modernism, Post-Modernity, Atheistic Existentialism, Pragmatism, and Post-Structuralism) claims that there are no objective truths (everything is subjective) and that each individual can pick his or her own goals and values. This book investigates the inadequacies of this secular approach when dealing with the purpose of life and the problem of evil by contrasting the behavioral imperatives of secular culture with what the sacred texts of Judaism, Christianity, Islam, Hinduism, and Theravada Buddhism say.

If everything is subjective then each individual does not have inherent worth. “Inherent worth” implies an objective value – a value that is not determined by the situation. The notion that everyone has inherent worth is the foundation on which lying, stealing, murder, rape, adultery, and genocide are judged as “wrong.” If everything is subjective then we cannot condemn Adolf Hitler for wanting to kill all the Jews or for one group of people for wanting to enslave all of another group.

There are two important consequences of current intellectual secular culture’s rejection of all objective values. First, by interpreting everything as subjective and self-centered, current intellectual secular culture cannot provide purpose to life that is bigger than the individual. In contrast, the five religions considered in this book demand that people embrace goals that are bigger than their self-centered desires. Second, current intellectual secular culture’s rejection of all objective values makes it impossible to condemn some acts as evil. When evil is not condemned, it thrives. The five religions examined do condemn evil and provide answers to the following “problem of evil.”

If God is all good than He would not want the innocent to suffer. If God is all powerful, He could prevent the innocent from suffering. We notice that many innocent people suffer in this world.
Thus God must either not be all good or not all powerful. This is a particularly difficult problem for the Abrahamic religions (Judaism, Christianity, and Islam) because they affirm an all-powerful and all-good God. This is less of a problem for Hinduism and Buddhism because these eastern religions believe in reincarnation. Under reincarnation, what may look like an innocent suffering is actually a guilty person paying for his or her evil deeds from this or a previous life. However, the sacred texts for all five religions provide answers to this problem, but not the answers that we often hear from theologians. This book aims at satisfying some of humanity’s greatest needs – the need for purpose and the need for an answer to why innocents often suffer.

**Buddhism**

**Exploring the Life and Teachings of Mahayana Buddhists in Asia**  
*Ampere A. Tseng (Director and Professor Emeritus, Arizona State University, Tempe, Arizona, USA)*  
In series: Religion and Spirituality  
Publication Date: 10/16/2020  
359 pp.  
Hardcover: 978-1-53618-603-1, $230.00  
e-book: 978-1-53618-702-1, $230.00  
Buddhism is one of the world’s oldest and largest religions having about 490 million followers. Mahayana Buddhists represent approximately two-thirds of the total Buddhist population. A large portion of Mahayanists resides in East Asia. They cannot be said to follow an undivided doctrine and have a unified religious lifestyle. Mahayana Buddhism, rather, consists of a multitude of ideas and practices with its followers holding various behaviors and attitudes. This book explores the lives and teachings of Mahayana Buddhists, who reside in Mainland China, Taiwan, Japan, Korea, Malaysia, and Myanmar, as well as in the ancient Gandhara region (today’s north Pakistan and east Afghanistan). The time frame covered is from the beginning of the Mahayana movement in the Ancient Gandhara region in the first several centuries of the Common Era to the present-day lifestyle and practices of the Mahayanists as they respond to 2020’s COVID-19 pandemic. In addition to the historical and doctrinal views of Mahayana Buddhism, the book features thematic chapters on topics, such as pandemic responses, Mahayana scriptures and sculptures, modern Mahayana teachings, charity, suicide, and ethnicity. The book also considers such social constructs as family and community and modern Buddhist movements in reshaping the traditional structures and cosmological beliefs of Chinese Mahayanists. In sum, this book is a unique effort to define the nature of Mahayana Buddhist life in the past and in the present as well as its teaching in Asia. It does so from various multidisciplinary perspectives.

**Christianity**

**Life of St. Francis of Assisi**  
*Paul Sabatier*  
In series: Historical Figures  
Publication Date: 03/09/2021  
285 pp.  
Hardcover: 978-1-53619-298-8, $230.00  
e-book: 978-1-53619-344-2, $230.00  
Francis of Assisi is pre-eminently the saint of the Middle Ages. Owing nothing to church or school he was truly theodidact, and if he perhaps did not perceive the revolutionary bearing of his preaching, he at least always refused to be ordained priest. He divined the superiority of the spiritual priesthood. Saint Francis of Assisi (Italian: San Francesco d’Assisi), born Giovanni di Pietro di Bernardone, informally named as Francesco (1181/1182 - 3 October 1226), was an Italian Catholic friar, deacon and preacher. He founded the men's Order of Friars Minor, the women's Order of Saint Clare, the Third Order of Saint Francis and the Custody of the Holy Land. Francis is one of the most venerated religious figures in history. Pope Gregory IX canonized Francis on 16 July 1228. Along with Saint Catherine of Siena, he was designated Patron saint of Italy. He later became associated with patronage of animals and the natural environment, and it became customary for Catholic and Anglican churches to hold ceremonies blessing animals on his feast day of 4 October. He is often remembered as the patron saint of animals. In 1219, he went to Egypt in an attempt to convert the Sultan to put an end to the conflict of the Crusades. By this point, the Franciscan Order had grown to such an extent that its primitive organizational structure was no longer sufficient. He returned to Italy to organize the Order. Once his community was authorized by the Pope, he withdrew increasingly from external affairs. Francis is also known for his love of the Eucharist. In 1223, Francis arranged for the first Christmas live nativity scene. According to Christian tradition, in 1224 he received
the stigmata during the apparition of Seraphic angels in a religious ecstasy making him the first recorded person in Christian history to bear the wounds of Christ's Passion. He died during the evening hours of 3 October 1226, while listening to a reading he had requested of Psalm 142.

The Analogy of Religion to the Constitution and Course of Nature

*Joseph Butler*

In series: *Religion and Society*

Publication Date: 12/14/2020

293 pp.

Hardcover: 978-1-53618-922-3, $230.00

e-book: 978-1-53618-942-1, $230.00

In this book, Joseph Butler examines Christianity. He discusses its importance, its proofs, the unavoidableness of its containing strange things, the absurdity of expecting fully to comprehend its statements. He answers not only the objections to Christianity, but the objections against its proofs; which he shows are very different things.

Islamism: Global Surveys and Implications for the Future of the Arab Countries

*Arno Tausch (Honorary Associate Professor of Economics, Corvinus University, Budapest, Hungary; Adjunct Professor of Political Science, Department of Political Science, Innsbruck University, Austria)*

In series: *Religion and Society*

Publication Date: 01/05/2021

307 pp.

Hardcover: 978-1-53619-024-3, $125.00

e-book: 978-1-53619-046-5, $125.00

This work is a collection of essays on Islamism and global opinion surveys, focusing on their implications for the future of Arab countries. Much of Western academia and the media still seem to be unable to come to terms with the real challenges posed by Islamism two decades after 9/11 and half a decade after the horrendous Paris 2015 terror attacks.

What is at stake is the question of whether moderate Islamist political movements can and should be a partnered with the West. President Obama personally issued the Presidential Study Directive 11 (PSD-11) in 2010, ultimately concluding that the United States should shift from its longstanding policy of supporting “stability” in the Middle East and North Africa to a policy of backing moderate Islamic political movements. The present book squarely contradicts this perspective. Bassam Tibi maintains that only liberal Islam approves of democracy, while Islamism absolutely does not.

The empirical basis of the book is based on estimates of the development of civil society in the Arab World by using comparative opinion survey data based on the evaluation of the World Values Survey and other global and regional surveys. Variables of trust, non-violence, gender justice and tolerance towards homosexuals indicate some of existing deficits in the development of civil societies in the region. Thus, Inglehart and Norris correctly foresaw that the real distinguishing parameter for Huntington’s theory is not his opinion on democracy, but his societal opinion on gender issues.

This perspective is followed up with an empirical analysis of the gender ideology of Islamism and its gender values, all based on World Values Survey data. Muslim feminism, which implies the rejection of Islamism and the veil, and the democracy movement in the Muslim world are closely interrelated.

In a chapter on Islamism and anti-Semitism, the book identifies the extent of relationships between anti-Semitism, the current economic and social situation, religious data, and opinions on terrorism among the global Muslim society. Islamism is deeply connected to anti-Semitism.

The book also explores which factors contribute to the approval of terrorist acts, measured by such variables as opinions on suicide bombing and the favorability of terrorist organizations such as Hamas and Hezbollah. The book shows how wrong it is to neglect the underlying ideological radicalism which characterizes the support of organizations such as the Muslim Brotherhood and its affiliates in the region. Along with most radicalized factions of Islamist terrorism, they share intense hatred of Jews and Free Masons and Western civilization.

In a concluding chapter, the book analyzes globalization, the environment in the Arab World and the future “greening” of Arab politics.
**Special Topics**

**Books and Printing: A Treasury for Typophiles**
*Paul A. Bennett*

In series: *Fine Arts, Music and Literature*
Publication Date: 01/27/2021
385 pp.
Hardcover: 978-1-53619-110-3. $230.00
e-book: 978-1-53619-169-1. $230.00

Books and Printing: A Treasury for Typophiles is a collection of articles by some of the most famous book designers and historians, including Beatrice Warde, Updike, and Morison. Some of the subjects included, are printers' marks, the fine art of printing, typefaces, calligraphy, and the parts of the book. This book will be of interest to anyone who wants to know about the art of printing and book making.

**POLITICS**

**African Politics, Economics and Security**

**Africa: Economic, Political and Social Issues**
*David Murphy and Ethan Mason*

In series: *African Studies*
Publication Date: 09/11/2020
210 pp.
Softcover: 978-1-53618-401-3. $95.00
e-book: 978-1-53618-482-2. $95.00

*Africa: Economic, Political and Social Issues* opens with a study wherein four research questions are addressed using the structural functionalist approach to the study of family, drawing from the views of Durkheim, Radcliffe-brown and Fortes. A comparative analysis of social protection for older persons in Eswatini and Lesotho, countries located in Southern Africa, is provided. The authors discuss the relevance of socio-economic rights in Kwazulu-Natal, particularly how the state should fulfil its constitutional mandate to provide the citizens of the province with access to healthcare services.

The ambiguous relationship between Swaziland as British-protected territory and Britain in the period from 1903 to 1968 is also explored, highlighting how the Swazi traditional authority endeavoured to protect its power and the sovereignty of the nation through British protection in 1884. Approximately 15% of the world production of titanium dioxide is mined in South Africa, and over 60% of this is recovered from heavy, mineral-rich Cenozoic Age dune sand deposits on the eastern coastline. As such, the authors conduct a microprobe analysis of 455 rutile grains from these sediments. The role and influence of the wildlife economy in KwaZulu-Natal is explored through a decade-long study of the wildlife sector in South Africa. The concluding study uses bivariate scatterplots and correlations analysis to elucidate the hydrogeochemical controls of salinity in typical circumneutral coalmine groundwater.

Sabine Schmidt

In series: American Political, Economic, and Security Issues

Publication Date: 10/01/2020

254 pp.
Hardcover: 978-1-53618-564-5. $195.00
e-book: 978-1-53618-634-5. $195.00

Election Day is the day legally established to select public officials in the United States. General elections for federal offices—President, Vice President, and U.S. Congress—were held on the Tuesday after the first Monday in November in even-numbered years. This book deals with the many issues surrounding the upcoming 2020 elections, including: security in the aftermath of Russian interference during the 2016 elections, the problems caused by the COVID pandemic and the Electoral College.

Is the U.S. Postal Service Sustainable?

Malissa R. Rojas

In series: Government Procedures and Operations

Publication Date: 09/24/2020

332 pp.
Hardcover: 978-1-53618-505-8. $230.00
e-book: 978-1-53618-551-5. $230.00

An independent establishment of the executive branch, U.S. Postal Service (USPS) is required to provide prompt, reliable, and efficient services to the public. While USPS is to be self-sustaining, it lost about $78 billion from fiscal years 2007 through 2019 due primarily to declining mail volume, increased employee compensation and benefit costs, and increased unfunded liabilities and debt. To address these challenges, USPS has taken a variety of actions such as providing increased self-service options and reducing facility hours. This book looks at the current actions needed for sustainability, nonpostal offerings and same day delivery.

Key Government Reports. Volume 38

In series: Key Government Reports

Publication Date: 10/08/2020

193 pp.
Softcover: 978-1-53616-726-9. $95.00
e-book: 978-1-53616-727-6. $95.00

This book is a comprehensive compilation of all reports, testimony, correspondence and other publications issued by the GAO (Government Accountability Office) during the month of July, grouped according to topics. This book is focused on the following topics:

- Information Security
- Science and Technology

The Border Wall: Effect on Tribal and Private Landowners

Alexander Durrell

In series: American Political, Economic, and Security Issues

Publication Date: 03/04/2021

380 pp.
Hardcover: 978-1-53619-278-0. $230.00
e-book: 978-1-53619-318-3. $230.00

Private, tribal, and state-owned land constitutes 70 percent of the border. In order to construct barriers across this land, the administration has used eminent domain, a process by which the government can forcibly seize privately-owned land for public use in exchange for compensation. This book looks at the effect of the border wall on private and tribal landowners.
The Supreme Court: Rulings, Conduct and the Appointment Process  
*Suzanne J. Ragusa*  
In series: *American Political, Economic, and Security Issues*  
Publication Date: 12/08/2020  
348 pp.  
Hardcover: 978-1-53618-893-6, $230.00  
e-book: 978-1-53618-909-4, $230.00  
The Supreme Court term that began on October 7, 2019 was one of the most eventful in recent history. The Coronavirus Disease 2019 (COVID-19) pandemic colored much of the Court’s work, leading the Court to close its building to the public indefinitely, postpone oral arguments originally scheduled for March and April of 2020, and, for the first time in history, telephonically conduct oral arguments in roughly a dozen cases over two weeks in May 2020. The Court, which typically recesses for the summer in late June, continued to issue opinions through the second week of July 2020 because of delays caused by the pandemic. And substantively, the October 2019 Term included the Court issuing several orders concerning litigation over various state-government responses to the pandemic. The Supreme Court’s October 2020 Term is set to begin on October 5; thus, it is likely the Term will at least begin with only eight Justices. The appointment of a Supreme Court Justice is an event of major significance in American politics. Each appointment is of consequence because of the enormous judicial power the Supreme Court exercises as the highest appellate court in the federal judiciary. To receive appointment to the Court, a candidate must first be nominated by the President and then confirmed by the Senate. This book provides an overview of these important issues, including a discussion of their broader implications.

Asian Countries: Economic, Political and Social Issues  
*Mohsen Bahmani-Oskooee (Center for Research on International Economics, University of Wisconsin, Milwaukee, WI, USA), Sahar Bahmani (Department of Business, University of Wisconsin-Parkside, Kenosha, Wisconsin, USA) and Tatchawan Kanitpong, PhD (Associate Professor and Dean, NIDA Business School, Bangkok, Thailand)*  
In series: *Asian Political, Economic and Social Issues*  
Publication Date: 01/27/2021  
289 pp.  
Hardcover: 978-1-53619-027-4, $195.00  
e-book: 978-1-53619-085-4, $195.00  
Over the last four decades, Asian countries have experienced a substantial increase in their global competitiveness. While some of this is due to their economic activity, politics are also a contributing factor. Technological advances, particularly concerning the internet and social media, have also contributed, as have many other factors. We expect information and communication technology led by the development of the internet to make the transformation of knowledge easier and more efficient, thus contributing to faster economic growth worldwide. Sound macroeconomic policy and political conditions facilitate this process. Many Asian countries have learned from the experience of the Asian Crisis of 1987 when the Thai baht lost its value due to a shortage of reserves by the Central bank of Thailand, and capital outflow spread throughout the region. Asian countries now know that to avoid such a run on foreign currencies, they must hold enough reserves to support their own currency. Sound fiscal and monetary policies, as well as an exchange rate policy combined with an efficient banking system, are required to enhance the reserve policy. Another requirement for the effectiveness of macroeconomic policies is desirable political conditions to enhance international confidence in these countries. Strong political stability requires sound rules, laws, and democratic institutions that must be transparent. Granting excessive power to any one ruler has proved to lead to corruption which is an impediment to growth. This book addresses the issues above by providing theoretical and empirical evidence using data from some countries in Asia.
Hong Kong: Past, Present and Future
Wei Tang

In series: Asian Political, Economic and Social Issues
Publication Date: 10/02/2020
101 pp.
Softcover: 978-1-53618-447-1. $82.00
e-book: 978-1-53618-581-2. $82.00

Hong Kong: Past, Present and Future first explores the “non-national” features of Hong Kong citizenship by analysing its development in relation to three key features: people’s identities, uneven political participation, and the development of civil society. The subsequent study explores ideological detachment from ideas of “nation-ness”, if English language discourse is to produce a stable model of Hong Kong identity. The authors examine the discourses of young people and older people pertaining to socio-political issues concerning Hong Kong, reviewing major research studies conducted in Hong Kong on young people’s attitudes towards the society. The closing review provides an extensive summary on phonetics and phonology research on Hong Kong English in the past two decades, and also discusses how the codification and standardisation of Hong Kong English would aid in its development.

