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Contents

Agriculture, Crop Science & Botany **2**

Cell Biology **7**

Entomology **10**

Environmental Sciences **11**

Genetics **12**

Laboratory Animal Science **13**

Marine & Aquatic Science **14**

Medicine & Pharmaceutical Medicine **15**

Microbiology **16**

Molecular Biology **18**

Natural History **19**

Soil Science **21**

Toxicology **22**

Zoology **23**

Index **26**

Advances in Agricultural Machinery and Technologies

Edited by **Guangnan Chen**, University of Southern Queensland, Toowoomba, Queensland, Australia

The agricultural industry is facing challenges on a global scale, including the limited availability of arable lands and fresh water, as well as extreme climate change. Machinery is an integral part of agriculture and farming systems. Continuous improvement in agricultural machinery performance is essential to meet the growing population. This book presents information on innovations and advances in agricultural machinery and production technologies. It discusses a wide variety of agricultural machinery and equipment ranging from the ones developed/used for row crops, horticulture, nursery, livestock, and irrigation.

CRC Press
Market: Agricultural Science
April 2018: 254 x 178: 478pp
Hb: 978-1-498-75412-5: **£115.00**
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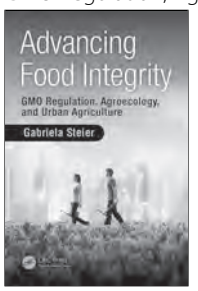
Advancing Food Integrity

GMO Regulation, Agroecology, and Urban Agriculture



Gabriela Steier, Partner, Food Law International LLP, Brighton, Massachusetts, USA

Advancing Food Integrity: GMO Regulation, Agroecology, and Urban Agriculture describes how industrial agriculture is relying on GMOs and failed in its mandate to feed the world. The proliferation of GMOs has trivialized the underlying risks to food safety and food integrity, developments that coincide with urbanization, globalization, and the resulting centralization of our food system. Big Agriculture has enclosed farmland, forcing subsistence peasants off the land, so that it can be used for growing export crops rather than diverse crops for local populations. This book belongs on the shelf of all those interested in food law, environmental law, agroecology, and sustainale urban living.

CRC Press
Market: Law/Food Science/Agriculture
December 2017: 235 x 156: 230pp
Hb: 978-1-138-30525-0: **£53.99**
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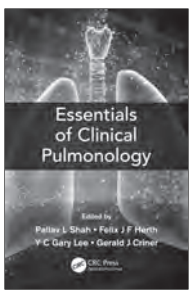
Essentials of Clinical Pulmonology



Pallav Shah, MD, MBBS, FRCP, Consultant Physician, Royal Brompton Hospital and Chelsea and Westminster Hospital, London, UK, **Felix JF Herth**, MD, PhD, FCCP, Chairman and Head, Pneumology and Respiratory Care Medicine Thoraxklinik, University of Heidelberg, Germany, **YC Gary YC Lee**, University of Western Australia, Crawley, Western Australia, Australia and **Gerard J. Criner**, Medical University of South Carolina

This book gives all the key information that trainee and practitioner pulmonologists need to know in one print and digital resource.

CRC Press
May 2018: 279 x 216: 544pp
eBook: 978-1-498-71579-9
Pack - Book and Ebook: 978-1-444-18646-8: **£119.00**
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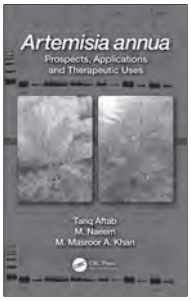
Artemisia annua

Prospects, Applications and Therapeutic Uses



Edited by **Tariq Aftab**, **M. Naeem** and **M. Masroor A. Khan**

Artemisia annua is a well-known medicinal plant that has been utilized for a number of purposes, including malaria, for centuries. A component and extract, artemisinin, is the source of other derivatives which are also suitable for pharmaceutical use. The present demand for artemisinin far outpaces its supply. Researchers are working globally towards improving artemisinin content in the plant by various means. *Artemisia annua*: Prospects, Applications and Therapeutic Uses highlights the different approaches, including 'omics', that are being used in current research on this immensely important medicinal plant. It provides coverage of the agricultural and pharmaceutical uses of this plant.

CRC Press
Market: Life Science
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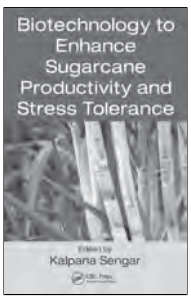
Biotechnology to Enhance Sugarcane Productivity and Stress Tolerance



Edited by **Kalpana Sengar**, Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut, Uttar Pradesh, India

Sugarcane is the most important plant source for sugar and alcohol production cultivated in more than 80 countries in tropical and subtropical areas. However; environmental factors negatively influence yield and jeopardize meeting the increasing demand for bioethanol. The development of tolerant plants is fundamental for the maintenance and increase of crop yields. This book examines various methods for sugarcane improvement through biotechnology. Chapters address bioengineering of sugarcane, procedures to boost productivity, genetics and assessments for resistance to drought and salinity, genetics for high yields, and various topics of research on sugarcane genetics.

CRC Press
Market: Agricultural Science
February 2018: 235 x 156: 294pp
Hb: 978-1-498-75465-1: **£89.00**
* For **full contents** and more information, visit: **www.crcpress.com/9781498754651**

Biotechnology: Recent Trends and Emerging Dimensions

Edited by **Atul Bhargava** and **Shilpi Srivastava**

Biotechnology is a multidisciplinary field encompassing microbiology, bichemistry, genetics, molecular biology, chemistry, immunology, cell and tissue culture physiology. This book describes the recent developments in these areas. Current research topics such as Quorum sensing, Integrons, Phytomining are discussed, which would serve as an excellent reference work for both academicians and researchers in the field.

CRC Press
Market: Biomedical Science
November 2017: 235 x 156: 180pp
Hb: 978-1-138-56108-3: **£77.00**
eBook: 978-0-203-71103-3
* For **full contents** and more information, visit: **www.crcpress.com/9781138561083**

Climate Change and Crop Production

Foundations for Agroecosystem Resilience

Edited by **Noureddine Benkeblia**, Department of Life Sciences, University of West Indies, Kingston, Jamaica

Series: Advances in Agroecology

Climate Change and Crop Production: Foundations for Agroecosystem Resilience presents an overview of agroecology within the framework of climate change. It will cover elements of the changing climate and their impacts on crop production and agroecosystems. The book will report on how plants will cope with these changes, how we can mitigate these negative impacts to ensure food production for the growing population, adn how to preserve our ecosystems. Many chapters will provide information on the adaptation and resilience of food production systems within the changing climate. Chapter authors from six continents provide an international perspective on climate change and crop production.

CRC Press
Market: Agricultural Science
October 2018: 254 x 178: 344pp
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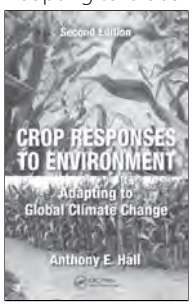
Crop Responses to Environment

Adapting to Global Climate Change, Second Edition



Anthony E. Hall, University of California, Riverside, California, USA

Following in the tradition of its predecessor, this second edition describes aspects of crop responses to environment that are particularly relevant to the development of improved crop cultivars and management methods on a global scale. It emphasizes principles and theories concerning plant responses to the environment for plants in natural as well as agricultural systems. The new edition contains more comprehensive material, an improved writing style, and places emphasis on crop adaptation to global climate change.

CRC Press
Market: Life Sciences
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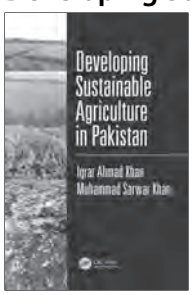
Developing Sustainable Agriculture in Pakistan



Iqrar Ahmad Khan, University of Agriculture, Faisalabad, Pakistan and **Muhammad Sarwar Khan**, Center of Agricultural Biochemistry and Biotechnology (CABB), University of Agriculture, Faisalabad, Pakistan

Pakistan has a strong agrarian base and agriculture is its main factor in economic growth. Due to fixed cropping patterns, reliance on few major crops, narrow genetic pools, poor seed quality and changing climate, agriculture production is compromised throughout the country. This book provides an overview of trends and inadequacies in agriculture practices in Pakistan. It discusses land use, agricultural production and health, populace development, regional and international policies, and value-added products through improved supply-chain management. Ultimately identifying problems in the industry, it provides remedies to these problems and ways of moving forward towards improvement.

CRC Press
Market: Agricultural Science
April 2018: 254 x 178: 888pp
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* For **full contents** and more information, visit: **www.crcpress.com/9780815366539**

Dwarf Horticultural Plants

Vadivel Arunachalam, ICAR Research Complex for Goa, India

Dwarf plants are small-scale varieties of regular or full-size plants that may grow to be large. Dwarf and semi-dwarf horticultural plants have unique advantages in production over standard varieties. They are easily harvested, take up less room than full-size plants, reach maturity early, and have high productivity. This book discusses fundamental topics that cover biology, economics, physiology, and social significance of development and employment of dwarf horticultural crops around the world. It presents topics that apply to specific fruits, vegetables, herbs, ornamental crops, and plantation crops.

CRC Press
Market: Agricultural Science
July 2018: 235 x 156: 280pp
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Eco-Friendly Techniques for Enhancing Crop Productivity

Edited by **Kalpana Sengar**, Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut, Uttar Pradesh, India

As the world population increases daily and as climate continues to change, there is a growing need to produce more food in limited agricultural lands. This book provides several techniques to increase crop production without adverse effects to the environment. It focuses on methods that include combined approaches of traditional plant breeding and molecular genetics in crop improvement. Topics covered include biotechnology, biological control of plant diseases, formulation of biofertilizers, assessment of plant stress, and enhancement of crop productivity and quality.

CRC Press
Market: Agricultural Science
September 2018: 254 x 178: 300pp
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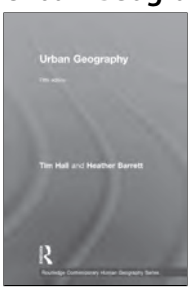
Urban Geography



Tim Hall, University of Gloucestershire, UK and **Heather Barrett**, University of Worcester, UK

Series: Routledge Contemporary Human Geography Series

The revised fifth edition combines the topicality and accessibility of previous editions with extensive new material, including two new chapters on mobility and cities and urban futures, as well as a wealth of international case studies, extending its range of coverage across the field. This book features enhanced pedagogy including a range of new illustrations and tables, an abstract for each chapter, end of chapter essay questions and project activities, and annotated further reading from books, journals and websites. Written in an engaging, student-friendly style, this is an essential read for students and scholars of urban geography.

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Field to Palette

The Soil Art Dialogues

Edited by **Alexandra Toland**, **Jay Stratton Noller** and **Gerd Wessolek**

In an age of accelerated global soil degradation, creative approaches to protecting soil are warranted. This book is a transdisciplinary, multimedia reflection on the representation and meaning of soil resources in an age of crisis. Going beyond the traditional use of soil materials in sculpture and painting, it articulates critical positions on land use, biodiversity, and many other facets of cultural dependence on the soil. With contributions from over 60 internationally-renown artists and cultural researchers and 40 leading environmental scientists, this book presents a set of visual methodologies and worldviews that expand our understanding and appreciation of soil.

CRC Press
Market: Agricultural Science
July 2018: 279 x 216: 500pp
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Forestry Applications

Edited by **Gregory Paradis**, University of British Columbia, Canada

This book is the first compilation of forestry-themed papers since the inauguration of a forestry special-interest group within the Canadian Operational Research Society. The contributions feature applications of operational research to a wide range of forest management and forest products industry contexts, including supply-chain planning, lumber production planning, demand-driven harvest and transportation planning, and fire-aware wood supply planning. This book was originally published as a special issue of the *INFOR: Information Systems and Operational Research* journal.

Routledge
Market: Forest Ecosystem Management
March 2018: 246x174: 148pp
Hb: 978-1-138-57639-1: **£115.00**
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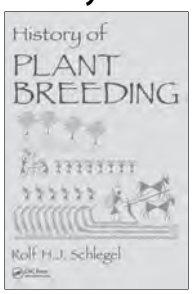
History of Plant Breeding



Rolf H. J. Schlegel, Director, Research & Development, Hybrotec, Aschlersleben, Germany

While there has been great progress in the development of plant breeding over the last decade, the selection of suitable plants for human consumption began over 13,000 years ago. This book provides a comprehensive treatment of the development of crop improvement methods over centuries. It features an extensive historical treatment of development, including influential individuals in the field, plant cultivation in various regions, techniques used in the Old World, and cropping in ancient America. It covers modern advances in the twentieth century including hybrid breeding, biotechnological improvement, and genetic manipulation.

CRC Press
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Knowledge Representation in Systematic Biology

Edited by **Nico M. Franz**, Arizona State University, Tempe, USA

Series: Species and Systematics

Novel and diverse logic-based applications are becoming more available to systematists. This book provides an updated, open-minded characterization of the "boundaries of logic" in systematics, including an accessible overview of several endeavors such as Knowledge Representation and Reasoning (KRR), Open Biological and Biomedical Ontologies (OBO) and others. Chapters by leading contributors range from easy-to-read introductions, reviews and empirical studies to engaging position papers that aim to clarify the most fruitful ways forward for the logic and systematics.