Southeast Asia

Burma: Background, U.S. Relationship and Human Rights Abuses
Mateo Kavanagh

In series: Asian Political, Economic and Social Issues
Publication Date: 12/30/2020
412 pp.
Hardcover: 978-1-53619-034-2. $230.00
e-book: 978-1-53619-073-1. $230.00

Major changes in Burma’s political situation since 2016 have raised questions concerning the appropriateness of U.S. policy toward Burma (Myanmar) in general, and the current restrictions on relations with Burma in particular. Various developments in Burma between 2010 and 2016 led the Obama Administration and others to perceive positive developments toward the restoration of a democratically elected civilian government in that nation after nearly five decades of military rule. Based on that perception, the Obama Administration waived most of the sanctions on Burma, particularly after Aung San Suu Kyi and the National League for Democracy won the 2015 parliamentary elections and a new NLD-controlled Union Parliament took office in April 2016. Certain events since 2016, however, have led some to call for the reinstatement of some of the waived sanctions and/or the imposition of new restrictions on relations with Burma.

Rural Development in the Era of Globalization in Bangladesh
Jannatul Ferdous (Assistant Professor, Department of Public Administration, Comilla University, Bangladesh)

In series: Economic Issues, Problems and Perspectives
Publication Date: 11/06/2020
187 pp.
Softcover: 978-1-53618-692-5. $95.00
e-book: 978-1-53618-762-5. $95.00

Rural Development is a deliberate transformation towards the advancement of the financial and societal standard of living of the rural poor through amplified production, impartial delivery of possessions, and empowerment. In general, a deliberate transformation towards rural institution building and progression in technology. Bangladesh, nearly 50 years into its liberation, stays on the route to development and the country is looking forward to transitioning into a developed state by 2041. There is global pressure also. Rural development plays a key role in attaining the targets. The Bangladesh Academy for Rural Development (BARD) is a pioneer institute for attaining rural development in Bangladesh. The academy is acknowledged as a center of excellence regarding training, research and action research. The institute was established in 1959 with the intention of provide training to the public officials and representatives of the local government and village institutions on diverse matters concerning to rural development. Still, the institution provides training to diverse stakeholders. Moreover, a large quantity of international clientele comprising scholars, research fellows, experts, government bureaucrats, affiliates of diplomatic corps and global
organizations visit the academy. The academy has been steering socio-economic study from the time of its beginning. Research outcomes are used as training resources and contributions for introducing action research by the Academy itself. It also works as data resources and policy ideas for the policy makers, Ministries, and Planning Commission. In certain circumstances, these are also dispersed among the global organizations and institutes. BARD conducts investigational projects to progress models of better-quality institution, managerial arrangements in addition to harmonization and approaches of production. The project events generally include the villagers’ development institutes, local bodies and public officials. To this point the Academy has directed more than 50 investigational projects on different facets of rural development. Finally, in the era of globalization and pressure of implementation of Sustainable Development Goals (SDGs), the book provides an immense knowledge on “Rural Development” issue in Bangladesh perspective.

India

India: Environmental, Political and Social Issues

*Jules Lessard and Orson Rivière*

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

Publication Date: 09/02/2020

218 pp.

Hardcover: 978-1-53618-413-6. $160.00
e-book: 978-1-53618-473-0. $160.00

India: Environmental, Political and Social Issues first highlights the environmental conditions of Uttarakhand such as relief, structure, drainage, climatic conditions and forest types, as well as the influence of these aspects on aspects of demographic structure such as population distribution, growth, sex ratio and literacy. The authors go to present findings indicate that the Tropical Lowland Rain Forests in Sri Lanka are capable of recovery, in terms of biodiversity and stature, if sufficient recess is provided following land use practices such as selective logging and chena cultivation in spatial and temporal contexts.

As a desert state, the climate of Rajasthan is uniquely characterized by low rainfall, dryness and extreme temperature. Fauna of this region are specifically adapted to this hostile environment. In this compilation, threats to fauna of Rajasthan are assessed.

Later, after presenting a short introduction to the historical and cultural background, the authors narrate Karunanidhi’s most decisive film, Parasakthi (Supreme Power, 1952). It challenges certain cultural stereotypes such as the sexual exploitation of women, social discrimination, corruption, religious superstition and so on.

The closing study examines the effects of socio-economic determinants on child malnutrition in Uttar Pradesh, the most populous and malnourished state of India. Using data from NFHS-4, this study highlights district-wide variations in the nutritional status of children less than five years old in the state.

Kerala: Past, Present and Future Perspectives

*Dr. Anju Lis Kurian (UGC Post-Doctoral Fellow, School of International Relations and Politics, Mahatma Gandhi University, P.D. Hills, Kottayam, Kerala, India) and Dr. C Vinodan (Director, School of International Relations and Politics, Mahatma Gandhi University, Kottayam, Kerala, India)*

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

Publication Date: 10/28/2020

331 pp.

Hardcover: 978-1-53618-710-6. $230.00

Kerala, a narrow stretch of land on the foothills of the Western Ghats is bestowed with nature’s magic and ranks highly among tourist destinations globally. Kerala’s society has evolved through spectacular religious and reform movements. The book is a compilation of 17 chapters which promulgate the rich traditions, biodiversity, politics, governance, climate change and health of Kerala, outlining the past, present and future. The book is helpful for those who seek answers about the multicultural society ladder and success stories with an in-depth and panoramic approach.
Globally, industrialization and urbanization are leading to improvement in society’s economic condition which is often accompanied by lifestyle changes including physical inactivity, unhealthy diet and harmful use of tobacco and alcohol. These altered lifestyles bring about non-communicable diseases (NCDs) like obesity, hypertension (HTN) and diabetes mellitus (DM). The risk factors of the lifestyle induced NCDs are measurable and largely modifiable. So, continuous surveillance on the levels and patterns of risk factors is of fundamental importance to control NCDs. Chapter 1 focuses on this and conducted a study on 1216 male individuals of different socio-economic status residing at Kolkata, West Bengal.

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was initiated in India in 2006 with a view to creating more wage employment in rural areas thereby ameliorating rural poverty. But after the completion of more than a decade, the effects and roles of the scheme are found to be manifold. Particularly, if we consider the impact of women. Chapter 2 looks at how the role of women have changed, especially in the family, and how that impacts society.

In chapter 3, the authors performed a study to assess age trends in anthropometric measures and nutritional status among adult Mahali females. It was a community-based cross-sectional study, carried out in selected four villages of Bankura district, West Bengal, India.

**Middle Eastern Politics**

**Syria, the Desert and the Sown**
*Gertrude Margaret Lowthian Bell*

In series:
Publication Date: 01/27/2021
344 pp.
Hardcover: 978-1-53619-138-7, $230.00
e-book: 978-1-53619-170-7, $230.00

Syria, The Desert and the Sown covers Gertrude Margaret Lowthian Bell’s travels through Palestine and Syria. The book contains a valuable firsthand account of Syrian life and customs.

**Politics of Europe**

**200 Years and Beyond Britain and America since the Industrial Revolution**
*Maurice Mullard (Economic Advisor the Government of Malta, Reader Emeritus, University of Hull, Hull, England)*

In series: *Political Science and History*
Publication Date: 10/09/2020
290 pp.
Hardcover: 978-1-53618-698-7, $195.00
e-book: 978-1-53618-724-3, $195.00

This book examines the changing social political and economics landscapes that continue to shape and define the Britain and America that we know today. The industrial Revolution was defined by technology in cotton spinning, in the building of canals, railways and telegraphy. The intensity of economic change meant changes in social and political expectations from the Chartists seeking to widen the franchise in Britain to Civil War and slavery in America. Social progress ebbs and flows; nothing
in history is linear. Strikes were won and lost. Coxey’s army marched to show the plight of unemployment as many others would do during the Depression of the 1930s. America had the New Deal and Britain provided social forms of protection to deal with unemployment.

The 1950s to 1970s are described as the years of calm waters of fully employment continuing prosperity people buying their first cars their first homes and domestic appliances. Stagflation became the problem for the 1980s of dealing with inflation and revisiting unemployment to new prosperity of the 1990s and the financial meltdown of 2008.

People in 2020 have different lived experiences to those of 1820. Yet life in 2020 brings new but different challenges to 1820.

The books is aimed at students of history of economics of social change and politics. It is however also aimed at a wider readership as it tries to tell 200 years of history as a journey that continues to shape both countries.

Armenia and Azerbaijan: Countries in Crisis
William Mitchell
In series: Europe: Past, Present and Future
Publication Date: 01/20/2021
323 pp.
Hardcover: 978-1-53619-008-3. $230.00
e-book: 978-1-53619-095-3. $230.00
Armenia and Azerbaijan both used to be part of the Soviet Union, but since that crumbled, ethnic tensions between Armenians and Azerbaijanis increased in the Nagorno-Karabakh region. Nagorno-Karabakh is recognized as part of Azerbaijan, but is predominantly populated by ethnic Armenians. The long-simmering conflict has been escalating in recent months. This book looks at the background and upheaval in these two countries.

Special Topics

A Focus on Human Rights
Christiane Baasch
In series: Human Rights: Contemporary Issues and Perspectives
Publication Date: 03/04/2021
340 pp.
Hardcover: 978-1-53619-339-8. $230.00
e-book: 978-1-53619-364-0. $230.00
Congress has guided and shaped the U.S role in the current international human rights architecture, which grew out of the atrocities and destruction of World War II. The United Nations (U.N.) Charter, signed in 1945, included broad expressions of support for human rights and fundamental freedoms. This book addresses human rights issues.

Differences in the City: Postmetropolitan Heterotopias as Liberal Utopian Dreams
Jorge León Casero and Julia Urabayen (Universidad de Zaragoza, Spain)
In series: Political Science and History
Publication Date: 10/01/2020
373 pp.
Hardcover: 978-1-53618-496-9. $230.00
e-book: 978-1-53618-532-4. $230.00
Although it is one of the most vague and ambiguous concepts proposed by Foucault, the term “heterotopia” has been, and continues to be, one of the most widely used in technical as well as in human and social disciplines. Coinciding with the rise of postmodernism and the supposed crisis of the great unitary stories of the West, the great heterogeneity of urban and spatial phenomena and typologies referred to in the
Foucauldian notion was further expanded, with the explicit intention of using it as part of the new urban ideology that neoliberal theorists of architecture and urbanism were beginning to implement under the leitmotif of the city by fragments. In this way, neoliberal urban ideology appropriated the concept of heterotopia, making it pass for libertarian and endowing it with the ability to exert political resistance to economic and urban planning by public administrations. This is why the concept of heterotopia has been used simultaneously and repeatedly as a tool to praise the beatitudes of neoliberal urbanism as well as to defend its emancipatory character by social movements and activists. In this sense, the emancipatory potential that heterotopias could have had in the disciplinary arrangement of space has ended up transforming into a magic formula with which to transform the impositions of the neoliberal (de)arrangement of the territory into a hymn to freedom of movement, to a socio-cultural diversity without class conflict. The aim of this collective and interdisciplinary reflection is to prove that heterotopias are spaces that cannot be considered a priori as directly emancipatory but apart from an effective political project. As we live in a postmetropolitan word, we should ask: Are these post-metropolitan heterotopias capable of shaping themselves as the new nerve centers of anti-capitalist resistance or are they only capable of subverting the disciplinary power of public administrations already brought to crisis-point decades ago by neoliberal capitalism? Can they function as the spatial tools of an antagonistic politics for the common or, on the contrary, is their operation intrinsically neoliberal? This book brings together various analyses and investigations that maintain conflicting positions on the emancipatory or ideological-alienating character of heterotopias with the dual objective of avoiding their Western-centric bias and preserving any possible trait of emancipatory potential that may be rearticulated from an epistemological diversity viewpoint. With these objectives in mind, we have organized the twenty-two articles that make up this book into five major thematic sections, coinciding with some of the main topics around which socio-spatial debates dedicated to heterotopias have taken place in the last twenty-five years: the postmetropolis, public space, the right to the city, gender relations and their symbolic condition. Although these five categories should not be understood as unrelated compartments—but quite the opposite—we have chosen to use this classification as an analytical tool to illuminate some of the focal points around which to exercise effective critique of one of the most frustratingly incomplete, inconsistent [and] incoherent concepts of socio-spatial theory.

**Encyclopedia of Elections (7 Volume Set)**
_Bryan Martin and Peter Morris_

In series: _Political Science and History_
Publication Date: 02/10/2021
Hardcover: 978-1-53619-061-8, $1,250.00
e-book: 978-1-53619-167-7, $1,250.00

Encyclopedia of Elections organizes researchers from around the world in political studies and related disciplines and maintains an up-to-date reference work for readers worldwide. Please review the Table of Contents for more in-depth information.

**Geopolitics in the Twenty-First Century: Territories, Identities, and Foreign Policies**
_Nuno Morgado, Ph.D (Corvinus Institute for Advanced Studies and GEO Department, Corvinus University of Budapest, Hungary; Institute of Political Studies, Charles University, Prague)_

In series: _Defense, Security and Strategies_
Publication Date: 01/27/2021
248 pp.
Hardcover: 978-1-53619-035-9, $195.00
e-book: 978-1-53619-123-3, $195.00

This book is dedicated to geopolitics in the 21st century. Several scholars from slightly different backgrounds (geopolitics, international relations, history, and political science) have come together to develop the geopolitical research program as an approach to international relations. This book includes research on the great powers that have permanent seats on the UN security council, as well as Japan and Brazil, as regional powers that may increase in influence in the 21st century international arena. Despite the methodological richness of the individual contributions, all chapters address the core(s) of geopolitical thought—the territorial and identity-based realities that shape politics, foreign policies, and grand strategies—thereby adding value to the research agenda of geopolitical studies.
Nationalism: Past as Prologue
Bruce Elliott Johansen (School of Communication, University of Nebraska at Omaha, Omaha, Nebraska, USA) and Adebowale Akande (IR GLOBE Cross-Cultural, Vancouver, BC, Canada)
In series: Political Science and History
Publication Date: 03/09/2021
351 pp.
Hardcover: 978-1-53619-231-5. $230.00

The “mother” discipline of organizational behavior has deep roots in psychology, particularly industrial and organizational psychology. It comes as no surprise, therefore, that new and theoretically incommensurate findings involving human moral behavior have been met with calls for a more psychologically informed investigation of ethical behavior in organizational contexts (DeCremer and Tenbrunsel, 2012; Reynolds and Ceranic, 2009). This project, aimed at a fuller understanding of the psychology of ethical behavior, typically falls under the label of Organizational Ethical Behavior (OEB).

Peru in the 21st Century: Progress, Trends and Challenges
Mariela Noles Cottito (Department of Social and Political Science, Universidad del Pacifico, Peru)
In series: Latin American Political, Economic, and Security Issues
Publication Date: 09/24/2020
346 pp.
Hardcover: 978-1-53618-498-3. $230.00
e-book: 978-1-53618-575-1. $230.00

This book intends to provide the reader with a number of perspectives about the complex political landscape of Peru. Further, its main objective is to shed light on some of the topics that often get ignored when trying to assess the country’s identity and its positioning as a player in the Latin American region, and the world. Its final intention is to spark informed conversations where there are none, and enrich the ongoing ones.

Refugee Crisis: Global Perspectives, Challenges and Issues
Paul Leclair
In series: Social Issues, Justice and Status
Publication Date: 10/09/2020
191 pp.
Softcover: 978-1-53618-522-5. $95.00
e-book: 978-1-53618-643-7. $95.00

Due to Greece’s geographical position and socio-political background, the country is at the heart of the migration phenomenon. As such, Refugee Crisis: Global Perspectives, Challenges and Issues first reviews the new technologies by which the borders of Greece are secured.

The collaborative projects of UNHCR-Pakistan related to Afghan refugee children’s education in Pakistan are explored, aiming to assess the actions that have been taken by Pakistan for Afghan refugees.

The refugee migration from Syria has been called the humanitarian crisis of our time. In closing, after examining other System Dynamics models that relate to the refugee crisis, the authors build a model to incorporate a sub-model of the Syrian civil war, along with a sub-model of the movement of refugees and their eventual immigration.
Structural Realism and Systemic Geopolitical Analysis: Convergences and Divergences
Ioannis Th. Mazis (Professor of Economic Geography and Geopolitical Theory, Head of the Department of Turkish Studies and Modern Asian Studies, University of Athens, Greece), Markos Troulis (Adjunct Lecturer of the Department of Turkish Studies and Modern Asian Studies, University of Athens, Greece; Department of Turkish Studies and Modern Asian Studies, University of Athens, Greece) and Xanthippi Domatioti (Research Fellow of the Laboratory of ‘Geocultural Analyses of the Greater Middle East-Turkey’ of the Department of Turkish Studies and Modern Asian Studies, University of Athens, Greece; Department of Turkish Studies and Modern Asian Studies, University of Athens, Greece)

In series: Global Political Studies
Publication Date: 02/15/2021
122 pp.
Softcover: 978-1-53619-196-7. $82.00
e-book: 978-1-53619-218-6. $82.00

This book emphasizes the comparative study of theoretical as well as hypothetical issues of structural realism of international relations theory vis-à-vis those of systemic geopolitical analysis. Are they scientific fields evolved in parallel, common philosophical and cognitive roots? Could they be used as complementary theoretical tools or their relation is disjunctive and contrapuntal? When decoding the core hypotheses of structural realism and systemic geopolitical analysis, an effort takes place for the sake of the central scientific aim; i.e. the untainted descriptive analysis without ontologically groundless claims.
The debate on interstate relations and the framework, on which these are structured, is long-term with its philosophical background detected at the juxtaposition between those referring to “sein” and the others expressing the “sollen”. This research struggles to explain the converging and diverging points of view between the neorealist approach of international relations theory and the systemic geopolitical analysis.