CRC Press
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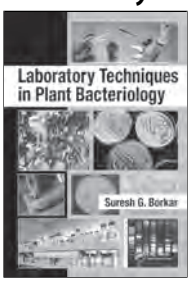
Laboratory Techniques in Plant Bacteriology



Suresh G. Borkar, Dept of Plant Pathology, Mahatma Phule Agriculture University, Maharashtra, India

Bacterial diseases of plants occur worldwide and cause substantial economic losses in crops. Very few scientists and other workers are trained to study or control bacterial diseases of plants. This book includes the techniques required to identify and isolate pathogenic bacteria of plants and covers other important topics of bacterial diseases. It contains 41 chapters that cover histology, isolation, culture, genetics, assessments of disease intensities, metabolism, and many other factors that will help scientists in their investigations of bacterial diseases of plants. Many of the chapters present laboratory techniques on these topics.

CRC Press
Market: Life Science
December 2017: 254 x 178: 320pp
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Metabolic Adaptations in Plants During Abiotic Stress

Edited by **Akula Ramakrishna**, Monsanto Crop Breeding Station, India Vegetable R & D, Chikkaballapur, Karnataka, India and **Sarvajeet Singh Gill**

Metabolic Adaptations in Plants during Abiotic Stress covers a topic of past, present and future interest for both scientists and policy makers as the global challenge of climate change is addressed. Understanding the mechanisms of plant adaptation to environmental stresses can provide the necessary tools needed to take action to protect them, and hence ourselves. This book brings together recent findings about metabolic adaptations during abiotic stress and in diverse areas of plant adaptation. It not only reviews the published results, but also introduces new concepts and findings to offer original views on the perspectives and challenges in this field.

CRC Press
Market: Life Science
August 2018: 235 x 156: 480pp
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Theory for Today's Musician, Third Edition (Ebook Package)

Ralph Turek, University of Akron, USA and **Daniel McCarthy**, University of Akron, USA

Theory for Today's Musician, Third Edition, recasts the scope of the traditional music theory course to meet the demands of the professional music world, in a style that speaks directly and engagingly to today's music student. It uses classical, folk, popular, and jazz repertoires with clear explanations that link music theory to musical applications. The authors help prepare students by not only exploring how music theory works in art music, but how it functions within modern music, and why this knowledge will help them become better composers, music teachers, performers, and recording engineers. This package includes both the textbook and accompanying workbook.

Routledge
Market: Music Theory
November 2018: 1200pp
Pack: 978-1-351-24614-9: **£110.00**
* For **full contents** and more information, visit: **www.routledge.com/9781351246149**

Pictorial Atlas of Soilborne Fungal Plant Pathogens and Diseases

Tsuneo Watanabe, Institute for Biological Resources and Functions, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki, Japan

Series: Mycology

The Pictorial Atlas of Soilborne Fungal Plant Pathogens and Diseases describes the soilborne fungal diseases caused by Oomycetes, Zygomycetes, Ascomycetes, Basidiomycetes, and Deuteromycetous (Anamorphic) fungi. Soilborne fungal diseases are significant as both environmental and agricultural problems, yet it is difficult to understand the ecology of pathogenic fungi and its effective control. This book provides very detailed information on many of the commonly and not so commonly encountered groups of soilborne fungi diseases. It will be a useful reference for those teaching and conducting research in mycology, plant pathology, soilborne plant diseases, and the ecology of fungal communities.

CRC Press
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Nanoagroceuticals and Nanophytochemicals

Edited by **Bhupinder Singh Bhoop**

Nanotechnology offers substantial applications for the development of novel and innovative products out of agriculture products and herbal supplements, and their subsequent production, processing, storage and packaging. Apt utilization of nanotechnology tools in agriculture has been bringing forth tangible benefits to the farmers, food industry, patients and consumers. This book volume encompasses the recent trends made in the applications of nanoscale tools for diverse constituents of plants and agriculture, particularly in addressing the critical issues related to their safety, efficacy, and efficient and cost-efficient development and production.

CRC Press
Market: Agricultural Science
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Plant Molecular Systematics

Arun Kumar Pandey, University of Delhi, India

The field of plant taxonomy has transformed rapidly over the past two decades, especially with regard to improvements in phylogenetic analyses and use of molecular data. The book highlights the efficacy of molecular data in inferring phylogeny. References throughout the book illuminate the taxonomic terminology and literature. The molecular data accumulated in recent years has led to dramatic changes in plant systematics. The book includes a range of topics beginning from gene to phylogenomics and provides an up-to-date information about plant molecular systematics.

CRC Press
Market: Life Science
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Nanonutraceuticals

Nanonutraceuticals

Edited by **Bhupinder Singh Bhoop**

Combining the word nutrition with pharmaceuticals, "nutraceuticals" constitute the merchandise demonstrating the desirable therapeutic benefits and reduced side effects vis-à-vis those associated with the use of corresponding pharmaceutical substances. The list of reported nutraceuticals used in the prophylaxis, mitigation and therapeutic management of diverse diseased states is quite long. The present book will be a comprehensive account of the various facets of this domain. The peruser of this book will find details on various nanotech approaches to nutraceuticals, prebiotics and probiotics, along with their specific applications.

CRC Press
Market: Food and Culinary Science
May 2018: 254 x 178: 336pp
Hb: 978-0-815-39992-6: **£155.00**
eBook: 978-1-351-13894-9
* For **full contents** and more information, visit: **www.crcpress.com/9780815399926**

Plant Tolerance to Environmental Stress

Role of Exogenous Phytoprotectants

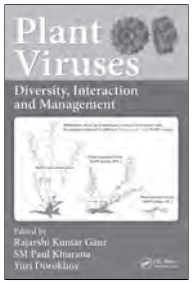
Edited by **Mirza Hasanuzzamam**, Department of Agronomy, Sher-e-Bangls Agricultural University, Dhaka, Bangladesh, **Masayuki Fujita**, Department of Plant Science, Faculty of Agriculture, Kagawa University, Japan, **Hirosuke Oku** and **M. Tofazzal Islam**, Gazipur, Salna, Bangladesh

The variability of environmental conditions pared with the sessile lifestyle of plants contribute to high exposure to various stress factors. Increasing tolerance of crop plants to abiotic stresses is needed to fulfill increased food needs of the population. This book covers various aspects of abiotic stress tolerance in plants and presents methods to alleviate the harmful effects of stress factors. It provides information on how exogenous phytoprotectants can mitigate abiotic stressors including drought, elevated ozone, salinity, extreme temperatures, flooding, waterlogging, and toxic metals.

CRC Press
Market: Life Sciences
July 2018: 254 x 178: 350pp
Hb: 978-1-138-55917-2: **£140.00**
eBook: 978-0-203-70531-5
* For **full contents** and more information, visit: **www.crcpress.com/9781138559172**

Plant Viruses

Diversity, Interaction and Management

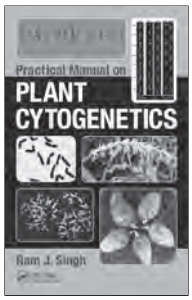


Edited by **Rajarshi Kumar Gaur**, **SMP Khurana** and **Yuri Dorokhov**

Plant viruses are significant as they affect our food supply and are capable of rapidly spreading to new plant species, so a comprehensive study of plant viruses is important in understanding their pathogenesis and prevention. This book focuses on the plant virus evolution, their molecular classification, epidemics and management. The key features in the book includes genome organization, translation and replication, virus-coded proteinases, structure of virus particles, cell receptors and host range, the RNA polymerase, quasispecies dynamics and virus evolution, and its natural habitats.

CRC Press
Market: Life Science
January 2018: 254 x 178: 387pp
Hb: 978-1-138-06151-4: **£155.00**
eBook: 978-1-315-16228-7
* For **full contents** and more information, visit: **www.crcpress.com/9781138061514**

Practical Manual on Plant Cytogenetics



Ram J. Singh, University of Illinois, Urbana, USA

Plant cytogenetics and its methodology have progressed rapidly during the last decade. This book compiles information on plant cytogenetic techniques in the practical form of a laboratory manual. It combines theory with various methodological approaches along with classic and modern techniques applied in plant cytogenetics. The book examines methods used for individual crop species because one cytological method does not work for all plants. It presents cytogenetic techniques (cytology and genetics) for physically locating the genes with the specific chromosomes.

CRC Press
Market: Life Science
December 2017: 235 x 156: 320pp
Hb: 978-1-498-74297-9: **£115.00**
eBook: 978-1-351-22826-8
* For **full contents** and more information, visit: **www.crcpress.com/9781498742979**

Stress Physiology of Woody Plants

Edited by **Wenhao Dai**, North Dakota State University, Fargo, USA

This book addresses the importance woody plants have in agriculture, forestry, and the environment and how various stresses affect their performance. It reviews physiological and molecular responses of woody plants to major environmental stresses and focuses on the mechanisms involved in imparting resistance to stress. Chapters cover basics of plant physiology including plant structure and plant growth, photosynthesis, respiration, plant growth regulation, abiotic and biotic plant stresses including drought, water logging, nutrient deficiency, salinity, chilling, freezing, heat, oxidative stress, and heavy metal toxicity.

CRC Press
Market: Agricultural Science
August 2018: 235 x 156: 400pp
Hb: 978-1-498-74608-3: **£110.00**
eBook: 978-1-498-74609-0
* For **full contents** and more information, visit: **www.crcpress.com/9781498746083**

Thermophilic Fungi

Basic Concepts and Biotechnological Applications

Raj Kumar Salar

Thermophilic fungi are a small assemblage in eukarya that have a unique mechanism of growing at high temperature extending up to 61°C. During the last five decades, many species of thermophilic fungi sporulating at 45°C have been reported. They have not been documented in any text. This book aims to fill the gap by documenting thermophilic fungi discovered over the past five decades. The chapters spans from covering basic aspects, taxonomy and classification including molecular phyologeny and biotechnological applications of thermophilic fungi.

CRC Press
Market: Life Science
March 2018: 235 x 156: 352pp
Hb: 978-0-815-37070-3: **£155.00**
eBook: 978-1-351-11818-7
* For **full contents** and more information, visit: **www.crcpress.com/9780815370703**

Aging

Exploring a Complex Phenomenon

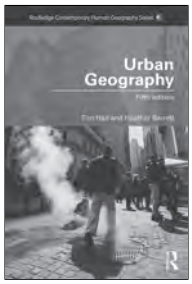
Edited by **Shamim I. Ahmad**, Nottingham Trent University, United Kingdom

This book is a detailed and comprehensive synthesis of the scientific study of aging. Dozens of contributions from leading scholars review various theories of aging, and molecular, cellular, biochemical and microbial aspects of aging, among just a few of the topics included. Authoritative, wide ranging and thorough, this book will act as a source for experimental design, a comprehensive description of age related diseases, and provide information of the latest molecular theories underlying their causes. Additionally, it will target industries involved in developing anti-aging drugs, post-graduate medical students, and university libraries.

CRC Press
Market: Life Science
October 2017: 254 x 178: 658pp
Hb: 978-1-138-19697-1: **£99.00**
eBook: 978-1-315-28389-0
* For **full contents** and more information, visit: **www.crcpress.com/9781138196971**

5th Edition • TEXTBOOK • NEW EDITION

Urban Geography



Tim Hall, University of Gloucestershire, UK and **Heather Barrett**, University of Worcester, UK

Series: Routledge Contemporary Human Geography Series

The revised fifth edition combines the topicality and accessibility of previous editions with extensive new material, including two new chapters on mobility and cities and urban futures, as well as a wealth of international case studies, extending its range of coverage across the field. This book features enhanced pedagogy including a range of new illustrations and tables, an abstract for each chapter, end of chapter essay questions and project activities, and annotated further reading from books, journals and websites. Written in an engaging, student-friendly style, this is an essential read for students and scholars of urban geography.

Routledge
Market: Geography/Urban Studies
November 2017: 234x156: 384pp
Hb: 978-1-138-10182-1: **£110.00**
Pb: 978-1-138-10183-8: **£34.99**
eBook: 978-1-315-65259-7
Prev. Ed Pb: 978-0-415-49232-4
* For **full contents** and more information, visit: **www.routledge.com/9781138101838**

Cells in Evolutionary Biology

Edited by **Brian K. Hall**, Dalhousie University, Halifax, Nova Scotia, Canada and **Sally Moody**, George Washington University SMHS, Washington D.C., USA

This book summarizes the ways evolutionary theory has influenced the development of cell biology. Chapters explore Darwin's use of cells in his theory of evolution. Weismann's contrarian germ plasm theory will be assessed from several perspectives. The discovery of genes and the rise of genetics, the use of embryos for the identification of cell lineages, evidence of cytoplasmic inheritance in protozoans, and investigations of divergent nuclear control in prokaryotes and in eukaryotes provided new potential synergies between cell biology and evolutionary theory. The identification of cellular condensations as the modular basis of embryonic development returned cells to centre stage.