The Cosmopolitan Businessman: World and Worldview of Greek Merchant-Entrepreneurs
Dr. Ariadni Moutafidou (Adjunct Professor, Hellenic Open University, Studies in European Civilization, Greece)

In series: Political Science and History
Publication Date: 02/24/2021
330 pp.
Hardcover: 978-1-53619-187-5. $230.00
e-book: 978-1-53619-221-6. $230.00

The author investigates cases of distinguished personalities and prominent Greek merchant-entrepreneurs and shipowners shedding light on their activities and ideas, and on how they appraised their business and their competitors. Vikelas, the first President of the International Olympic Committee, along with the Melas, Mavros and Basileiou families, Malta-based broker Pappaffy, an influential businessman of the British and Mediterranean economic world and a celebrated philanthropist, the Rallis, Petrocochinos and Salvagos, Syngros and the Zarifis, are only few of the many captivating figures appearing in the book.
Moutafidou thoroughly looks into sources such as memoirs, literature, archives, commercial trade books, the press as well as family records and references made by rival businessmen. She compares various historical times, regions and ethnic groups, and draws useful parallels and/or differences with the Greek case. In the process, she investigates the relations between distinct, ethnic mercantile communities, using the Greek case in particular and the paradigm of leading Jewish merchant-bankers West and East, such as the Bischoffsheims, Oppenheims, or Camondos, and exploring the themes of internationalization, competition and cooperation, risk and innovation. Her method allows her to enrich our knowledge about early globalization, about the importance of liberalism, and the operation of capitalist activity.
The Just War Doctrine in Catholic Thought
James Biser Whisker (Professor Emeritus of Political Science, West Virginia University, USA) and Kevin R. Spiker (Associate Professor of Political Science, Ohio University, USA)
In series: Political Science and History
Publication Date: 12/30/2020
267 pp.
Hardcover: 978-1-53618-982-7, $195.00
E-book: 978-1-53619-014-4, $195.00

The just war theory is a doctrine, which is related to and at times interchangeable with such concepts as military tradition, military ethics, the doctrines of military leaders, conflict theology, ethical policy-making, and military tactics and strategy. The purpose of the just war doctrine is to attempt to guarantee that a war is morally justifiable through a series of criteria, all of which must be met for a war to be considered just.

The criteria are split into two groups: “right to go to war” (jus ad bellum) and “right conduct in war” (jus in bello). The first concerns the morality of going to war, and the second the moral conduct within war. Recently there have been calls for the inclusion of a third category of just war theory known as jus post bellum that is concerned with the morality of post-war settlement and reconstruction. Just war theory postulates that war, while terrible, is made less so with the right conduct. It also assumes that war is not always the worst option. Important responsibilities, undesirable outcomes, or preventable atrocities may justify war. There is a just war tradition, a historical body of rules or agreements that have applied in various wars across the ages. The just war tradition consists primarily of the writings of various philosophers and legal experts through history. This tradition examines both their philosophical visions of war's ethical limits and whether their thoughts have contributed to the body of conventions that have evolved to guide war and warfare.

The Myth of the West
Enrico Ferri (Philosophy of Law and History of Islamic Countries, University “Niccolò Cusano” (UNICUSANO), Rome, Italy)
In series: Political Science and History
Publication Date: 01/13/2021
294 pp.
Hardcover: 978-1-53618-868-4, $195.00
E-book: 978-1-53618-894-3, $195.00

The Myth of Western Civilization: The West as an Ideological Category and Political Myth has set for itself two different but complementary targets. The first is to show that what is commonly taken as a historical given, “Western Civilization”, is actually an ideological construction that has come to absorb the most disparate of contents. It is a common acceptance to intend Western Civilization as the liberal-democratic way of life and capitalist economy that apply in Euro-America. Many among those who believe in the existence and paramountcy of Western Civilization at the same time sustain that Western Civilization can be traced back at the very dawn of Europe and that, depending on who makes the claim, it can be linked to the birth of Greece and Rome and, successively, to Christianity and democracy, often establishing relationships between these varying cultures. While showing the difficulty of considering them instances of the same historical event, The Myth of the West highlights the essential contribution by civilizations like the Phoenician and the Arab to the development of the classical world and modern Europe.

United Nations: Human Rights, Peacekeeping and Funding
Alex Pereira Goncalves
In series: Global Political Studies
Publication Date: 10/01/2020
403 pp.
Hardcover: 978-1-53618-622-2, $230.00
E-book: 978-1-53618-662-8, $230.00

The United Nations (U.N.) is a global organization dedicated to international peace and stability. The U.N. was established in 1945 following the events of World War II. It is currently made up of 193 Member States. The United Nations can take action on the issues confronting humanity in the 21st century, such as peace and security, climate change, sustainable development, human rights, disarmament, terrorism, humanitarian
and health emergencies, gender equality, governance, food production, and more. This book looks at issues involving the United Nations.

**SOCIAL AND BEHAVIORAL SCIENCES**

**Adolescence and Youth**

**Emerging Adults and Adulthood**  
*Ashley Demoura*  
In series:  
Publication Date: 03/11/2021  
108 pp.  
Softcover: 978-1-53619-279-7, $82.00  
e-book: 978-1-53619-415-9, $82.00  
This book comprises three chapters that each approach the subject of emerging adults from a different perspective. Chapter One examines the impact that parental involvement has on the personal development of emerging adults in China, with a specific focus on mental health, romantic involvement, and peer relationships. Chapter Two discusses the challenges faced by East Asian American girls and emerging adults and the protective factors that help mediate the core challenges this population faces. Lastly, Chapter Three provides a comprehensive literature review from a cross-cultural comparative perspective of the complicated pathways emerging adults face today and identifies key protective buffers and predictors that promote mental health, self-competence and identify achievements that lead to a more successful emergence into early adulthood.

**Anthropology**

**The Evolution of Man**  
*Ernst Haeckel*  
In series: *Human Evolution, Biological and Cultural Domains*  
Publication Date: 01/20/2021  
503 pp.  
Hardcover: 978-1-53619-029-8, $310.00  
e-book: 978-1-53619-146-2, $310.00  
The Evolution of Man provides a perspective on how life can start and evolve from a simple elemental form. This book will be of interest to those interested in the history and development of evolutionary science.

**The Homo within the Sapiens**  
*Jorge A. Colombo (Principal Investigator (retired) (CONICET), Director Emeritus (U.N.A., CEMIC-CONICET), National Research Council (CONICET) (Argentina) )*  
In series: *Human Evolution, Biological and Cultural Domains*  
Publication Date: 01/08/2021  
188 pp.  
Softcover: 978-1-53618-938-4, $95.00  
e-book: 978-1-53618-373-3, $95.00  
While creativity and solidarity form the main constructive profile for our species, the primal animal drive for dominance involving basal brain circuits places our future at risk. This bipolar nature distorts the global perspective of our collective future and ecological conditions. Our species’ behavioral construction has its roots in ancestral habits and survival drives that were crystallized in basic neurobehavioral circuits over
millennia, be it as predators or potential prey. Its expression aquired further complexity through the development of social/cultural cues, and was kept-in-check by conditional inhibitory processes. How much of our current drive – individually and as a global community – is caused by those inherited traits imprinted in our animal condition? This book analyses the increasing bipolar construction in terms of dominant groups affecting critical access to current knowledge and information, a profound gap among populations concerning a modern humane quality of life, and present trends pertaining to our ecological habitat. These dynamic processes seem to be in a free-running mode, only conditioned by the prevalence of power concentration in the hands of worldwide minority groups. This worldwide disjointed perspective is further distorted by diverse cultural profiles and interests accessing information and its impact on lifestyles. Our species’ true nature has highly conserved remnants of our animal origin expressed as animal drives embodied before and during the evolutionary process as Homo and under inhibitory social control. These involve territorial, survival, and dominant cues on top of which sapiens’ cultural development profiles have taken place; that is, the hidden ancestral human nature. Competition to control and prevail in those domains has unveiled a long-lived struggle for dominance in political and financial (corporate- or state-bound) prevalence. Below this stratum of power-seekers, a large proportion of the service-bound and marginal populations crawl for their survival, often approaching inhuman conditions. Fundamentalist beliefs, the disregard of environmental abuse, belligerence to resolve discrepancies, personal and group-centered greed, growing inequalities, disinformation from dominant carriers, and intolerance to alternative viewpoints describe our species’ developmentally immature collective behavior.

If not just an evolutionary stage, then we in fact belong to the “wrong species” (Colombo, 2010), and are on a path toward our demise or a bipolar evolution of our species, but not necessarily a collective, cooperative, shared development that respects various cultural profiles. The increasing speed of knowledge development widens the gap among populations with different cultural values and those that are underdeveloped or living in subhuman conditions. Since we exited the period of egalitarian-prone hunter gatherers, we have been conditioned by elite or institutionalized dominant powers and given limited access to information, which is used as a means for domination. Hence, our future depends not only on our social, political, and financial decision-makers but also on the degree of our permissive, functional absence from such a scenario.

**Archaeology**

**Archeological Investigations**

_Gerard Fowke_

In series: *Anthropology Research and Developments*

Publication Date: 12/10/2020

310 pp.

Hardcover: 978-1-53618-916-2, $230.00
e-book: 978-1-53618-939-1, $230.00

Archeological Investigations by Gerard Fowke explores the geological structure of caves and examines the life of the “cave-dwellers”. Certain conditions are to be taken into account in deciding whether a cave afforded a desirable permanent shelter to primitive man. It should be accessible; the floor should be dry, at least fairly level, and sufficiently free from large rocks to allow the inmates to move about freely; the entrance should be large enough to permit free passage and to light the interior to a distance that would insure protection from the elements.

**Communication and Media Studies**

**Research Advances in Communication Studies – I Fluency: Its Bases**

_S. R. Savithri (Former Director, All India Institute of Speech and Hearing, Manasagangothri, Mysore, Karnataka, India)_

In series: *Research Advances in Communication Studies*

Publication Date: 10/01/2020

440 pp.

Hardcover: 978-1-53618-535-5, $270.00
e-book: 978-1-53618-577-5, $270.00

This book is written in response to several demands. Of course, the information presented in it is available in several other books and journal articles on fluency and stuttering. Nevertheless, the book puts together information that most books and journal articles have not considered in the literature commonly available in India, with the exception of articles in international journals. This information will be helpful to graduate students, researchers, and faculty, I hope. Several books have provided extensive literature on particular topics, but a comprehensive compilation is not available. Therefore, this book is written.
Stuttering is a heterogeneous disorder of speech, and unlike other speech disorders, it has much variability in terms of time, situation, a person with whom the Persons With Stuttering (PWS) are communicating etc. Also, it appears that there may be sub-groups among PWS. Several hypotheses have been postulated to understand normal speech production, but this area is still naïve as none of the theories address all of the questions related to stuttering and its treatment. To understand and diagnose stuttering, it is extremely important to know about fluency. Thus, this book covers definitions of fluency, disfluency and dysfluency in chapter 1, fluency development in normal children in chapter 2, the anatomical and physiological bases of fluency in chapter 3, the acoustic basis of fluency in chapter 4, genetic basis in chapter 5, and linguistic basis in chapter 6. Of course there are additional bases of fluency, such as psychological or prosodic, which are not covered in the book. The reason is that Children With Stuttering (CWS), especially in the initial stages, may not have any psychological basis, and prosody-intonation, stress, and rhythm - is difficult to measure. Yet, some parts of prosody like stress and rhythm are covered as fluency enhancers in chapters 1 and 2. Relevant journal articles are reviewed and presented where necessary. I thought that in the last chapter, I would try synthesizing all the information presented in the first six chapters. However, the views of authors are so diverse that there are probabilities of sub-groups within PWS. The data so far collected on typical children is mostly in English and it is insufficient to build a database in English or other languages. The data in English may not be useful to other languages owing to variations in phonetic and syllabic structure, stress and rhythm. Hence, a multicentric and multilingual database in typical children and adults is warranted.

Though the book is titled Fluency, most of the literature comes from experiments on stuttering, or what could have contributed to fluency failures in PWS. From abnormal fluency, we are trying to deduce an understanding of normal fluency in CWS and PWS.

Further, as I have observed, spectrograms and glottograms of fluency failures (repetitions) of PWS, reveal that the repetitions may be because PWS are not reaching the target phoneme and hence they keep iterating speech over and again to reach the target phoneme, which they may or may not achieve. These are mostly on respiratory, laryngeal, and articulatory efforts, neural commands, and may be the lack of coordination of these sub-systems. Most of these so called repetitions are on stop consonants and hence, the listener may be unable to differentiate the bursts, aspirations, and voicing of various stop consonants as they are very minute events. For example, a burst may be of a duration of 3-11 ms. Therefore, more careful observations on these aspects are warranted.

The book is an attempt to put together what we really know about fluency and its clinical application. The final goal in the research of fluency is a complete understanding of the speech production system in typical children and adults, which is unavailable at present. But something valuable is better than nothing, and several scientists have provided it.

Cultural Studies

A Closer Look at Cultural Values: The Case of French Guests and Vietnamese Hosts

Dr Thuy-Huong Truong (Lecturer & Research Fellow, Victoria University Business School, Victoria University, Melbourne, Australia)

In series: Cultural Studies in the Third Millennium
Publication Date: 02/26/2021
168 pp.
Softcover: 978-1-53619-209-4. $95.00
e-book: 978-1-53619-257-5, $95.00

With a history of attracting French tourists since the 19th century and particularly during the colonial period, Vietnam has re-emerged as one of the most popular Asian destinations for the French. A number of factors augur well for a further increase in visitation. As a former colony, Vietnam has nostalgic appeal for many French visitors. After the release of the films ‘L’ Indochine, L’ amant, Le Cyclo, Papaye Vert, and the documentary-drama Dien Bien Phu in 1993, France became the main tourism source market for Vietnam.

As the ethnic composition of France has changed, the French are interested in learning about cultures generally and Asian cultures, in particular. The prospect of discovering new destinations and cultures encourages them to travel long-haul. They are quality conscious and culture loving, and prefer to use their own language when traveling overseas, favouring their own cuisine even though they do enjoy the cuisine of the host countries. Travel to Vietnam offers the prospect of fulfilling a number of their preferences. Another attraction for French tourists is that Vietnam is a member of the Francophone Community. Since 1988, the French legacy has experienced a resurgence with the renovation of colonial-style properties and restaurants. Tourists have been impressed by the French-style architecture, accommodation and cuisine that is available.

Despite Vietnam’s long history of contact with France, Vietnamese service providers are relatively ignorant about Western countries, their people and their values. Up to now Vietnam’s tourism authorities have paid little attention to the role of cultural understanding in the tourism development process and Vietnam’s overseas tourism promotions have given minimal acknowledgement of the cultural characteristics of source markets including those conducted in France. Servicing French tourists is likely to be a challenge for Vietnamese service providers because of the substantial differences between the respective host and guest cultures and rules of behaviour.
International tourism generally involves a cross-cultural component, particularly in the case of encounters between tourists and service providers. If it is accepted that the cultural values of Western travellers are different, it seems reasonable to conclude that the Vietnamese service providers need to consider the effect of this cultural dissimilarity on tourist–host mutual perceptions and social interaction in the intercultural service encounters. An understanding of areas of potential tourist dissatisfaction may assist the service providers to anticipate prospective negative perceptions and to address them, thereby contributing to overall holiday satisfaction, and improve the prospects of repeat visitation. It is common for destinations to attract visitation from different source countries and cultures. Nonetheless, consumer behaviour literature on cross-cultural perceptions and interaction have been largely limited to homogeneous sample populations from Western countries. Furthermore, until now there are no published studies have specifically examined tourist–host service encounters interaction and mutual perceptions in the context of Vietnam as a holiday destination. Consequently, this research has both practical and academic significances. From the theoretical perspectives, this study provides an augmented comprehension on Argyle’s, Rokeach and SERVQUAL models. From the practical standpoints, this study offers service managers and marketers a heightened understanding of cross-cultural awareness for improving customer satisfaction. It acclaims an evidence base that can guide provision to meet the needs of international tourists with particular reference to the impact of rules of behaviour on tourist–host service encounters interaction. It accentuates the effect of cultural backgrounds on tourists’ perceptions towards and satisfaction with service quality. By this means, it applies the empirically based models to development related challenges confronting the tourism sector in the cross-cultural settings for designing appropriate strategies with the aim of gaining a competitive advantage.

Keywords: French Guests, Vietnamese Hosts, Cultural Values, Rules of Behaviour, Interactions, Satisfaction, Service Attributes and Performances.

Hydraulic Heritage in Ibero-America

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In series: Cultural Studies in the Third Millennium
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428 pp.
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e-book: 978-1-53618-420-4. $230.00

The hydraulic heritage and water culture in Ibero-America result in a man-made cultural landscape, century after century, where the legacies of several peoples are superimposed. Water is here an element of landscape differentiation and constitutes, therefore, as a distinctive mark in the territory and local memory. The approach to the theme of water from the patrimonial point of view as a material and immaterial good, whose cultural manifestations, derived from its use and application by the peoples, require efforts for its conservation and diffusion. In this context, this work intends to understand the past, present and future of Water Heritage and Culture in its interrelationship with multiculturalism and to promote the investigation of the processes of constitution of memory, identities and local values in Ibero-America.