CRC Press
Market: Life Science
June 2018: 235 x 156: 300pp
Hb: 978-1-498-78786-4: **£82.00**
eBook: 978-1-498-78787-1
* For **full contents** and more information, visit: **www.crcpress.com/9781498787864**

Embryos of Living Dinosaurs

Interpreting and Resoliving Developmental Evidence

Alexander O. Vargas Milne, Departamento de Biologia, Facultad de Ciencias, Universidad de Chile, Nunoa, Santiago, Chile

The dinosaur-bird transition has been intensively studied using both fossil and embryological evidence. In recent years, the notion that birds are living dinosaurs has become the mainstream opinion in paleontology. But some embryologists and ornithologists remain skeptical and accuse paleontologists of ignoring conflicting evidence. This book resolves these conflicts. Careful re-evaluation of those features in seeming contradiction reveal that such characteristics actually support and corroborate the mainstream view that birds are in fact members of a dinosaurian lineage - they are living dinosaurs.

CRC Press
Market: Life Science
September 2018: 235 x 156: 350pp
Hb: 978-1-138-03538-6: **£63.99**
eBook: 978-1-315-26806-4
* For **full contents** and more information, visit: **www.crcpress.com/9781138035386**

Epithelial Cell Interactions

Edited by **Seema Khurana**, University of Houston, Baylor College of Medicine, Houston, Texas, USA

Series: Methods in Signal Transduction Series

Epithelial cells are unique; they differentiate, have polarity, maintain cell-cell and cell-matrix interactions etc. Methods to isolate, culture and study epithelial cells are also different. Similarly, the signaling mechanisms regulating epithelial cells are different which includes protein targeting, vesicle trafficking, cytoskeletal protein distribution and function. This volume will describe a variety of methodologies employed for the study of epithelial cells. These methods include isolating primary cells and generate and maintain organoid cultures; culturing intestinal and renal epithelial cell lines; characterizing epithelial cell polarity and differentiation; and others.

CRC Press
Market: Life Science
August 2018: 235 x 156: 300pp
Hb: 978-1-138-55988-2: **£125.00**
eBook: 978-0-203-71219-1
* For **full contents** and more information, visit: **www.crcpress.com/9781138559882**

Evolution of the Structure and Function of the Notochord

Edited by **P. E. Witten**, Ghent University, Belgium and **Brian K. Hall**, Dalhousie University, Halifax, Nova Scotia, Canada

Although it is the defining organ of Chordates, the notochord is perhaps the least understood of vertebrate organs because it is usually considered a transient structure only present in early embryonic development. Most tetrapods replace the notochord with cartilaginous or bony vertebral bodies and remnants of the notochord persist as intra- or intervertebral spaces and intervertebral discs. The presence of cartilage in the notochord of some tetrapods raises further important questions on the evolutionary relationships between notochordal cells and cartilage cells. This book explores these patterns of relationships between the notochord and vertebral axial chondrogenesis.

CRC Press
Market: Life Science
October 2018: 235 x 156: 300pp
Hb: 978-1-498-78791-8: **£82.00**
eBook: 978-1-498-78792-5
* For **full contents** and more information, visit: **www.crcpress.com/9781498787918**

Gene and Cell Delivery for Invertebral Disc Degeneration

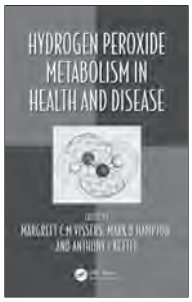
Edited by **Raquel Madeira Gonçalves**, Instituto de Investigacao e Invacao em Saude (I3S); Instituto de Engenharia Biomedica; Porto, Portugal and **Mario Adolfo Barbosa**, Universidade do Porto, Instituto de Ciencias Biomedicas Abel Salazar, Porto, Portugal

Series: Gene and Cell Therapy

Intervertebral disc (IVD) degeneration is one of the major causes of ower Back Pain (LBP) for which the common therapeutic interventions are not efficient. A search for alternative therapies for LBP and IVD degeneration includes cell-based therapies. Unfortunately, the IVD is avascular and an hostile environment for cell survival. Furthermore cellular characterization in the IVD, and particularly in the nucleus pulposus, is controversial, mainly due to lack of specific markers and species variability. This book expects to contribute for increasing the knowledge on cellular and molecular therapies for degenerated IVD and associated LBP.

CRC Press
Market: Life Science
April 2018: 235 x 156: 288pp
Hb: 978-1-498-79940-9: **£108.00**
eBook: 978-1-351-03018-2
* For **full contents** and more information, visit: **www.crcpress.com/9781498799409**

Hydrogen Peroxide Metabolism in Health and Disease



Edited by **Margreet C M Vissers**, **Mark Hampton** and **Anthony J. Kettle**

Series: Oxidative Stress and Disease

Much of the biology of oxidative stress and oxidative signalling centres on the generation and handling of hydrogen peroxide. The overall aim for this book would be to provide an insightful and useful forum to assist with the understanding of the relevance of hydrogen peroxide generation and how this is managed in human biology. The target audience would be those who currently have an interest in the generation of ROS, but who do not have expertise in chemistry, as well as those experts in the chemistry of oxidative stress, but without detailed understanding of the biologically relevant setting. We would aim to bridge the gap in understanding between chemistry and biology.

CRC Press
Market: Life Science
October 2017: 235 x 156: 456pp
Hb: 978-1-498-77615-8: **£125.00**
eBook: 978-1-315-15483-1
* For **full contents** and more information, visit: **www.crcpress.com/9781498776158**

Microbial Cell Factories

Edited by **Deepansh Sharma** and **Baljeet Singh Saharan**

Microbial Cell Factories is a conceptual, reference-based source including chapters covering microbial cell factories for industrial developments, microbial biotechnology for sustainable environmental solutions and agriculture practices, uses of microorganisms in food processing, metabolites as next generation food additives/food processing, and microbial cell factories in alternative energy fuel generation. The book highlights trends and developments in the field of microbial products, written by by an international team of leading academic and research scholars.

CRC Press
Market: Life Science
April 2018: 235 x 156: 432pp
Hb: 978-1-138-06138-5: **£100.00**
eBook: 978-1-315-16238-6
* For **full contents** and more information, visit: **www.crcpress.com/9781138061385**

2nd Edition • TEXTBOOK • NEW EDITION

An Introduction to Systems Biology

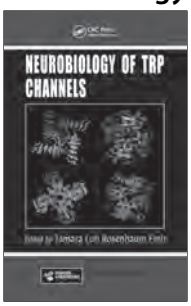
Design Principles of Biological Circuits, Second Edition

Uri Alon, Weizmann Institute of Science, Rehovot, Israel

Written for students and researchers in systems biology, the second edition of this best-selling textbook continues to offer a clear presentation of design principles that govern the structure and behavior of biological networks, highlighting simple, recurring circuit elements that make up the network. Rigorously classroom-tested, it contains new additions as well as corrections and revisions for better flow. This edition includes four new chapters: *Perfect Robustness, Scaling in Development, Noise and Variability in Biological Circuits,* and *Evolution of Modularity.* It also doubles the number of exercises and adds an appendix.