"Claiming water as a world heritage and also as a fundamental human right" is a statement included in the European Union’s 2000 Water Framework Directive which serves as a motivation in the presentation of this work highlighting the patrimonial nature of water associated with culture of the people. Water as patrimony is an inexhaustible subject of studies that exceeds the pretensions of this work. The approach to the theme of water from the patrimonial point of view as a material and immaterial good, whose cultural manifestations, derived from its use and application by the peoples, require efforts for its conservation and diffusion.

This work will be supported by the research characterized by the difficulty to find the information and to deepen the knowledge related to the water heritage and culture. The explanation lies in the scarcity of materials elaborated on this subject and the difficulty in accessing the respective files and sources. The cultural heritage associated with water is immense. There are innumerable objects associated with water heritage, not least the offices of those who work with this resource in traditional occupations, which only remain in the memory of older people or in cultures that keep their traditions alive. For centuries, human intervention has harnessed the resources and natural environments related to water, resulting in a series of high quality heritage elements that contain important cultural, environmental, landscape and socio-economic values.
The consideration of water as heritage includes both material culture: objects, technologies, places, infrastructures ... and the immaterial culture that has been appearing throughout history. Water forms part of the territory. It determines the so-called landscapes of water, defined by the physiognomy of the territory with its natural and anthropogenic elements linked to the emotions that awaken its contemplation. Water landscapes have gained notoriety and, at times, exclusive spatial prominence, given that they are cultural footprints present in many of the municipalities of the Ibero-American countries that are still less well perceived and considered by social collectives.

The development of a civic conscience on the conservation of water heritage and culture, which presses to declare them as goods of Community interest and to include them in the heritage of the Ibero-American regions, is therefore absolutely necessary and falls within the scope of this work.
The concluding study reviews prevention and treatment techniques for Asian scars, including steroids, surgery, laser and fat grafting. The importance of preventing scarring and specific treatments for Asian populations are also discussed.

**Masculinity Studies**

**Masculinity and Femininity: Past, Present and Future**
**Eliano Barese**

In series: *Cultural Studies in the Third Millennium*
Publication Date: 10/02/2020
168 pp.
Softcover: 978-1-53618-415-0, $95.00
E-book: 978-1-53618-584-3, $95.00

Masculinity and Femininity: Past, Present and Future first focuses on the way in which the #MeToo movement has challenged men to respond to the widespread exploitation of women by men, raising questions about men’s ethical responsibility. Following this, the authors examine how the construction of masculinity is changing in the global south and how more men are demonstrating progressive versions of masculinity. Traditional masculinity in the workplace is explored, particularly in the context of parental leave, presenting a framework for action at the institutional, community and individual level. The authors discuss the formation of a distinct feminine subjectivity within the Kurdish political movement of early 21st century in Turkey, which they trace through the self-narrations of women local representatives nominated and/or elected for the 2009 local elections. Jack Halberstam’s new vision of gender and feminism which embraces queer and trans* experiences within the categories of womanhood and femininity is presented as a more inclusive feminism which fits the twenty-first century.

**Women’s Studies**

**Women: Opportunities and Challenges**
**Eligio Fallaci**

In series: *Women’s Issues*
Publication Date: 09/18/2020
297 pp.
Hardcover: 978-1-53618-449-5, $195.00
E-book: 978-1-53618-540-9, $195.00

Women: Opportunities and Challenges first compares the state of women’s representation in the political leadership positions of South Africa and Cameroon after more than two decades of democracy, as well as its impact on women and society at large. Based on actor perspectives from female Members of Parliament and the national women’s organizations in Ghana, the authors analyse insider/outsider dynamics between women inside the state and women outside the state. Following this, the role of the media in the acceptance of Eurocentric Black hair transformations amongst Black South African women is examined. For decades, the debate has raged on the Eurocentric definition of beauty as promoted by various media channels and its possible effect on how Black women define their identity, self-worth, and acceptance into various social classes. The short-lived nature women’s post-disaster empowerment is addressed, and the factors that enable and soon challenge that empowerment are theoretically and empirically explored. Barriers to sexual assault intervention related to victim race as well as bystanders’ own intergroup contact experiences are studied in an effort to determine whether bystanders may be more likely to help potential victims who are perceived to be similar to themselves. The authors theorize the influence of women’s conditioned minds and bodies on their gendered subjugation, pinpointing embodied inferiority and learned helplessness as invisible prime enablers of the perpetuation of domestic violence against women. This compilation also explores how U.S. singer, performer and activist Janelle Monae challenges and complicates the stereotypical myths surrounding African American girls and young women by deconstructing heterosexual normativity and gender conformity in her music, performances and music videos. The closing study focuses on the Spanish Civil War, which displaced half a million people outside of Spain and exiled more than two hundred thousand across the world, concentrating them into refugee communities in France, Mexico, Argentina and the Soviet Union, among others.
Discrimination and Race Relations

Confronting White Supremacy: Consequences, Response and Challenges
Steven Mathis
In series: Social Issues, Justice and Status
Publication Date: 12/14/2020
392 pp.
Hardcover: 978-1-53618-975-9, $230.00
e-book: 978-1-53619-003-8, $230.00
White supremacists today constitute the most significant threat of domestic terror in the United States, but the Federal Government lacks a comprehensive and cohesive strategy for addressing the problem. In recent years, we've seen white supremacists increasingly resorting to the use of violence to achieve their ideological objectives. And today, for the first time since September 11, 2001, more people have been killed in racially motivated or right-wing terrorist incidents in the United States than in attacks perpetrated by Islamic extremists. If we are to marginalize and isolate white nationalist terrorism, a whole-of-society effort is required, one that encompasses civil society and the private sector as well as government.

Chapter 1 will examine the government’s efforts to collect accurate statistics on and combat white supremacist hate crimes and domestic terror. It will also discuss the impact on the communities most victimized and targeted by white supremacists. Chapter 2 will examine the efforts of the Federal Bureau of Investigation (FBI) and the Department of Homeland Security (DHS) to combat white supremacist extremist violence, including their budgets and allocations of personnel, data collection practices, and strategic plans. Chapter 3 looks at white supremacist violence as a transnational terrorist threat to national security. The domestic and global threat of white nationalist terrorism is discussed in chapter 4.

Family and Relationships / Bullying

Peer Victimization: Theory, Research and Practice
Zina T. McGee, PhD (Professor, Department of Sociology, Hampton University, Hampton, VA, USA)
In series: Bullying and Victimization
Publication Date: 02/17/2021
118 pp.
Softcover: 978-1-53619-259-9, $82.00
e-book: 978-1-53619-305-3, $82.00
This book provides key empirical findings from a study measuring the degree of perceived victimization and/or actual attack experienced by a sample of minority adolescents in an urban setting. The project uses a systematic sociological approach to examine the effects of violence on these adolescents by including measures of adjustment outcomes resulting from the stress experienced in these harsh environments. Central to the analysis is the discovery of the linkages between risk factors relating to peer-, community-, and school-level victimization and patterns of coping among youth. To further develop the study, the project determines the perceived level of fear and exposure to violence among urban youth, followed by investigations of variations in adjustment outcomes (i.e., delinquency, anxiety, depression, academic achievement, self-esteem) as they relate to dimensions of violence. Finally, the study focuses on the extent to which coping strategies moderate risk factors among minority adolescents across levels of adjustment outcomes. While the significance of this work is the determination of the relationships between victimization, adjustment outcomes, and coping strategies in urban, minority adolescents in environments at higher risk for violence, the greatest implication of this research is to provide an understanding of the role of particular risk factors and coping strategies used to explain differences in delinquent and anti-social behavior among socially vulnerable youth, many of whom are victimized, and influenced, by delinquent peers. These understandings will provide an empirical basis on which to dismantle structural inequality, develop mental health interventions, reinforce societal- and community-level change, and promote coping behaviors to offset the detrimental impact of violence on the lives of marginalized youth in many communities. Youth victimization and violence are not solely public health problems, but remain severe health disparities, as many neighborhoods and families plagued with elevated violence and systemic poverty need further support to help youth flourish.
A Book About Lawyers
John Cordy Jeaffreson
In series: Law, Crime and Law Enforcement
Publication Date: 03/09/2021
319 pp.
Hardcover: 978-1-53619-329-9, $230.00
e-book: 978-1-53619-362-6, $230.00
A Book About Lawyers provides a glimpse into the history of lawyers in London in the 19th century.

Export Controls: Background, Reforms and Regulations
Mathias Wechsler
In series: Laws and Legislation
Publication Date: 10/09/2020
381 pp.
Hardcover: 978-1-53618-651-2, $230.00
e-book: 978-1-53618-671-0, $230.00
Difficulty with striking an appropriate balance between national security and export competitiveness has made the subject of export controls controversial for decades. Through the Arms Export Control Act (AECA), the International Emergency Economic Powers Act (IEEPA), the Export Controls Act of 2018 (ECA), and other authorities, the United States restricts the export of defense articles; dual-use goods and technology; certain nuclear materials and technology; and items that would assist in the proliferation of nuclear, chemical, and biological weapons or the missile technology used to deliver them. U.S. export controls are also used to restrict exports to certain countries on which the United States imposes economic sanctions.

International Criminal Law of Children
Farhad Malekian (Uppsala, Sweden)
In series: Criminal Justice, Law Enforcement and Corrections
Publication Date: 11/16/2020
369 pp.
Hardcover: 978-1-53618-761-8, $230.00
e-book: 978-1-53618-790-8, $230.00
This book addresses the international criminal law of children, which constitutes one of the major branches of public international criminal law. It brings together the imperative key codes of the international humanitarian law of armed conflict, international human rights law, international criminal law, and international criminal justice in conjunction with the legal statute of children, with a diverse range of methods and positions on the origin of national criminal laws. It proves that children are an especially precious subject of international jurisprudence, and therefore violating their rights in the time of armed conflict is not only a crime of international character, but also an assault against the most elementary, ethical philosophy of universal moral justice. The book also addresses questions relating to the rape, torture, or killing of minors/children in different parts of our globe. The theme of the book condemns various brutal conducts authorized by governments against children both in times of war and of peace such as genocide or recruitment of child soldiers. Through this, the book evaluates the principles of jus cogens and erga omnes which have been constantly violated by various states over the last several centuries up until today.
The powerful theory of the book is strongly recommended to all law and public libraries in the world. It should be read by students of law and politics, international lawyers, researchers of criminal law, military offices including peacekeeping missions.
Malekian introduces two new terms into the system of international criminal law. These are the law of somebodiness and the law of nobodiness. From the lowest to the highest level of the provisions of international human rights law, international criminal law, and the Statute of the Permanent International Criminal Court, the philosophical assumption throughout is to preserve the heritage of the law of somebodiness and prevent the imposition of the law of nobodiness. Individuals and groups, regardless of their ethnic composition, possess a certain universal united essence which should not be disregarded, and which should not put them in the position of nobodiness in the legislation of any state. Therefore, the law of somebodiness is the missing ingredient in our legal system, and its existence contributes to the collective good of humanity. The law contests any law which authorises the use of force, the production of weapons for war, or which grants permission to kill under any circumstance. In contrast, the law of nobodiness is a brutal law which violates the rights of human beings, and which may be used to conceal crimes and contribute to the deaths of millions of individuals by presenting the false truth in order to allow the monopolisation of economic resources, the rights of victims, property, and land. The unique and innovative principles of this book establish the right reason for justice in international legal and political disciplines.

This book is recommended to all those who are engaged in questions of human personal values as a union of true law. It includes not only students of law and politics, but lawyers, judges, prosecutors, and politicians as well.

"agreements on the forum", "clauses derogating from jurisdiction" or "agreements on the extension of jurisdiction"? While when we talk about agreements on jurisdiction we have in mind especially the phenomenon in its civil and commercial declension, in the sense in which these expressions are traditionally used in international instruments as we see in a comparative manner with our research.

The second part of the present work is based on a theoretical and jurisprudential discourse that seeks, at a monographic level, to introduce the central theme of our investigation: How the burden of proof is actually distributed in common law systems? We have decided to deal with all the theoretical aspects of the question, including the matter of presumptions which, as we know, is a topic that can conceptually be traced back to that interests us, given that the main effect of the application of a presumptive rule is to altering the natural allocation of probative costs. The concrete conduct in our paragraphs will be specifically dedicated to a case study of the distribution of the burden of proof as implemented by the American jurisprudence.
Even though the injustices occurring against the Palestinians are alarming, no government is assisting the victims. The gavel of lady justice has been stolen by the permanent members of the Security Council, and thus, no state has spoken out against the injustices. The judges and prosecutors of the international courts are threatened by the dialogues of the powerful authorities, and they even celebrate the mourning of the broken dreams of the innocent children. The Palestinian population has been subjected to genocide, annihilation, banishment, and terror at the hands of the grandchildren of those who themselves greatly suffered from the genocide in Europe -- and still this situation has been referred to as the deal of the century. For a long period of time, the territorial integrity, the traditional sovereignty, the spiritual capital, and the international legal personality of one of the oldest nations of the world have been suffering, arguably to feed the political laundering of other nations. Without any hesitation, the principles of dignity, justice, and equality allegedly upheld by the United Nations should be questioned given the inequity in voting and membership within the organisation. This book seeks bare justice and to tackle the grave violations of international criminal justice in Palestine and elucidate the fact that the notions of irresponsibility, non-accountability, and impunity are stronger than the corpus of the permanent International Criminal Court.

The pillars of this book are addressed to every single individual of the universe who cares for the virtue of moral justice.

**Police Reform in the Aftermath of George Floyd’s Death**  
*Robert B. Smith*

In series: *Criminal Justice, Law Enforcement and Corrections*  
Publication Date: 09/18/2020  
390 pp.  
Hardcover: 978-1-53618-504-1, $230.00  
e-book: 978-1-53618-550-8, $230.00

The death of George Floyd in Minneapolis, MN, while he was in the custody of law enforcement, combined with several other recent high-profile deaths of African Americans at the hands of the police, have generated congressional interest in legislation to reform state and local policing practices, and to require law enforcement agencies to collect more data on law enforcement actions and activities and share these data with the public. Two major pieces of legislation that contain police reform proposals are before Congress: H.R. 7120, the George Floyd Justice in Policing Act of 2020—passed by the House on June 25, 2020—and S. 3985, the Just and Unifying Solutions to Invigorate Communities Everywhere (JUSTICE) Act. This book discusses the current issues associated with police reform.

**The Recovery of Human Rights**  
*Dr. Laura Westra (Founder GEIG, lecturer Department of Jurisprudence, University of Salerno, Italy)*

In series: *Human Rights: Contemporary Issues and Perspectives*  
Publication Date: 10/02/2020  
190 pp.  
Softcover: 978-1-53618-494-5, $95.00  
e-book: 978-1-53618-531-7, $95.00

Human rights were established in law many decades ago and were primarily intended to ensure that citizens could be protected from the absolute authority of the State. However, things are completely different today: first, the power of the state has declined substantially for many reasons, primarily the fact that a great number of functions, formerly performed by the state, have been taken over by private enterprises, who work for their own interest, nor for the public good.

Moreover, these enterprises are no controlled either by domestic or by international legal instruments or organizations. The United Nations are nominally responsible for all the people of the world, according to their own Charter, but in this case as well, their authority is undermined by other entries keen to establish their power and to advance their economic interests, while the protection of human rights, of human life and dignity, are not considered.

Finally, it is not only the legal infrastructure that has changed substantively, but the classic human rights of long ago are far different from the rights that need to be protected today. Climate change and the ongoing destruction of nature, the presence of land grabs, are now viewed as crimes against humanity, as they represent conditions that did not exist in earlier times. Similarly, the racist disregard for Indigenous Peoples and their rights are increasingly prevalent today.

The conditions that exist today, where the threats to human health and life go far beyond what existed at the time human rights were established, such as the pandemic that reigns globally since 2019, has rendered our attempts to recover the respect and protection of human rights, which therefore require a radical reformulation.
Constitutional Law

Procedural and Organizational Aspects of Constitutional Justice in Albania
Erind Merkuri, Ph.D. (Lecturer of Constitutional Law, Faculty of Law – University of Tirana, Tirana, Albania)
In series: Social Issues, Justice and Status
Publication Date: 09/02/2020
315 pp.
Hardcover: 978-1-53618-430-3. $230.00
e-book: 978-1-53618-481-5. $230.00
How do you defend democracy? How do you protect your rights? How can you repeal a law that interferes with your sphere of rights? These are some of the questions that any citizen in a democratic country should know in order to enjoy his/her freedom and rights. Even a small country like Albania is no exception. New and modern Constitutions, aim to regulate the exercise of state power, based on the principle of separation of powers and to the respect for human rights and fundamental freedoms. Despite the fact that this important principle helps to control the activity between different state institutions, the history has shown that this has not always been an efficient solution. So, the world is full of examples where a parliamentary majority, that have come to power through democratic processes, has used its power to control the others power of a country and had violated the human rights and fundamental freedoms. For this reason, the drafters of the constitution after the Second World War in Western Europe and after the fall of communism in Eastern European countries, have established and regulated the creation of the Constitutional Court as an institution which can defend the sphere of the competencies of other institutions with constitutional nature and the protection of human rights and fundamental freedoms. This possibility can only be realized using procedural means, through which the Constitutional Court is put into motion. The purpose of this book is precisely, to analyze these procedural mechanisms with regard to the principles of the constitutional process, the jurisdictions, the admissibility of the applications, the procedural position of the parties, the terms and their calculation, procedural acts and evidence that can be used, as well as, procedural characteristics for each constitutional process. A good knowledge of these principles and rules of procedure helps the different applicants who presented themselves to the Constitutional Court to have higher chances to succeed and to be accepted instead of being dismissing because of procedural deficiencies. This book show all of this aspects in the content of the Albanian experience.

Psychology

A Socio-Economic and Demographic Analysis of Mental Wellbeing: The Indian Case
Antonio Rodríguez Andrés (Associate Professor of Economics, Technical University of Ostrava, Ostrava, Czechia)
Siddhartha Mitra (Full Professor of Economics, Department of Economics, Jadavpur University, Kolkata, India)
In series: Psychology Research Progress
Publication Date: 12/11/2020
177 pp.
Softcover: 978-1-53619-023-6. $95.00
e-book: 978-1-53619-072-4. $95.00
A Socio-Economic and Demographic Analysis of Mental Wellbeing: The Indian Case takes a multidisciplinary look at the mental health problem in India with contributions from psychologists, economists and a psychiatrist. Such a novel multidimensional view is necessary as the mitigation of the problem requires the design of appropriate institutional frameworks for medical treatment and counselling based on cost-benefit analysis; an appreciation of the socio-economic triggers of mental illness and how these can be neutralized through policy; and the identification of vulnerable groups as well as important mechanisms through which these groups can protect themselves from mental illness. This book will serve as a catalyst for the further use of interdisciplinarity in tackling the mental health problem in India and other developing countries: while psychologists and psychiatrists can develop appropriate institutional strategies for dealing with mental health problems, the economist plays an important role in measuring the costs and benefits associated with alternative strategies and in optimizing choice. The significance of this book can be attributed to the fact that one of every six people in the world live in India: any notable success in reducing the incidences of mental illness and deficient mental wellbeing in this country will lighten the socio-
economic burden on the world by a significant amount. The Indian story, with its successes and failures, can also be an important guide for policy in other developing countries. This book is accessible to any interested person (a layperson, policy maker or an academic) in any part of the world. At the same time, the arguments and conclusions are derived with enough rigour to satisfy the most demanding reader.

Advances in Psychology Research. Volume 142
Alexandra M. Columbus
In series: Advances in Psychology Research
Publication Date: 09/18/2020
249 pp.
Hardcover: 978-1-53618-156-2. $250.00
e-book: 978-1-53618-435-8. $250.00
Advances in Psychology Research. Volume 142 addresses the intrinsic relationship between Attention Deficit Hyperactivity Disorder and the development of personality disorders, with an emphasis on environmental risk factors, particularly socio-emotional traumatic experiences. An overview of the literature on suicide assessment and prevention and suicidal ideation is provided for psychiatrists, emergency department providers, general practitioners and other personnel involved in the multidisciplinary assessment and management of suicidal patients. Adaptations and modifications to mindfulness specifically for gambling are described. Gambling is distinct from many other addictions, both substance and behavioral, in that cognitive distortions and beliefs about gambling and winning are deeply rooted and resistant to modification with traditional cognitive-behavior therapies. The authors provide a review of the relationships between Theory of Mind and metacognition. A specific field of metacognition, the understanding of the mental operations underlying learning, is explored in detail. Following this, the diagnostic and phenomenological characteristics of alcohol use disorder and posttraumatic stress disorder are studied, and an overview of research on common risk and resilience factors for the development of both disorders is presented. A few of the most important elements of self-esteem are reviewed, as self-esteem plays an important part in our lives and can have major influence on decision-making and task performance. In the penultimate study, a sample of 243 older adults from the UK were asked to complete a measure of state body image. They were then randomly assigned to watch a film of a first-person walk in a natural environment or a built environment before completing the same measure of state body image as before in an effort to determine the impact of film exposure. Lastly, the authors describe the process used to adapt the Children’s Perception of Interparental Conflict Scale to Portuguese, report on its validation, and discuss its limitations and potential developments.

Advances in Psychology Research. Volume 143
Alexandra M. Columbus
In series: Advances in Psychology Research
Publication Date: 12/02/2020
218 pp.
Hardcover: 978-1-53618-920-9. $250.00
e-book: 978-1-53618-926-1. $250.00
Advances in Psychology Research. Volume 143 first considers the characteristics of digital teaching resources capable of facilitating independent learning that can support the development of new capacities. Following this, the authors focus on factors that may lead to problematic gaming and the theories/frameworks that explain such behavior, ways to mediate excessive game play, and summarize the risks and benefits of video game play. This compilation also explores how different responses to emotional distress may increase risk for addictive behaviors. Research suggests that individuals may engage in risky or addictive behaviors such as drinking, drug use, and bulimia as a way to ameliorate feelings of emotional distress. In the closing study, an analysis of five qualifying works of a psychiatrist on the subject of organizational and methodological component is carried out, with the goal of demonstrating that the participation of the psychiatrist in continuing medical education is an organizational advantage.
Anger: From Primordial Rage to the Politics of Hatred and Resentment
Warren D. TenHouten (Department of Sociology, University of California at Los Angeles, Los Angeles, CA, USA)
In series: Psychology of Emotions, Motivations and Actions
Publication Date: 10/23/2020
278 pp.
Softcover: 978-1-53618-453-2, $110.00
e-book: 978-1-53618-528-7, $110.00
This work explores and analyzes anger. We examine it as a single emotion, and as it commonly occurs in combination with other emotions in complex social relationships that often involve power dynamics. We utilize Robert Plutchik’s primary-emotions classification to hierarchically categorize anger and other basic and complex emotions, and we compare constructivist and basic-emotion theories of emotion. We conceptualize the primary emotions—including anger—as prototypical adaptive reactions to key existential problems: temporality, social identity, exchange, and hierarchy; these are represented by the elementary social-relations models, communal-sharing (CS), equity-matching (EM), hierarchical-ranking (HR), and socioeconomic-exchanging (SE). Basic emotions are adaptive reactions to these social-relations models: positive and negative experiences of CS yield joy—happiness and sadness—grief; EM, acceptance/incorporation and disgust/rejection; HR, anger and fear; and SE, anticipation and surprise.
Anger is uniquely reactive to both positive and negative experiences of social power. Anger is typically elicited by a perceived threat to the self or to the self's project to preserve or attain valued status, resources, or goals. Anger triggers activate a three-stage sociocognitive appraisal process in which the self: (i) perceives that its social position or valued resource is at stake; (ii) endeavors to modify another actor's social intentions concerning norms of social sharing and social cohesion; and (iii) develops an intention act.
We examine emotions in power-based social relations, and define secondary emotional pairings that include anger. We conceptualize a pride-shame system, wherein the emotions of pride (an angry joy) and shame (a fearful sadness) accompany outcomes of success and failure in dominance competitions. We also consider the aggression—alarm system, comprised of aggressiveness (anger and anticipation, and alarm (fear and surprise).
We identify two potentially toxic, complex emotions—hatred and resentment—as the essential political emotions. Both share anger as a key component, and also include contempt. While anger–rage is central to hatred, hatred is significantly different for it can be harnessed for pernicious ends, becoming an expression or instrument of power; resentment is more typically an emotion of the powerless, arising as a reaction to unjustified suffering.
We link anger, hatred, resentment, and other emotions to contemporary United States politics, particularly in competing political ideologies of globalism–neoliberalism, democratic socialism, and nationalism–populism. Globalists’ anger includes disgust, even hatred—directed toward opponents of neoliberal economic globalization. Democratic socialists’ and populists’ anger can advance from helpless, Nietzschean resentment, to a forceful resentment. This process is characterized by an inversion of the four primary emotions of powerlessness (acquiescence, fear, sadness, expectation) into the opposite emotions of empowerment (disgust, anger, joy, and surprise). We hypothesize a parallel inversion of the secondary-level emotions of powerlessness (submissiveness, anxiety, resentment, pessimism, fatalism, and shame) into the opposite secondary emotions of empowerment—contempt, outrage, derisiveness, delight, shock, and pride.

Comprehensive Thematic Abbreviation Dictionary in Psychology and its Relevant Sciences
Shahriar Abbassi (Attending Physician and Technical Supervisor, Kamran Addiction Clinic, Tehran, Iran)
In series: Psychology Research Progress
Publication Date: 11/04/2020
1179 pp.
Hardcover: 978-1-53618-431-0, $450.00
e-book: 978-1-53618-530-0, $450.00
This manuscript includes all generally used and professional abbreviations and acronyms in Psychology and its branches like Analytical, Clinical, Cognitive, Educational, Emotional, Family, Forensic, General, Human, Individual, Industrial, Sexual, Social, and Sports Psychology and also its related fields of science and practice, for example: Addiction, Behavioral Science, Counseling, Psychiatry, Psychotherapy, Hypnosis, Neurology, Neuroscience, Social Work, Psychosomatic Medicine, Mental Health & Hygiene, Sociology and Parapsychology. Geographical Considerations - relevant abbreviations in other European languages and Psychology Abbreviations usually used in English-speaking Countries—have been added too. It is an extensive Abbreviation Dictionary with thematic classification of about 400 Entries (Chapters). The book also includes an additional section titled “Concise List of Psychology Terms” (Psychological Terminology) at the end of it. The main remarkable and probably innovative specifications of the book are as follows: 1. Comprehensiveness, Breadth and Variety of Content
2. Thematic Classification (based on subjects)
3. Entries (Chapters) in other European Languages and Countries

Positive Psychology and School Leadership: The New Science of Positive Educational Leadership
Jolanta Burke, PhD (Assistant Professor Department of Education, Maynooth University, Maynooth, Ireland)
In series: Psychology Research Progress
Publication Date: 11/06/2020
219 pp.
Softcover: 978-1-53618-567-6, $95.00
e-book: 978-1-53618-580-5, $95.00
This is an essential guide for all school leaders, aspiring school leaders and leadership educators to help them incorporate positive psychology in their practice. It provides teaching professionals with the necessary knowledge to understand the gap that currently exists in educational leadership along with a starting point to address it. Research indicates that less than 10% of texts in educational leadership convey positive aspects of leadership. Therefore, we know more about problems, deviance and disengagement, than how to create a positive climate in schools, and help teachers to thrive and to achieve their optimal human potential.

The Psychology of Management: The Function of the Mind in Determining, Teaching and Installing Methods of Least Waste
L. M. Gilbreth
In series: Psychology Research Progress
Publication Date: 09/24/2020
334 pp.
Hardcover: 978-1-53618-614-7, $230.00
e-book: 978-1-53618-646-8, $230.00
The Psychology of Management: The Function of the Mind in Determining, Teaching and Installing Methods of Least Waste provides an insight into industrial organization thinking at the turn of the century.

What to Know about Mindfulness
Thaís Alves Carvalho
In series: Psychology Research Progress
Publication Date: 10/23/2020
155 pp.
Softcover: 978-1-53618-620-8, $95.00
e-book: 978-1-53618-640-6, $95.00
Neurobiology and related disciplines, such as neuropsychology, analyze the relationship between our behavior and the brain. As such, What to Know about Mindfulness opens with a review on the relationship between the practice of mindfulness and compassion and the changes that they produce at the brain level. The authors comprehensively study mindfulness-based psychotherapies and related research, and generally refer to mindfulness techniques and their applications. Additionally, a definition for mindfulness is provided, and the strengths and challenges of using mindfulness for mental wellness are described. Mindful-compassion programs for adolescents that may promote positive mental health outcomes and emotional resilience to protect against the challenges of adolescence are explored.
A Multi-Dimensional CARES Model in Clinical Practice with People with Borderline Personality Disorder: A Comprehensive and Empathetic Articulation

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In series: Mental Illnesses and Treatments
Publication Date: 11/04/2020
330 pp.
Hardcover: 978-1-53613-321-9. $230.00
E-book: 978-1-53613-322-6. $230.00

People with borderline personality disorder are always known as the most difficult client group to human service professionals. It is partly because of their highly fluctuating moods and relationships with others as well as their impulsivity and highly risky behaviors such as attempted suicide, self-harm behaviors and substance abuse. Coupled with these are a variety of co-morbid mental illnesses including depressive disorder, hysteria, anxiety disorder and brief psychosis.

This book begins with a comprehensive articulation of diagnosis and etiology of borderline personality disorder. Four borderline conditions are clinically identified; they are pre-borderline condition, full energy condition, low energy condition and post-borderline condition. Among these four conditions, many different types of manifestations are explored. A multi-dimensional articulation of different perspectives of borderline features are mentioned including trauma, attachment, self-splitting and emotionality.

Based on the writers’ 30 years of clinical work and supervision of clients with borderline personality disorder, this book is the first step in integrating various clinical perspectives and constructs a comprehensive, empathic and multidimensional CARES model in intervention and practice. “C” implies “Companionship with Chronic Loneliness”; “A” means “Affective Concern behind Projective Anger”; “R” refers to “Reflection of Emotion, Responsibility and Empathy”; “E” implies “Evolving Real Self Constructively”; and finally, “S” means “Soothing and Healing Abandonment Trauma”.

Dynamic Assessment of Gifted Children

Hanna David (Tel Aviv University, Emerita, Rishon LeZiyon, Israel)

In series: Giftedness: Identification, Assessment, Nurturing, and Treatment
Publication Date: 11/13/2020
163 pp.
Softcover: 978-1-53618-809-7. $95.00
E-book: 978-1-53618-828-8. $95.00

The book DYNAMIC ON-LINE ASSESSMENT OF GIFTED CHILDREN offers educators, counselors and parents of 3-16-year old gifted, talented, curious, and creative children and youths a new, original tool of assessing their interests and abilities. As this book has been published during the second wave of the covid-19 pandemic, it concentrates on ways of assessment that can all function on-line as well. All offered activities have been tried both before “corona-time” started, when on-line therapy, let alone – on-line giftedness identification, was not practiced for children. The case studies presented in the book have all been written since March 2019, proved effective, enriching the knowledge of the counselor. They were also described as “easy”, “nice”, pleasant and “interesting” by the children involved, and thus are recommended as unlike formal identification they put no pressure either on the child or on her or his parents.

The first assessed child described is a 3-year old girl, who was identified as highly gifted in mathematics. The “game” played was “the geometrical shapes game”, during which she was asked “what do you want me [the counselor] to paint?” and then: “what color do you want me to use?” During the “game” the child showed a wide knowledge in both 2- and 3-dimensional shapes, she always insisted on using the exact mathematical terms, and each time she approved on the result she was very happy.

The next “games” described were all word games. In “The associations game” the counselor writes a word and the child adds another one without thinking, and this goes on alternately for as long as the counselor decides, depending on the child’s age, her or his attention span, level of hunger or thirst, etc. This “game” is suitable toddlers, kindergartners and first grader. The “ugly words game” is suitable especially for children with emotional and social problems. “Writing a story” is most suitable for kindergartners; it does not only reveal many important characteristics of the child but also enables them to express themselves freely, knowing that the story is imaginary. “Writing a story together” is the last suggestion for on-line assessment through a word game.
Modern psychology is an attempt to bring the methods of scientific investigation, which have proved immensely fruitful in other fields, to bear upon mental life and its problems. The human individual, the main object of study, is so complex an object, that for a long time it seemed doubtful whether there ever could be real science here; but a beginning was made in the nineteenth century, following the lead of biology and physiology, and the work of the investigator has been so successful that there is quite a respectable body of knowledge to assemble under the title of scientific psychology. Psychology: A Study Of Mental Life by prominent psychologist Robert S. Woodworth is an introduction into scientific psychology.

Psychotherapy: Perspectives, Strategies and Challenges first discusses the biological components of psychotherapy from the perspective of mechanisms of learning, readaptation, and possible mechanisms of neurogenesis. Following this, the authors highlight recognizable stages of growing from a novice therapist into a seasoned clinician. The nuances of the psychotherapeutic process of dynamic psychotherapy are explored, analyzing the role of patients’ timing in reaching treatment goals, time as a therapist’s tool to provide specific interventions and time as a continuous process of the patient’s growth, which does not stop with the end of therapy.

Previous reports showing the ameliorating effects of religious interventions on infectious diseases are reviewed, and possible underlying mechanisms are suggested. This compilation also reviews the major historical psychoanalytic approaches to psychotherapy that address political issues. Insights from the discipline of psychology on shame and its relation to aggression are presented in the context of domestic violence and political structures from a critical and feminist standpoint. The relevance of psychotherapeutic interventions for female breast cancer patients is explored, using accounts that provide crucial information about the psychological experience of the disease. Additionally, successful psychotherapy for depressive adolescents with suicide attempts is studied in a hospital context. The effectiveness of psychotherapy and intervention programs conducted with mothers and their children is assessed in an effort to inform families to seek effective treatments and researchers to advance their intervention methods and techniques, which contribute to the healthy development of society.