Chapman and Hall/CRC
Market: Bioinformatics
September 2018: 235 x 156: 324pp
Pb: 978-1-439-83717-7: **£53.99**
eBook: 978-1-439-83718-4
* For **full contents** and more information, visit: **www.crcpress.com/9781439837177**

Neurobiology of TRP Channels



Edited by **Tamara Luti Rosenbaum Emir**, Department of Cognitive Neurosciences, Instituto de Fisiología Celular, Universidad Nacional Autónoma de México

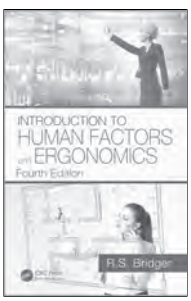
Series: Frontiers in Neuroscience

Neurobiology of TRP channels will review the current knowledge on how these important proteins participate in physiological and pathophysiological processes. The book is planned to include chapters by experts on the role of TRP channels in the peripheral and central nervous system including vision (both in flies and in vertebrates), olfaction, mechanotransduction, pain and thermosensation as well as their roles in the gut, heart, kidney, germinal cells, skin and also in longevity, providing us with a global picture of the most recent findings on the importance of these ion channels in the context of their role in a vast variety of physiological functions.

CRC Press
Market: Biomedical Science
October 2017: 254 x 178: 327pp
Hb: 978-1-498-75524-5: **£114.00**
eBook: 978-1-315-15283-7
* For **full contents** and more information, visit: **www.crcpress.com/9781498755245**

4th Edition • TEXTBOOK • READER

Introduction to Human Factors and Ergonomics, Fourth Edition



Robert Bridger

Building on the success of previous editions, the 4th edition of 'Introduction to Human Factors and Ergonomics' provides a comprehensive and up to date introduction to the field. The new edition places the subject matter into a system context using a human-machine model to structure the chapters and a knowledge application model to structure the organisation of material in each chapter. Every chapter covers: Core Concepts, Basic Applications, Tools and Processes, and System Integration issues regardless of topic. Includes over 200 exercises and essays (at least ten per chapter).

CRC Press
Market: Ergonomics & Human Factors
November 2017: 254 x 178: 719pp
eBook: 978-1-498-79595-1
Pack - Book and Ebook: 978-1-498-79594-4: **£77.00**
* For **full contents** and more information, visit: **www.crcpress.com/9781498795944**

Origin and Evolution of Metazoan Cell Types

Edited by **Sally Leys** and **Andreas Hejnol**, Sars International Centre for Marine Molecular Biology, University of Bergen, Norway

Series: Evolutionary Cell Biology

The evolution of animal diversity is strongly affected by the origin of novel cell and tissue types and their interactions with each other. Understanding the evolution of cell types will shed light on the evolution of novel structures, and in turn highlight how animals diversified. Several cell types may also have been lost as animals simplified – for example did sponges have nerves and lose them? This book reveals the interplay between gains and losses, and provides readers with a better grasp of the evolutionary history of cell types. In addition, the book illustrates how new cell types allow a better understanding permitting the discrimination between convergence and homology.

CRC Press
Market: Life Science
September 2018: 235 x 156: 300pp
Hb: 978-1-138-03269-9: **£82.00**
eBook: 978-1-315-38822-9
* For **full contents** and more information, visit: **www.crcpress.com/9781138032699**

Origin and Evolution of Neural Crest Cells

Edited by **Daniel Meulemans Medeiros**, University of Colorado, Boulder, EBIO Department, Boulder, Colorado, USA

Series: Evolutionary Cell Biology

Vertebrates possess lineage-specific characteristics. These include paired anterior sense organs and a robust, modular head skeleton built of cellular cartilage and bone. All of these structures are derived, at least partly, from an embryonic tissue unique vertebrates - the neural crest. The evolutionary history of the neural crest, and neural crest cells, has been difficult to reconstruct. This volume will use a comparative approach to survey the development of the neural crest in vertebrates, and neural crest-like cells, across the metazoa. This information will be used to reveal neural crest evolution and identify the genomic, genetic, and gene-regulatory changes that drove them.

CRC Press
Market: Life Science
September 2018: 235 x 156: 300pp
Hb: 978-1-138-63081-9: **£82.00**
eBook: 978-1-315-20919-7
* For **full contents** and more information, visit: **www.crcpress.com/9781138630819**

Stem Cell Bioreactors

Edited by **Joaquim M.S. Cabral**, Department of Bioengineering, Instituto Superior Técnico, Portugal and **Claudia Alexandra Martins Lobato da Silva**, Department of Bioengineering, Instituto Superior Técnico, Portugal

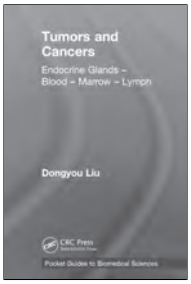
Series: Gene and Cell Therapy

An international team of investigators presents thought-provoking reviews of bioreactors for stem cell expansion and differentiation and provides cutting-edge information on different bioreactor systems. The authors offer novel insights into bioreactor-based culture systems specific for tissue engineering, including sophisticated and cost-effective manufacturing strategies geared to overcome technological shortcomings that currently preclude advances towards product commercialization. This book in the fields of stem cell expansion, bioreactors, bioprocessing, and bio and tissue engineering, gives the reader a full understanding of the state-of-art and the future of these fields.

CRC Press
Market: Life Science
September 2018: 235 x 156: 300pp
Hb: 978-1-498-79590-6: **£108.00**
eBook: 978-1-498-79591-3
* For **full contents** and more information, visit: **www.crcpress.com/9781498795906**

Tumors and Cancers

Endocrine Glands – Blood – Marrow – Lymph



Dongyou Liu, Royal College of Pathologists of Australasia, St. Leonards, New South Wales, Australia

Series: Pocket Guides to Biomedical Sciences

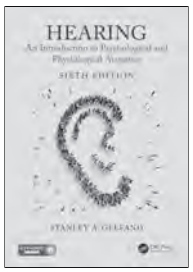
Tumors and cancers are insidious diseases characterized by uncontrolled growth of abnormal cells that extend beyond their usual boundaries and disrupt the normal functions of affected organs. Forming the fourth of the four volumes devoted to tumors and cancers, this volume focuses on the endocrine, hematopoietic and lymphoreticular systems. Each chapter presents a state of art review of a particular tumor/cancer in relation to its definition, biology, epidemiology, disease mechanism/pathogenesis, clinical signs, diagnosis, treatment and prognosis.

CRC Press
Market: Medicine
November 2017: 203 x 133: 248pp
Hb: 978-1-138-30087-3: **£115.00**
Pb: 978-1-498-72975-8: **£30.99**
eBook: 978-1-498-72976-5
* For **full contents** and more information, visit: **www.crcpress.com/9781138300873**

6th Edition • NEW EDITION

Hearing

An Introduction to Psychological and Physiological Acoustics, Sixth Edition



Stanley A. Gelfand, Queens College of CUNY, Flushing, New York, USA

The fully updated and revised sixth edition of *Hearing: An Introduction to Psychological and Physiological Acoustics* is a comprehensive introduction for graduate students and professionals in audiology and other fields dealing with audition (including hearing/speech science, psychology, otolaryngology, neuroscience, linguistics, and speech-language pathology). The sixth edition reflects the current status of this rapidly-evolving multidisciplinary field of hearing science.

CRC Press
Market: Healthcare
December 2017: 254 x 178: 403pp
eBook: 978-1-315-15471-8
Pack - Book and Ebook: 978-1-498-77542-7: **£115.00**
Prev. Ed Pack - Book and Ebook: 978-1-420-08865-6
* For **full contents** and more information, visit: **www.crcpress.com/9781498775427**

Invasive Stink Bugs and Related Species (Pentatomoidea)

Biology, Higher Systematics, Semiochemistry, and Management

Edited by **J.E. McPherson**, Southern Illinois University, Carbondale, USA

Series: Contemporary Topics in Entomology

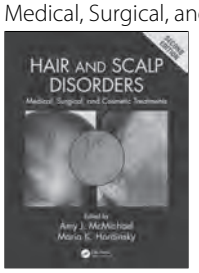
Invasive species can cause tremendous economic damage. The superfamily *Pentatomoidea* (stink bugs and their relatives) is comprised of 16 families worldwide with about 7,100 species, the largest of which is the family *Pentatomidae* (4,700 species). This book provides a better understanding of the biology and economic importance of these species, why some become invasive, and what the future holds for the continued geographic expansion and resulting direct and indirect effects of these bugs on the human population.

CRC Press
Market: Life Science
February 2018: 254 x 178: 830pp
Hb: 978-1-498-71508-9: **£115.00**
eBook: 978-1-498-71510-2
* For **full contents** and more information, visit: **www.crcpress.com/9781498715089**

2nd Edition • NEW EDITION

Hair and Scalp Disorders

Medical, Surgical, and Cosmetic Treatments, Second Edition



Edited by **Amy J. McMichael**, Wake Forest University Med Center, Winston Salem, NC, USA and **Maria K. Hordinsky**, Department of Dermatology, University of Minnesota, Minneapolis, MN, USA

A succinct and comprehensive guide examining the treatment of hair and scalp disorders, with a special emphasis on how hair type, morphology, and ethnicity can impact on hair disease and treatment. This updated and revised second edition builds on a successful first edition with additional chapters on dermoscopy, on how new technology can best be integrated into daily clinical practice, and on aging hair.

CRC Press
Market: Medicine / Dermatology
April 2018: 279 x 216: 310pp
eBook: 978-1-842-14593-7
Pack - Book and Ebook: 978-1-842-14592-0: **£155.00**
* For **full contents** and more information, visit: **www.crcpress.com/9781842145920**

Phylogeny of Insects

Edited by **Karl Kjer**, Rutgers University, New Brunswick, New Jersey, USA, **Rolf Beutel**, Friedrich-Schiller-Universität Jena, Germany, **Bernhard Misof**, Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany and **Xin Zhou**, BGI-Shenzhen, People's Republic of China

Kjer and his colleagues have collected about 15 trillion nucleotides of data from which they have identified between 2300-3900 genes for phylogenetic analysis in each of several subprojects, collectively comprising 1400 species. The authors propose to co-edit a beautifully illustrated comprehensive book on insect phylogeny that summarizes findings from these and other comprehensive studies. Detailed and data driven phylogenies will trace the development of insect morphological innovations through time.

CRC Press
Market: Life Science
September 2018: 504pp
Hb: 978-1-498-73557-5: **£165.00**
eBook: 978-1-498-73558-2
* For **full contents** and more information, visit: **www.crcpress.com/9781498735575**

Ecosystem Modeling, Data Assimilation, and Prediction

Yiqi Luo, University of Oklahoma, Norman, USA and **Benjamin Smith**, Lund University, Sweden

This book systematically describes a set of modeling skills for readers to progressively learn how to run and modify an existing model; apply a model to study ecological questions; develop a new model; use data assimilation techniques for model improvement; and do real- or near-time ecological forecasting for decision support. This book strives to balance among theoretical basis, technical details, and applications of ecosystem modeling for research, assessment, and decision support. The book uses plenty of examples to help the readers understand and master the modeling skills.

CRC Press
Market: Environmental Science
July 2018: 235 x 156: 400pp
Hb: 978-1-498-73701-2: **£114.00**
eBook: 978-1-498-73702-9
* For **full contents** and more information, visit: **www.crcpress.com/9781498737012**

Measuring Dynamic Terrestrial Ecosystem Processes

Edited by **Michael F. Allen**, University of California, Riverside, USA

Ecosystems contain black boxes in models and experiments especially with respect to soil processes and soil-aboveground linkages because of difficulties in observing and measuring dynamics driving ecosystem processes. This book will review different sensors and observation units and blend measurements into a review of dynamic ecosystem processes. The contributors will address management of "Big Data" processing and storage of large scale eco-informatics. Ecologists working in wildland, rangeland, forests and agricultural ecosystems will need this book. The book will serve as a text for training the next generation of ecologists in data collection, management, and scaling processes.

CRC Press
Market: Environmental Science
October 2018: 235 x 156: 440pp
Hb: 978-1-498-74809-4: **£114.00**
eBook: 978-1-315-15212-7
* For **full contents** and more information, visit: **www.crcpress.com/9781498748094**

Phytoremediation of Emerging Contaminants in Wetlands

Prabhat Kumar Rai

Phytoremediation with wetland plants is an eco-friendly, aesthetically pleasing, cost-effective, solar-driven, passive technique that is useful for cleaning up environmental pollutants with low to moderate levels of contamination. Phytoremediation has become an increasingly recognized pathway for contaminant removal from aquatic ecosystems. This book discusses the different actions of plants and their associated rhizosphere bacteria on contaminants include phytoextraction, rhizofiltration, phytostabilization, phytodegradation, rhizodegradation, and phytovolatilization.