In closing, it is argued that politically sensitive or socially responsible approaches are bound to play a major role in the renewal of psychotherapy.
Security Issues

Understanding Cyber Threats and Attacks
Bimal Kumar Mishra, PhD (Principal, Markham College of Commerce, Hazaribag, Jharkhand, India) and Jose R.C Piqueira, PhD (Professor, Control Engineering, University of São Paulo, Brazil)

In series: Safety and Risk in Society
Publication Date: 09/11/2020
255 pp.
Hardcover: 978-1-53618-336-8. $195.00
e-book: 978-1-53618-537-9. $195.00

In 1961, Leonard Kleinrock submitted to the MIT a PhD thesis entitled: "Information Flow in Large Communication Nets"1, an innovative idea for message exchanging procedures, based on the concept of post-office packet delivery procedures. It was the seed of ARPANET, a wide area data communication network, implemented in 1969, considered the origin of the Internet.

At the end of the 1970’s, digital transmission and packet-switching allowed the building of ISDN (Integrated Services Data Networks). Voice and data were integrated in the same network, given birth to electronic offices combining computation and communication technologies.

The electronic miniaturization and the popularization of micro-computers in the 1980's, brought computer communication to home, allowing the integration and automation of many domestic tasks and access to some daily facilities from home.

A new technological breakthrough came in 1989, when Tim Berners-Lee, a British scientist working at the European Organization for Nuclear Research (CERN), conceived the world wide web (www), easing the communication between machines around the world2.

Nowadays, combining Kleinrock and Berners-Lee seminal ideas for network hardware and software, Internet became all pervasive in the daily life around the world, transforming the old telephone set into a small multipurpose computer.

Consequently, human life radically changed. Our dependence on computer networks became undeniable and together with it, harmful programs or malwares, developed to damage machines or to steal information, represent permanent threat to individuals and society.

In computer science a new work research line emerged: cyber-security, which includes developing models, routines and software to protect machines and networks from malicious programs. This new discipline has attracted researchers to develop ideas for protecting people and corporations.

Cyber-security is the object of this book, that presents hints about how the community is working to manage these threats: Mathematical models based on epidemiology studies, Control of malwares and virus propagation, Protection of essential service plants to assure reliability, the direct impact of virus and malwares over human activities and behavior, Government entities which are highly concerned with the necessary preventive actions.

As cyber-security is a new and wide subject, the intention was to give a general idea of some points, leaving to the readers the task to go ahead.

Sexuality

Validation of Instruments for the Investigation of Sexuality in Vulnerable Groups
Lubia del Carmen Castillo Arcos (Universidad Autónoma del Carmen, Mexico)

In series: Research Methodology and Data Analysis
Publication Date: 09/18/2020
279 pp.
Hardcover: 978-1-53618-340-5. $195.00
e-book: 978-1-53618-471-6. $195.00

In Health Sciences it is necessary to have measuring instruments that allow analyzing various phenomena for better understanding, including those related to human sexuality. Undoubtedly, it is a sensitive issue to discuss, so it is important to have empirical indicators that are capable of measuring as accurately as possible concepts that interest researchers.

The book Validation of instruments for the investigation of sexuality in vulnerable groups is written with the purpose of guiding the process of adaptation and validation of various instruments in the field of sexuality step by step to researchers, teachers and students. This is a book that can be used in basic, intermediate and advanced research courses, as well as in research seminars or on methodology. It contains various validated instruments that make it useful for any area of health science and social science.
This book collects, updates and analyzes the instruments currently available for the measurement of sexual health, provides a detailed guide to the questionnaires prepared, translated and validated so that health professionals can choose the instrument to use according to the subject of interest.

Also, the information provided could be useful to researchers who want to know how to validate an instrument and consider carrying out research studies on issues related to human sexuality. To facilitate understanding, conceptual references related to the methodological design and the study phenomenon are included.

### Social Policy and Welfare

**A Look at Human Trafficking**  
Stephanie P. Garcia

In series: *Safety and Risk in Society*  
Publication Date: 03/04/2021  
230 pp.  
Hardcover: 978-1-53619-267-4, $160.00  
e-book: 978-1-53619-292-6, $160.00

Human trafficking (also known as trafficking in persons) refers to the subjection of men, women, or children to exploitative conditions that may be tantamount to modern-day slavery. It imposes social and public health costs and undermines government authority. This book looks at human trafficking issues.

### Crime and Criminal Justice

**An Introduction to Criminological Theory, Penology and Crime Prevention**  
Ishmael Mugari (Lecturer, Department of Intelligence and Security Studies, Bindura University of Science Education, Bindura, Zimbabwe)

In series: *Criminal Justice, Law Enforcement and Corrections*  
Publication Date: 01/13/2021  
268 pp.  
Hardcover: 978-1-53619-101-1, $195.00  
e-book: 978-1-53619-106-6, $195.00

The book is also essential for security and correctional practitioners such as police officers, correction officers, probation officers and private security players, as well as criminal crime control policy makers. As a lecturer in the field of criminology for some time, I discovered the challenges that most students face in comprehending various divergent aspects of criminological theory, as well as other issues in the areas of penology and crime prevention. However, this essential book logically presents the criminological theories, penology and crime prevention aspects in simple language, and anyone who reads it will find it easy to grasp all the various aspects it covers. To assist with comprehension, summaries of main issues and discussion questions are placed at the end of each chapter.

The book is comprised of eight chapters. Chapter one, the introductory chapter, explains key concepts such as criminology, crime, deviance, criminal justice and crime statistics. The chapter also gives a brief history of criminology and outlines the role of the criminologist, among other issues. Chapter two to chapter six cover criminological theories in classes as follows: chapter two covers the classical and neoclassical school of criminology; chapter three covers the positivist school of criminology; chapter four covers socio-structural theories; chapter five covers social process theories; and chapter six covers critical theories. Chapter seven covers white-collar criminology and, given that most of the pioneer criminologists mainly focused on street crime, the chapter looks at white-collar crime, which is even more harmful. Chapter eight focuses on penology, which is the study of punishment and the treatment of offenders. It covers areas such as theories of punishment, forms of punishment, the death penalty, restorative justice and recidivism. Lastly, chapter nine focuses on crime control and prevention. The chapter starts by looking at two models of the criminal justice process, the crime control
model and the due process model. The bulk of the chapter then looks at crime prevention, which entails any action designed to reduce the actual level of crime and/or the perceived fear of crime. Among others, the chapter looks at crime prevention through environmental design, situational crime prevention, crime prevention through social development, as well as various policing strategies for crime prevention.

**Contemporary Issues in Criminology in Africa**

*Elijah Tukwariba Yin, PhD (Faculty of Law, University of Cape Coast, Cape Coast, Ghana) and Prof. Nelson F. Kofie. PhD (Professor of Sociology Northern Virginia Community College, VA USA)*

In series: *Criminal Justice, Law Enforcement and Corrections*

Publication Date: 03/04/2021

213 pp.

Hardcover: 978-1-53619-109-7. $160.00

e-book: 978-1-53619-247-6. $160.00

This book is a collection of both empirical and theoretical chapters on some significant and enduring issues in Africa. The various chapter submissions are compelling and do make substantive contributions to the literature on criminology in Africa.

The first chapter contends that crimes motivated by superstitious beliefs occur in wide-ranging contexts, and are often driven by socio-economic and political factors. The most vulnerable members of African communities are the primary victims of these crimes.

The second chapter highlights some ethical and administrative challenges that a researcher could encounter in his/her quest to study incarcerated offenders. The study concludes that, while it is crucial to conduct a prison-based study, the researcher would have to adapt to institutional constraints of the respondents, to undertake considerable impression management and negotiations with both staff and inmates, and factor in the heightened security concerns that may affect the quality of the study and the safety of the researcher.

The third chapter examines crimes against the state and the extent to which such issues are being tackled in Ghana. It concludes that the initiatives by various regimes to prosecute and to punish administrative crimes have yielded nominal outcomes.

The fourth chapter probes the prison condition in South Africa (SA). The author argues that the prison situation is no better than those in other African countries. However, its historical racist system sets it apart from other African countries. The chapter concludes that the post-apartheid regimes’ prison ideals have yet to be realized.

The fifth chapter explores roles played by education, civil society organisations, and state institutions in the democratization and strengthening of the Ghanaian Criminal Justice System. Since Ghana relaunched its democratization initiative in 1992, the country has sustained successful presidential and parliamentary elections. Marked improvements have been seen in terms of human rights observation, freedoms, political tolerance, and openness to the global socio-economic and political landscape, yet there is still more room for improvement.

The final chapter examines the lived experiences of students who have suffered crime on the University of Cape Coast campus. The analyzed data showed that factors such as negligence on the part of students, poor security services, and poor lighting systems on campus were the major contributing factors of crime (or conducive conditions for criminal activities).

The study recommends that proper security measures such as the provision of tools and logistics and increasing the number of security personnel should be considered.

This book is relevant for academicians in criminology, criminal lawyers, civil society organisations, policy makers, and human rights advocates.

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**Hate Crimes in the United States**

*Joseph Pelletier*

In series: *Safety and Risk in Society*

Publication Date: 03/09/2021

329 pp.

Hardcover: 978-1-53619-325-1. $230.00

e-book: 978-1-53619-360-2. $230.00

Reports of hate crimes have been steadily increasing over the past several years, particularly against certain groups; there were reports of 6,121 incidents in 2016 and 7,175 incidents in 2017 (a 17 percent increase). Hate crime experts are unsure if this increase reflects a rise in hate incidents, a willingness on the part of victims to report, or better reporting practices by law enforcement (or a combination of these factors); regardless, these crimes have lasting and far-reaching effects for victims, their communities, and for the nation.
structure, particularly how women’s employment differs depending on whether the woman lives in an extended family or in a nuclear family.
The management of cemeteries within the urbanised areas of Kuala Lumpur, Singapore and Jakarta is studied, examining the unconventional methods of conducting a burial.
The penultimate chapter aims to demonstrate that, for most people who gamble, gambling is a fundamentally social activity.
The closing study assesses the way in which religious beliefs may influence the choice of a contraception method, as all methods of conception control, except natural ones, are totally forbidden by most religions.

Mobilizations regarding migrants, asylum seekers, and refugees in Greece are investigated, as well as pro-migrant and anti-migrant citizen mobilizations and initiatives of solidarity and hostility.
In the closing study, the authors check for the presence of power law degree distributions in Facebook Page Networks, analyzing data collected from 325 Facebook fan pages from an Argentinian city.

Advances in Sociology Research. Volume 33
Jared A. Jaworski
In series: Advances in Sociology Research
Publication Date: 12/02/2020
281 pp.
Hardcover: 978-1-53618-931-5. $250.00
e-book: 978-1-53618-941-4. $250.00
Advances in Sociology Research. Volume 33 first looks at the efficacy of a racially defined Black community (Gemeinschaft) in mobilizing participants in the “riots” in English cities in August 2011. Following this, the authors examine the causes behind the crisis in the welfare state, from its establishment to the present day.
Additionally, a brief look at the different constitutions of the welfare state on both sides of the Atlantic is provided to assess what kind of welfare state should be modernized in Germany. One study argues that the COVID-19 pandemic ironically benefited the ruling Patriotic Front and opposition parties in campaigning for the August 2021 general elections in Zambia. The authors go on to discuss blame games, socially-situated and discursively-mediated processes that attempt to assign meaning to harmful events. The logistics of turning the rural community's challenges into opportunities within their existing social structures and conditions to develop a healthier rural community are evaluated. Lastly, cipó-preto is explored in the context of its symbolic value for social actors, particularly focusing on activities involving its collection, production and the sale of handicrafts.

Special Topics

First Responders: Communications, Support and Safety

Heath D. Knott

In series: Safety and Risk in Society
Publication Date: 01/13/2021
286 pp.
Hardcover: 978-1-53619-114-1. $195.00

Major natural disasters in the past 3 years, as well as the COVID-19 pandemic, have heightened attention to the nation’s ability to respond to these types of emergencies. Police officers, firefighters, and emergency medical service personnel are often the first to respond to a crisis or emergency. This book looks at issues faced by first responders.

Fostering Giftedness: Challenges and Opportunities

Senad Bećirović, PhD(Associate Professor, Faculty of Education and Humanities, International Burch University, Sarajevo, Bosnia and Herzegovina) and Edda Polz, PhD (Lecturer of English and Legal Consultant, University College of Teacher Education in Lower Austria, Baden, Austria)

In series: Giftedness: Identification, Assessment, Nurturing, and Treatment
Publication Date: 02/17/2021
234 pp.
Hardcover: 978-1-53619-098-4. $195.00
e-book: 978-1-53619-127-1. $195.00

This book contains two parts. The first part, Chapters 1 to 14 provide a systematic insight into key aspects of gifted students starting from different approaches to defining giftedness, then identifying the gifted, their role in the society, gender differences, socio-emotional development, mentoring gifted students, creating an optimal environment for their development, evaluating the work of the gifted, underachievement of the gifted, methods and programs of working with the gifted, use of modern technologies in teaching gifted students, and training of teachers to work with the gifted population. The second part of the manuscript includes a case study, or empirical research on the development of students gifted in mathematics. The research method is explained first, including a description of the participants and data collection instruments. The research conducted is a case study showing the development of gifted mathematicians both in schools and in the family environment, from early childhood to higher education. The research includes many factors in the family environment such as: socio-economic and educational status of parents, learning conditions, number of children in the family, parents’ assistance with school obligations, parents’ reaction to children’s successes and failures, punishment, etc. The research also includes many in-school factors that could have a positive or negative, motivating or restraining effect on the development of the mathematical gift of the respondents. Some of these factors are: identification of the gifted, methods of working with them, rewards, punishments, programs of working with them, teacher-student relations, and the like. In addition to the development of respondents in the family and school environments, their motivation was also investigated. Based on the interviews conducted with the respondents, the factors that induced our respondents to develop into mathematically gifted students were presented. The development of students gifted in mathematics is also described on the basis of the analysis of their pedagogical documentation, through which their abilities outside mathematics were
determined, along with whether there were any crucial moments that had a positive or negative effect on them, i.e. their mathematical development. Finally, the results of the research were summarized and the factors that could have contributed to the mathematical gift of the respondents were listed. Moreover, certain recommendations are given to parents and teachers for more efficient work with the gifted population.

Immigrant Students: Perspectives, Opportunities and Challenges

Arno Bonsaint

In series: Immigration in the 21st Century: Political, Social and Economic Issues

Publication Date: 10/02/2020

143 pp.

Softcover: 978-1-53618-451-8. $82.00

e-book: 978-1-53618-543-0. $82.00

This compilation delves into the attitudes of teachers in the Greek educational system concerning their cooperation with the parents of newcomers through a questionnaire employed as a quantitative tool and results analyzed through a statistical analysis. In one study, the authors examine DREAMers' motivations for attending college and for persisting throughout the college application process. Particular attention is paid to their parents’ influence during this process. Practices that teachers can use for promoting immigrant students’ social relationships and participation are described using research took place in North-Finland and included immigrant students from a variety of countries.

The closing study examines acculturation, a process resulting in the imprinting of the host culture on the non-native culture.

Sports

Contemporary Research in Sports, Exercise and Health: Measurement and Protocols

Dr. Hairul Anuar Hashim (B.Hsc. (Psychology), M.Sc. (Sport Psychology), Ph.D. (Sports & Exercise Psychology), Exercise & Sports Science Programme, School Of Health Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia), Dr. Chen Chee Keong (B. Ed (Physical Education), Msc (Sports Science), Phd (Sports Science)Exercise and Sports Science Programme, School of Health Sciences, Health Campus, Universiti Sains Malaysia, Penang, Kelantan, Malaysia), Dr. Adam Abdul Malik (Bhsc. (Exercise & Sport Science), Msc (Sport Science), Ph.D (Sports & Health Science), Exercise & Sports Science Programme,School Of Health Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia), Dr. Marilyn Ong Li Yin (BSpSc. (Exercise Physiology), Msc. (Exercise Physiology), Ph.D (Health Science), Exercise And Sports Sciences Programme, School Of Health Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia), Dr. Ayu Suzailiana Muhamad (Bsc. (Forensic Science), Msc. (Sports Science), Phd. (Sports Science), Exercise & Sports Science Programme, School Of Health Sciences, Universiti Sains Malaysia, Penang, Kelantan, Malaysia) and Dr. Asmadi Bin Ishak, PhD (Department of Coaching Science, Universiti Pendidikan Sultan Idris, Tanjung Malim, Perak, Malaysia)

In series: Sports and Athletics Preparation, Performance, and Psychology

Publication Date: 12/02/2020

278 pp.

Hardcover: 978-1-53618-860-8. $195.00

e-book: 978-1-53618-907-0. $195.00

With reference to the theme Contemporary Research in Sports, Exercise and Health: Measurements and Protocols, we have assembled eminent researchers from Malaysia to share their expertise and research findings in various subdisciplines of sports, exercise and health. A major aim of this book is to provide scientific evidence and in-depth exploration of the various types of measurements and protocols used in research in the area of sports, exercise and health. This book has been
specifically prepared with the needs of both students and teaching staff in exercise and sports science in mind. However, we strongly believe that it is also relevant for students in other related fields, and of interest to athletes, coaches, fitness instructors, sports nutritionists, and health practitioners.

**Terrorism**

**Suicide Terrorists and Terrorism: A Suicidologist Critically Reviews the Research**

*David Lester (Emeritus Professor of Psychology, Stockton University in Galloway, New Jersey, USA)*

In series: *Terrorism, Hot Spots and Conflict-Related Issues*

Publication Date: 10/28/2020

321 pp.

Hardcover: 978-1-53618-740-3. $230.00

e-book: 978-1-53618-765-6. $230.00

There has never been a thorough review of the research and speculation on suicide terrorism. The author has read roughly 600 articles on suicide terrorism for this book. 250 are cited because they had something to offer. 350 are listed separately as a reference source for others.

There have been almost no experts on suicide writing on the topic. The author found only three articles on suicide terrorism in suicidology or death journals. Those writing on suicide terrorism have little or no expertise in the field of suicidology. This review is written by a suicidologist. For example, writers on suicide terrorism never cite work on suicide in the oppressed, imitation and contagion effects in suicide, typologies of suicidal behavior, or mass murder. (The present author has written a book on mass murder and published research on mass murder in addition to his extensive work on suicide.)

The book starts with introductory chapters on suicide and mass murder to provide a setting for the review.

The book is a critical review and so will be provocative. All the speculations are mentioned, and the research is reviewed and, if appropriate, critiqued.

**The Fight against Terrorism**

*James M. Doan*

In series: *Terrorism, Hot Spots and Conflict-Related Issues*

Publication Date: 02/24/2021

373 pp.

Hardcover: 978-1-53619-266-7. $230.00


Terrorism remains one of the most serious threats to international peace and security. As terrorist threats have multiplied in their scope and scale so has the efforts to prevent and combat terrorism, including addressing conditions that create fertile ground for terrorist groups to recruit. This book looks at the many different ways to prevent future terrorist attacks.

**Urban Studies**

**Mobility Management in Urban Areas: Models and Perspectives**

*Anjali Awashtli (Professor, Concordia Institute for Information System Engineering (CISE), Concordia University, Montreal, QC, Canada)*

In series: *Urban Development and Infrastructure*

Publication Date: 03/09/2021

316 pp.

Hardcover: 978-1-53618-824-0. $230.00


Smart cities rely on information and communication technologies to enhance the quality of life of their citizens. This includes better use of transportation infrastructure, use of public transport, clean fuels, efficient utilization of parking spaces, and carsharing through the use of technologies such as internet of things, cloud computing, and blockchain while keeping in account environmental goals. Mobility management in urban areas is challenging yet critical. For the smooth transportation of goods and
Revisiting Kathmandu Valley’s Public Realm: Some Insights into Understanding and Managing Its Public Spaces
Rajjan Chitrakar, PhD (Lecturer in Built Environment, School of Engineering, Design and Construction, Melbourne Polytechnic, Melbourne, Victoria, Australia) and Brinda Shrestha (Architect and Urban Planner, Department of Urban Development and Building Construction, Ministry of Urban Development, Government of Nepal, Kathmandu, Nepal)
In series: Urban Development and Infrastructure
Publication Date: 11/13/2020
186 pp.
Softcover: 978-1-53618-739-7, $95.00
e-book: 978-1-53618-816-5, $95.00
Contemporary urban development of Kathmandu Valley, the major urban centre of Nepal, has largely failed to deliver positive outcomes, with direct consequences on its public realm. While the problem demands effective management of urban growth and change, there is also a need to expand scholarly dialogues on the impact of urbanization on public space quality. This book responds to this need and aims to instigate a new debate on contemporary issues of public realm by engaging readers with the challenges of the ongoing transformation and management of public spaces. The book consists of six chapters written on a range of topics, covering both the traditional and contemporary public spaces. Chapter One reviews public realm in the traditional towns of the Kathmandu Valley and reinforces our current understanding of the provision and use of historic urban squares. Chapter Two takes the study on the historic urban squares into a new level by examining these public spaces in relation to contemporary city identity in the context of urban change. The third chapter examines the current transformation of historic riverfronts in the Kathmandu Valley, outlining the physical features and the cultural and religious activities taking place in the riverfronts from the perspective of the cultural landscape theory. Chapter Four is an analytical wrap up on the changing nature of the public spaces in the urban fringe of a historic town. Chapter Five presents the case study of a major civic space in Kathmandu, which is currently in dispute due to encroachment and has become a matter of serious concern among local architects and planners. The final chapter examines how Guthi as a traditional institutional setup for civic governance may be reconsidered to devise a new model for public space governance at present.

Urban Development and Lifestyle
Wayan Suparta, PhD (Universitas Pembangunan Jaya, Tangerang Selatan, Banten, Indonesia)
In series: Urban Development and Infrastructure
Publication Date: 10/16/2020
545 pp.
Hardcover: 978-1-53618-560-7, $310.00
e-book: 978-1-53618-631-4, $310.00
One of the issues of urban development and urban lifestyle, which can be studied from the sea to space, has posed important challenges for humanities, environmental management of cities and urban areas, and the economy. This field is one of the pillars of sustainable development from urban studies towards sustainability welfare. Research and development (R & D) in this part plays a crucial role where urban problems are always alive and increasing every year because of changing customer preferences and needs. City authorities must make appropriate policy choices to protect the provision of equitable housing, health, and transportation services in the future. The megatrends 2030 triggered by the Industrial Revolution 4.0 estimates urbanization will increase sharply, massive move from rural to urban areas, and the land is getting narrower, especially in Asia. New directions and developments in this field and discussion of future priorities must be well anticipated, meticulous, dignified, and innovative. This book highlights the latest views and solutions to technological innovations adapted to achieve prosperity in urban sustainability. For instance, adapting new buildings for urban needs with low-cost and modern design materials, the
housing environment and the layout of city space, weather changes to disaster, and smart transportation systems are also taken into account. It also involves electricity, environmental management, and ways to use agricultural land to increase income. The ease of technology produced will change the business model.

This contributed volume presents solicit selected papers of the 2020 International Conference on Urban Sustainability, Environment, and Engineering (CUSME 2020) with the theme “Urban Life and Technology”. The book covers the point of view in urban architectures with green technology, sustainable environmental, management, agrotechnology, and smart transportation systems. The impact of urban development such as psychological and cultural influences, communication and social complexity, information systems and technology is also discussed with various solutions offered. The outcomes of the conference will certainly support government policy, stakeholders, policymakers, scientists, and engineers by bringing together their latest findings towards achieving a sustainable economy, improved quality of life, and protecting the environment. The findings of this study will create opportunities for further collaboration and are expected to improve the welfare of humanity.

The conference committee and all our contributors wish to pleasantly thank for their efforts and cooperation in finalizing this volume. We wish to acknowledge and gratitude Nova Science Publishers Team for supporting our book proposal and for granting the opportunity to publish these conference proceedings and for their cooperation and support.

Urban Regeneration of Underused Industrial Sites in Albania
Boriana Golgota Vrusho, PhD(Head of Department of Applications Review, General Directorate of Territorial Planning and Development, Municipality of Tirana; Part Time Lecturer Marin Barleti University and Metropolitan University Tirana, Municipality of Tirana, Albania)

This book focuses on the recognition of underused Albanian industrial sites, mostly built during the communist period, and proposals for potential regeneration models, based on successful international examples. The majority of Albanian degraded sites are deemed as an objective of high priority from central government and municipalities, taking in consideration their large areas and good possibilities of these “silent” assets redevelopment, having the opportunity to become the promoters of the development of cities. The book follows with a descriptive analysis of international positive cases, reflecting how these interventions can be appropriately applied for Albanian cases. Consistent reuse methodologies have been proposed based on three pillars: economic and urban, environmental and heritage. Finally, the book presents a general conclusion for practical applications of the above-mentioned methodologies, as a positive approach to promote sites revitalization and promotion at a national and international level.

EXPECTED PUBLICATIONS

Education

Assessment, Evaluation and Research Methods

Education in Europe: Perspectives, Opportunities and Challenges
Aikaterini Kokkinou, Ph.D. (Associate Professor, Hellenic Military Academy, Department of Humanities, Vari, Greece; University of the Aegean, Department of Financial and Management Engineering, Mytilene, Greece)

This book focuses on the recognition of underused Albanian industrial sites, mostly built during the communist period, and proposals for potential regeneration models, based on successful international examples. The majority of Albanian degraded sites are deemed as an objective of high priority from central government and municipalities, taking in consideration their large areas and good possibilities of these “silent” assets redevelopment, having the opportunity to become the promoters of the development of cities. The book follows with a descriptive analysis of international positive cases, reflecting how these interventions can be appropriately applied for Albanian cases. Consistent reuse methodologies have been proposed based on three pillars: economic and urban, environmental and heritage. Finally, the book presents a general conclusion for practical applications of the above-mentioned methodologies, as a positive approach to promote sites revitalization and promotion at a national and international level.
This book is a comprehensive collection of chapters focusing on current techniques and strategies in education policy planning and application, summarizing the debate for the future and prospects of education, within the current socio-economic development and growth spectrum. This book considers a broad perspective to increase the information base and derive broader conclusions about education policies and activities. More specifically, this book presents a discussion of the environment, institutions and education policy issues, focusing on the institutional setting, as well as literature relating to education policy and practice. Moreover, this book identifies and examines relevant key research issues, building a conceptual framework drawing on the application of education and socio-economic development and growth process, enabling a comparative analysis in European level, explaining also any related socio-economic consequences. This book also presents a survey of the choices concerning education policy regarding development and efficiency enhancement, describing the instruments, the actors involved, the actions undertaken, and those which, although promoted in the context of other policies, affect the same channels or pursue similar aims. Moreover, this book explores and studies core dimensions of the interaction between education, research and development, efficiency, new paradigms, methods and techniques along with socio-economic links. Overall, this book describes the main kinds of policy interventions that are implemented, providing at the same time some useful elements, in order to understand the assumptions and theories which underpin them. This book fills a gap in education literature by exploring and studying various dimensions of the interaction between one of the most important socio-economic aspects, namely education, and interactions between related factors (both theoretically and empirically). Special focus is put on the appreciation of the ways in which education activities and policies change and adapt in the presence of new constraints of changing configurations of the knowledge-based economy combined with the emergence and adaptation of institutional or economic structures. Within this framework, this book acts as a platform for theoretical and empirical research, rendering a creative source for motivation, scientific dialogue, collaborative approaches, as well as knowledge creation and dissemination.

To achieve its aims, the book consists of seven chapters by fifteen expert contributors.

**Education in India: Perspectives, Opportunities and Challenges**

*Dr. Anju Beniwal (Assistant Professor of Sociology in Government Meera Girls College, Udaipur, India)*

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

Expected Publication Date: 06/15/2021

177 pp.

Softcover: 978-1-53619-442-5 $ 95.00

e-book: 978-1-53619-503-3 $ 95.00

Education builds the individual, so it builds the nation. Education is the primary means of socialization in every society and plays a very important role in the economic development of any country. Education helps people increase knowledge, results in skill development, and enables them to know their rights and duties towards their family, society, and the nation.

Various future prospects have been considered and policies have been drafted to ensure quality education in India. The aim of education should always be to improve and raise the entire system and to impart knowledge, develop vision and good moral values. The rapid changes and complexity of today’s world present new challenges and put new demands on our education system. In confronting this challenge, it is necessary to understand the various perspectives and opportunities of education. This edited collection mainly focuses on the following issues regarding education:

- Higher Education System: Ancient to Modern Age
- Human Rights Education: Needs and Future Actions
- Mixed Mode Course Contrive and Distribution
- Open and Distance Education
- Reflective Practice in Teaching and Learning
- Changing Scenario in Higher Education of India
- Indian Education System: Opportunities and Challenges
- New Education Environment: Issues, Challenges and Constraints.

**General Education**

**Progress in Education. Volume 66**

*Roberta V. Nata*

In Series: *Progress in Education*

Expected Publication Date: 04/10/2021

231 pp.

Hardcover: 978-1-53619-366-4 $ 250.00

e-book: 978-1-53619-454-8 $ 250.00

This compilation deals with a variety of topics related to education, ranging from the challenge of reintegration in Ukraine to biological influences on behavior and learning. Chapter One describes the mental health issues that children can face in the school environment related to depression and suicide and discusses how schools can improve suicide prevention efforts. The second chapter outlines the innovative teaching method of flipped classes wherein class lectures become home activities and homework becomes an in-class activity and presents the results of a study focused on this style of teaching.
Following this, Chapter Three focuses on Ukraine, where conflict with Russia has impacted many aspects of civic life, including public education. The fourth chapter explains how the booking platform Airbnb impacts the social fabric of Berlin and how this social change can be taught in schools. Chapter Five explores Massive Open Online Courses (MOOCs) in India and proposes improvements for these courses. The sixth chapter discusses solutions to continue effective teaching during the pandemic, and the seventh chapter examines how cortisol can impact a student’s performance from a biochemical point of view. The final chapter aims to establish how best to integrate psychology education into the pre-registration nurse training curriculum to enhance clinical practice.

Special Topics

Service Leadership Theory: Origin and Nature
Daniel TL Shek, PhD, FHKPS, BBS, SBS, JP (Interim Vice President (Research and Innovation), Associate Vice President (Undergraduate Programme), Chair Professor of Applied Social Sciences, and Li and Fung Professor in Service Leadership Education, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, PR China, Advisory Professor of East China Normal University, Honorary Professor of Kiang Wu Nursing College of Macau and Adjunct Professor, Division of Adolescent Medicine, Department of Pediatrics, University of Kentucky College of Medicine, Lexington, United States), Xiaoqin Zhu, PhD (Research Assistant Professor in the Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hong Kong, PR China), Diya Dou, PhD (Research Assistant Professor in the Department of Applied Social Sciences, The Hong Kong Polytechnic University, Hung Hom, Hong Kong, PRCChina) 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: Public Health: Practices, Methods and Policies

Expected Publication Date: 06/05/2021
220 pp.
Hardcover: 978-1-53619-389-3 $ 160.00
e-book: 978-1-53619-430-2 $ 160.00

Service leadership is conceived as “satisfying needs by consistently providing quality personal service to everyone one comes into contact with, including one’s self, others, groups, communities, systems, and environments.” Effective service leadership is determined by three Cs – “Competence,” “Character,” and “Care.” To nurture these important leadership qualities in university students, the “Service Leadership Education Initiative” was launched in eight public universities in Hong Kong. The introduction of this new concept is due to the fact that worldwide economic structure has shifted from manufacturing economies to service economies. The key concepts and propositions in service leadership theory (SLT), such as the strong emphasis on humanity, moral character, caring, and trust, have deep theoretical roots in the existing well-established theories and empirical findings in the social science literature. In addition, these important elements of service leadership have been successfully practiced and proved to exert beneficial influences on personal and organizational success. These findings give support to the validity of the SLT and its further application in education and industry. We earnestly hope that service leaders and organizations can put SLT propositions into practice to achieve success.

The Essential Guide to Information Literacy
Dierk Kopp

In Series: Education in a Competitive and Globalizing World

Expected Publication Date: 04/20/2021
144 pp.
Softcover: 978-1-53619-235-3 $ 95.00
e-book: 978-1-53619-251-3 $ 95.00

Chapter one embodies a glossary from A to Z, presenting specific terms in the field of information literacy. For that purpose, the vocabulary found in similar works and reference documents is analyzed and presented for specific, current, and detailed glossary as a result. The author’s aim in the study in Chapter two is to describe the experiences parents have
gained during six months of working remotely with a child at home during the COVID-19 pandemic. The research results highlight the importance of supporting children’s information literacy skills in the family environment.

**Humanities**

**Literature**

*A History of Italian Literature*

*Richard Garnett*

In Series: *Historical Manuscripts*

Expected Publication Date: 06/10/2021

376 pp.

Hardcover: 978-1-53619-423-4 $ 230.00
e-book: 978-1-53619-474-6 $ 230.00

This book summarizes the history of Italian literature from its inception to the early twentieth century and analyzes it in the context of other contemporary European literature as well as the literature of antiquity.

**Politics**

**American Government and Politics**

*Current Developments in the U.S.-China Relationship*

*Ewan Burns*

In Series: *American Political, Economic, and Security Issues*

Expected Publication Date: 05/03/2021

416 pp.

Hardcover: 978-1-53619-450-0 $ 230.00
e-book: 978-1-53619-536-1 $ 230.00

The United States and the People’s Republic of China (PRC or China) are involved in a prolonged stand-off over trade and in competition that is spilling from political and military areas into a growing number of other spheres, including technology, finance, and education, severely straining ties of diplomatic relations. The two lead the world in the size of their economies, their defense budgets, and their global greenhouse gas emissions. This book looks at the current status of the U.S.-China relationship.

**Elder Justice: Abuse, Legislation and Financial Exploitation**

*Vince D. Anderson*

In Series: *Congressional Policies, Practices and Procedures*

Expected Publication Date: 05/15/2021

376 pp.

Hardcover: 978-1-53619-447-0 $ 230.00
e-book: 978-1-53619-510-1 $ 230.00

Seniors in nursing homes are among the people most vulnerable to life-threatening consequences of abuse and neglect. Across the country, that vulnerability is being exploited in unimaginably cruel ways in nursing homes that are unsafe, understaffed, and uninterested in providing even the most basic humane level of care. Chapter 1 looks at elder abuse and especially nursing home abuse. Elder abuse is a complex issue. As such, it often leads to calls for a multifaceted policy response that combines public health interventions, social services programs, and law enforcement. Chapter 2 provides a brief legislative history of the Elder Justice Act, summarizes elder justice provisions enacted as part of the ACA, and describes administrative efforts related to implementation and funding, along with several issues for Congress regarding the act’s reauthorization. Elder financial exploitation—the fraudulent or illegal use of an older adult’s funds or property—has far-reaching effects on victims and society. Chapter 3 examines the status of HHS’s efforts to compile nationwide data through NAMRS on the extent of financial exploitation and the challenges involved, and what is known about the costs of financial exploitation to victims and others.
Asian Political, Social and Economic Issues

Challenges of Law and Governance in Indonesia in the Disruptive Era I
Hera Susetyo and Qurrata Ayuni
In Series: Asian Political, Economic and Social Issues
Expected Publication Date: 05/10/2021
Hardcover: 978-1-53619-129-5 $ 160.00
e-book: 978-1-53619-348-0 $ 160.00
This book originates from papers presented at the 2nd ICLAVE 2018 conference in Bali, Indonesia, on 5-6 November 2018, organized by the faculty of law at Universitas Indonesia. The conference aims to provide an international platform for academicians, researchers and budding students around the world to share their findings and foster future collaborations. Various topics related to the clash between law and the Industrial Revolution 4.0 were covered at the conference. The organizer believes that the law must deal with disruptive innovation, digitalization, and the constant development of technology concerning how to protect personal data, artificial intelligence, financial technology, and other things that accompany technological progress. There are around 30 articles in this book that discuss laws in the disruptive era from the perspectives of administrative law, constitutional law, business law, intellectual property law, and criminal law.

Challenges of Law and Governance in Indonesia in the Disruptive Era II
Hera Susetyo and Qurrata Ayuni
In Series: Asian Political, Economic and Social Issues
Expected Publication Date: 05/20/2021
Hardcover: 978-1-53619-130-1 $ 230.00
e-book: 978-1-53619-354-1 $ 230.00
This book originates from papers presented at the 2nd ICLAVE 2018 conference in Bali, Indonesia, on 5-6 November 2018, organized by the faculty of law at Universitas Indonesia. The conference aims to provide an international platform for academicians, researchers and budding students around the world to share their findings and foster future collaborations. Various topics related to the clash between law and the Industrial Revolution 4.0 were covered at the conference. The theme for the 2nd International Conference on Law and Governance in a Global Context (the 2nd iCLave) is "Law and Governance in the Disruptive Era." The term "disruptive" refers to the latest trends related to the utilization of technology, automation process, data exchange and cloud computing, and also includes the cyber-physical system, Internet of Things (IoT), cloud computing, and cognitive computing. The organizer believes that the law must deal with disruptive innovation, digitalization, and the constant development of technology concerning how to protect personal data, artificial intelligence, financial technology, and other things that accompany technological progress. There are around 30 articles in this book that discuss laws in the disruptive era from the perspectives of human rights and access to justice, adat (customary) law and Sharia law, judiciary law, and international law.

Governance and Security Issues in South Asia
Dr. C. Vinodan, Dr. Rajeev M.M and Dr. Anju Lis Kurian
In Series: Asian Political, Economic and Social Issues
Expected Publication Date: 05/25/2021
Hardcover: 978-1-53619-461-6 $ 230.00
e-book: 978-1-53619-520-0 $ 230.00
South Asia represents an extravagantly diverse region with a multitude of asymmetrical characteristics with regard to size, population, biodiversity and economy. Governance and Security issues in South Asia incarnates a comprehensive peep into the nature, gravity, navigation and drivers of governance and security issues across the South Asian region. While canvassing the different aspects of governance and security issues in the region, the authors have critically portrayed security dilemmas and governance pitfalls. The book is useful for academicians, policy makers, scholars, researchers, development professionals, think tanks and people involved in South Asian affairs.

Politics of Europe

World War II: Background, Aftermath and Impact
Allison L. Palmadessa, Ph.D (Associate Professor of History, Director of Supplemental Instruction, School of Humanities, Greensboro College, Greensboro, North Carolina, USA)
In Series: Political Science and History
Expected Publication Date: 06/15/2021
232 pp.
Hardcover: 978-1-53619-441-8 $ 160.00
e-book: 978-1-53619-501-9 $ 160.00
This edited collection exhibits research that considers economic, educational, technological, and strategic planning that contributed to nations’ involvement in and the lasting impact of engagement in World War II. Written by historians and social scientists from around the world, each chapter offers an insight into the experiences and implications of those involved in the war – as leaders, civilians, politicians – and the continued strains resulting from diplomatic relationships and the casualties on and off the battlefield. The Second World War devastated the world – not equally in all areas or nations, but it altered the course of human history. These works contribute to the ability to make sense of this brutal war and in doing so, offer readers an opportunity to learn about some lesser-understood implications and results of the Second World War.

Social and Behavioral Sciences

Archaeology

Characterization of Archaeological Materials by the Use of Light
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: Archaeology - Discoveries of the Past
Expected Publication Date: 06/05/2021
155 pp.
Softcover: 978-1-53619-343-5 $ 95.00
e-book: 978-1-53619-439-5 $ 95.00

In this book Characterization of Archaeological Materials by the Use of Light the authors tried to demonstrate the high degree of technology used in laser scanning for archaeological sites. The data collection and review were obtained thanks to the conscious, proprietary data processing and individual knowledge of lidar products, by using the developed especially for archaeological analytical tools, visualization methods data and algorithms processing the point cloud, numerical models and their derivatives. The authors form an interdisciplinary team, they are both archaeologists and laser physicists. This book has four chapters titled: Aerial Laser Scanning, Laser in the conservation of archaeological monuments, Laser analysis of the chemical composition of ceramics and Laser applications to study various solid materials. We presents Airborne Laser Scanning (ALS) such as an advanced method of archaeological prospection. Int he last few years an increasing number of applications of Light Detection and Ranging (LiDAR) data within World archaeology was noticed. At the same time, ALS is an extremely useful method for conservation purposes. On the other hand, carrying out successive measurements allows for monitoring of facilities, sites and landscapes over time. Along with the growing interest in the method and the growing number of its applications in archeology, it is worth paying attention to the efficiency of using the ALS and LiDAR.

Community Studies

Building a More Peaceful Society through Positive Intergroup Contact: An Ecologically Sustainable Approach to Community Wellness
August John Hoffman (Psychology Professor, Metropolitan State University, St. Paul, MN, USA)

In Series: Community Studies
Expected Publication Date: 04/15/2021
237 pp.
Hardcover: 978-1-53619-174-5 $ 160.00
e-book: 978-1-53619-216-2 $ 160.00

Currently our society is experiencing unprecedented conflict and violence from many different types of situations and causes. As our society is becoming increasingly more diverse, it has become more apparent that we need to rely on more environmentally sustainable mechanisms and cooperative behaviors to help address and reverse this trend. Political extremism, ethnocentric ideology and recent authoritarian leadership has resulted in an increasingly divided and polarized community. This book attempts to address the problems of violence and extremism through our evolutionary history in the need for all groups of individuals to work cooperatively and contribute to a healthier and more productive community where all individuals are afforded opportunities to share their skills in a more holistic, organic and collaborative process, what Ervin Staub (2013) refers to as the “constructive social process.” This book examines how natural and ecologically sustainable (i.e., “green space”) environments can help to promote more cooperative and prosocial behaviors within our communities and address the serious problems involving violence and ethnocentric ideologies.
Ecuador: Perspectives of the Past, Present and Future: A Multi-Criteria Approach to Social Evolution

Guillermo Casado López and Marco Benigno Avila Calle

In Series: Cultural Studies in the Third Millennium

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Ecuador is a diverse and multicultural country which has resisted the historical processes of homogenization and globalization. In it different peoples and ancestral nationalities coexist, as well as the heirs of the colonial process, appearing as strong contrasts in customs, languages and cultural expressions, arising syncretism, miscegenation and fusion. There is a fascinating natural diversity, which, despite being contained in a small fragment of world territory, gives an immeasurable environmental value to the country, America, and the world. However, this cultural and environmental wealth is sometimes overshadowed by phenomena of exclusion, by social gaps, by gender inequality and by environmental degradation. These realities, which affect all of Latin America, have vernacular peculiarities, intrinsic to Ecuador as a country. Within this context, this publication aims to generate an investigative space from different perspectives and disciplines, contributing to the construction of a more inclusive and sustainable Ecuador. Therefore, the philosophy and motivation in which the editorial spirit is inscribed is focused through the concepts of identity, culture, humanism, the environment and interculturality. This work also presents the main results of research carried out by various universities in Ecuador, highlighting the contribution of the research project promoted by the postgraduate program of the Catholic University of Cuenca called “Sustainable Architecture Through Adequate Recycling of Plastic,” which has allowed the correct articulation of the themes exposed in this work.

We hope that this book, beyond becoming a useful instrument in academia and within research, may have an expansive and positive effect on the inhabitants of Ecuador, especially those most disadvantaged.

Children in Africa: Opportunities and Challenges

Nicolette Roman, PhD (SA Research Chair: The Development of Human Capabilities and Social Cohesion through the Family, Centre of Interdisciplinary Studies of Children, Families and Society, Faculty of Community and Health Sciences, University of the Western Cape, South Africa), Eugene Lee Davids, PhD (Senior Scientist, South African Medical Research Council, Cape Town, South Africa; Honorary Lecturer, Adolescent Health Research Unit, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa; Research Manager, Independent Institute of Education’s Varsity College, Cape Town, South Africa) and Inge Karla Sonn Occupational Therapist and Early Childhood Development Researcher, Centre for Interdisciplinary Studies of Children, Families and Society, Faculty of Community and Health Sciences, University of the Western Cape, South Africa)

In Series: Social Issues, Justice and Status

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When we focus on children younger than 18 years, when we focus to improve the life chances of children, we have the opportunity to shift a generation and transform a society. Children living on the African continent tend to live within challenging environments, in often challenging communities and challenging families but it is often within these contexts and environments that opportunities exist to develop and grow. This book, Child in Africa: Opportunities and Challenges, presents studies of children living on the African continent, children in the early years, children in the middle years and children in the teen years – all living in different environments on the African continent. The focus is on child and adolescent mental health, parenting, children and disability, parents living and parenting in adversity, how dental caries have a vast impact on early childhood development, adolescent identity in post-apartheid South Africa, hookah pipe use and relational aspects to families, young fathers, and intervening in adolescent health risk behaviour.
Human Trafficking: Issues, Plans and Strategies
Elsa Calabresi
In Series: Human Rights: Contemporary Issues and Perspectives
Expected Publication Date: 06/15/2021
382 pp.
Hardcover: 978-1-53619-449-4 $ 230.00
e-book: 978-1-53619-511-8 $ 230.00
The prevalence of human trafficking, forced labor, and child sexual exploitation throughout the world is an urgent humanitarian issue with direct and far-reaching consequences on the United States. Within the United States, human trafficking and child sexual exploitation are grossly prevalent and affect diverse communities. These crimes threaten our physical and virtual borders, our immigration and customs systems, our prosperity, our national security, and are a direct attack on Americans’ personal safety and our country’s public safety. The International Labor Organization estimates that as of 2016 over 40 million people were victims of human trafficking around the world, 10 million of whom were children. Despite efforts by the United States, and steadfast and dedicated individuals and organizations, exploitation of the less powerful continues. This book looks at the long-term approach for combating these crimes.

Special Topics

Critical Humanity: Embodying Leadership in an Age of Compassion and Empathy
Dr. Peter T. Keo (Senior Research Fellow for the Center for Compassion and Altruism Research and Education, School of Medicine, Stanford University, California, USA)
In Series: Racial Justice and Social Equity
Expected Publication Date: 06/15/2021
222 pp.
Hardcover: 978-1-53619-424-1 $ 160.00
e-book: 978-1-53619-523-1 $ 160.00
Critical Humanity: Embodying Actionable Leadership in an Age of Compassion and Empathy is scientifically grounded and empirically rich. In this book, Dr. Peter T. Keo argues that critical humanity is compassion and empathy in action to improve the lives of the world’s suffering. However, leaders must close the gap between what they say and the actions they take.

Critical humanity has four key components. First, it favors action over passivity. Second, it favors collectivism over individualism alone. Third, critical humanity requires living in the space / tension between compassion and empathy. Fourth, it requires leaders to close the gap between what they say / believe and their actions, i.e., their espoused values and their action items, respectively. Dr. Keo refers to this gap throughout the book as the “values gap,” because it is a constant tension between the “what I say / believe” and the “what I am actually doing” to truly impact the communities served.

Public servants and public service leaders – for whom this book was primarily written – can have a deeper and more meaningful impact by embracing all four components in their service to humanity.

While the contents of this book are empirical in nature, at baseline, it is an expression of Dr. Keo’s personal truth, an epistemology that shares, in equal measures, the joy and pain of a life that is both hopeful and skeptical in humanity. It is an expression that recognizes the tremendous shortcomings and opportunities, again in equal measures, of leaders to properly and authentically serve historically marginalized populations. Dr. Keo had arrived at this realization after decades of embodying the life of a child of Cambodian genocide, war, systemic racism, and poverty. He has experienced life in disenfranchisement in two separate but related occasions, which have shaped his epistemology.

The stories that have formed the impetus for and, indeed, triggered the curiosity undergirding this book, is this: the entanglement of misery and joy is the very essence of life. It is the curiosity of this entanglement – and the need to drastically untangle them to improve the lives of the world’s suffering – that compelled Dr. Keo to write this book, and to develop this new idea: critical humanity.

Forced Migrations and Refugees in the Mediterranean Basin and the MENA Region
Laura Westra (University of Windsor, Faculty of Law, Windsor, Ontario, Canada
Faculty of Jurisprudence, University of Salerno, Salerno, Italy)
In Series: Human Rights: Contemporary Issues and Perspectives
Expected Publication Date: 06/10/2021
173 pp.
Softcover: 978-1-53619-421-0 $ 95.00
e-book: 978-1-53619-471-5 $ 95.00
In the past migrations opened the world to knowledge, science, and understanding among peoples, but increasingly migrants are viewed with disfavour and even hate, especially in the Mediterranean Basin and the MENA Region. I had
published with two other scholars a book intended to promote the rights of migrants in 2015, but today the situation has become so much worse, particularly in our chosen area, that I believe the time has come to re-examine the situation. A number of issues conspire to render the fate of migrants truly desperate, as they are forced to leave their lands that, due to the increasingly grave effects of climate change, can no longer feed and support them and their families, while the ongoing conflicts in the area render their situation truly unlivable. In addition, in the last few years, extreme right-wing political parties in Europe have conspired to treat people of different colour, ethnicity, or religion as unworthy of the respect due to all human beings.

In 2019 a further disaster struck the whole world, a pandemic that imposed particularly harsh conditions to migrants, who were clearly unable to practice social distance and who found themselves in situations where testing, medicines and even sufficient food and water were not available.

There are important aspects of this work that have global applications beyond the focus area we have chosen, such as the spread of racism, the fostering of conflicts to advance the interests of powerful countries, the dangerous spread of populism with fascist tendencies, and the spread of imperialism. Most of all, there is a lesson to be learned: walls to exclude and separate people provide no solutions for any of the grave problems we all face. Such problems can be solved all together or not at all; what is needed is a concentrated effort to acknowledge our need for each other, as only a belief in the true brotherhood of all can help.

Sports

Applications of Traditional Wrestling in The World
Mehmet Turkmen, PhD (Traditional Sport and Games Research and Application Center, Kyrgyz-Turkish Manas University, Bishkek / Kyrgyzstan) and Adem Kaya, PhD (Department of Sport Management, Bowie State University, Maryland, USA)
In Series: Sports and Athletics Preparation, Performance, and Psychology
Expected Publication Date: 06/10/2021
373 pp.
Hardcover: 978-1-53619-371-8 $ 230.00
e-book: 978-1-53619-455-5 $ 230.00

This book is about traditional wrestling which is one of the oldest sports in the world. It has been contributed to by a total of 26 contributors as scholars and experts from 16 countries with many popular traditional wrestling styles. This well-written book is a great resource for anybody such as teachers, athletes, coaches in traditional sports, scholars in sports science, sports historians, physical educators, people in sports ministries, and agencies.

The book not only covers traditional wrestling from a historical point of view but also provides guidance about culture, current application, and present rules and regulations that everybody in the field of traditional sports and games needs to learn.

The book has certainly accomplished the promise of being the single most comprehensive work on the subject matter to date, covering the broadest and most inclusive list of traditional wrestling styles and bringing together the collaboration of the leading scholars and experts from many countries under one publication. This book includes perspectives on traditional wrestling from all over the world, including Siberia, South Africa, Argentina, Scotland, Japan, the USA, Nigeria and Pakistan. As a result, this groundbreaking book will advance the understanding and enjoyment of the sacred sport of wrestling.

Editors and some of the contributors are among the best scientists in the scientific field of sports history and traditional sports and games. One of the editors, Dr. Mehmet Turkmen, is considered one of the best-known scholars in sports history in the world with many academic publications and awards.

Not only does this book educate and entertain, but it also gives the reader a connection on a personal level to all those who have come before him or her that are all united by this shared physical and cultural heritage. Wrestling is a powerful common denominator that has the singularly unique ability to unite all those involved in a brotherhood, giving readers a common link that will bridge the distance of language, location, and culture.
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