CRC Press
Market: Engineering - Environmental
March 2018: 235 x 156: 248pp
Hb: 978-0-815-38510-3: **£77.00**
eBook: 978-1-351-06743-0
* For **full contents** and more information, visit: **www.crcpress.com/9780815385103**

Advances in Molecular Techniques

Rakesh S. Sengar, Sardar Vallabh bhai Patel University of Agriculture and Technology, Meerut, India, **Amit Kumar**, **Reshu Chaudhary** and **Ashu Singh**

Molecular genetics is the discipline that aims to comprehend biological activity at the gene sub-level. These biological activities usually involve the plant or animal cell, and the nucleic acids and proteins that work at the cellular level. Molecular Biologists use some standard techniques that have been optimized over many years. These basic techniques can also be employed by scientists from many different areas of research and applied science. This book serves as a guide that introduces classic molecular biology techniques and advances in molecular and genetic engineering.

CRC Press
Market: Life Science
July 2018: 235 x 156: 392pp
Hb: 978-0-815-37075-8: **£125.00**
eBook: 978-1-351-02122-7
* For **full contents** and more information, visit: **www.crcpress.com/9780815370758**

Genetics and the Lives of Geneticists

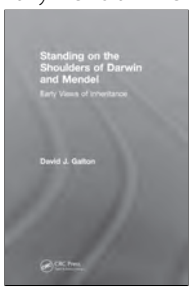
Krishna Dronamraju, Foundation for Genetic Research, Houston,Texas, USA

Genetics, like all scientific disciplines, is a human endeavor. Thus, the lives of geneticists - their friendships, colleagues and associations - play an important role in the historical development of the science. This book summarizes the history of genetics by reviewing the lives of the prominent and influential researchers beginning with the earliest and simplest branches of genetics (studies of inheritance and mutation) and ending with the human genome project - the pinnacle of genetics research of the 20th century.

CRC Press
Market: Life Science
June 2018: 235 x 156: 304pp
Hb: 978-1-498-74866-7: **£89.00**
eBook: 978-1-498-74867-4
* For **full contents** and more information, visit: **www.crcpress.com/9781498748667**

Standing on the Shoulders of Darwin and Mendel

Early Views of Inheritance



David J. Galton

This book explores early theories about the mechanisms of inheritance. Beginning with Charles Darwin's now rejected Gemmule hypothesis, the book documents the reception of Gregor Mendel's work on peas and follows the work of early 20th century scholars. The research of Francis Galton, a cousin of Darwin, and the friction it caused between these two is part of longer story of the development of genetics and an understanding of how offspring inherit the characteristics of their parents. Bateson, Garrod, de Vries, Tschermak and others are all characters in a scientific story of discovery, acrimony, cooperation and revelation.

CRC Press
Market: Life Science
November 2017: 235 x 156: 224pp
Hb: 978-1-138-06217-7: **£115.00**
Pb: 978-1-138-06216-0: **£54.00**
eBook: 978-1-315-16171-6
* For **full contents** and more information, visit: **www.crcpress.com/9781138062177**

TEXTBOOK • READER

Essentials of Human Physiology and Pathophysiology for Pharmacy and Allied Health

Laurie K. McCorry, Bunker Hill Community College, Boston, Massachusetts, USA and **Martin M. Zdanowicz**

Essentials of Human Physiology and Pathophysiology for Pharmacy and Allied Health is the result of merging two separate textbooks: (1) Essentials of Human Physiology for Pharmacy, and (2) Essentials of Pathophysiology for Pharmacy. Using a systems-based approach, the text seamlessly integrates material related to normal human physiology and pathophysiology into each chapter.

Routledge
Market: Medicine
April 2018: 235 x 156: 600pp
eBook: 978-1-498-72423-4
eBook: 978-1-498-72424-1
eBook: 978-1-498-72425-8
Pack - Book and Ebook: 978-1-498-72420-3: **£89.00**
* For **full contents** and more information, visit: **www.routledge.com/9781498724203**

Definitive Guide to Texture Painting

Lopsie Schwartz, Lonita, California, USA

Lopsie Schwartz not only brings in her expertise garnered from 18 years in the movie and television industry, but she brings in friends from various walks of texture painting to round out the image and experience of what it is to texture paint. Filled with hands-on tutorials and stunning examples from various forms of texture painting, this book is destined to become a classic. It is the ultimate reference for anyone dealing with texture painting for digital media.

A K Peters/CRC Press
Market: Computer Science & Engineering
October 2018: 235 x 191: 520pp
eBook: 978-1-498-72421-0
Pack - Book and Ebook: 978-1-498-72419-7: **£53.99**
* For **full contents** and more information, visit: **www.crcpress.com/9781498724197**

Targeted Gene Capture for Phylogenetic Systematics and Population Genetics

Chenhong Li, Shanghai Ocean University, Shanghai, People's Republic of China and **Gavin J. P. Naylor**, College of Charleston, South Carolina, USA

The authors propose a book that reviews Next Generation Sequencing procedures, especially software protocols they created devoted to capturing targeted gene sequences. Such sequences are used by phylogenetists and population geneticists. The book will provide background and recommendations that researchers can use to improve the efficiency and utility of sequence acquisition and analysis.

CRC Press
Market: Life Science
September 2018: 235 x 156: 248pp
eBook: 978-1-498-73526-1
Pack - Book and Online: 978-1-498-73525-4: **£114.00**
* For **full contents** and more information, visit: **www.crcpress.com/9781498735254**

A Blue Carbon Primer

The State of Coastal Westland Carbon Science, Practice and Policy

Lisamarie Windham-Myers, US Geological Survey, **Stephen Crooks**, Environmental Science Association, San Francisco, California, USA and **Tiffany G. Troxler**, Florida International University, Miami, USA

Series: CRC Marine Science

Blue Carbon has emerged as a term that represents the distinctive carbon fluxes into or out of coastal wetlands such as marshes, mangroves, and seagrasses. The Blue Carbon concept has been rapidly emerging in science literature and is highly relevant politically, as nations and markets are developing blue carbon monitoring and management tools and policies. This book is a compendium of the state of the science, the state of maps and mapping protocols, and the state of policy incentives (including economic valuation of blue carbon), with additional sections on operationalizing blue carbon projects and case studies with global relevance.

CRC Press
Market: Life Science
July 2018: 254 x 178: 352pp
Hb: 978-1-498-76909-9: **£76.99**
eBook: 978-1-498-76910-5
* For **full contents** and more information, visit: **www.crcpress.com/9781498769099**

Drafting Directors' Service Agreements

And Other Senior Contracts

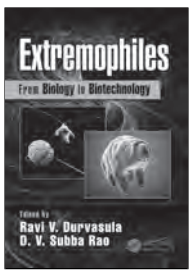
Gillian S. Howard

Increasing governance requirements and shareholder scrutiny is bringing the role, responsibilities and liabilities of directors and senior managers into sharper focus than ever before. *Drafting Director's Service Agreements* is a no-nonsense legal guide to the law in this area and covers the structure and wording that should be used for key areas such as remuneration, benefits, restrictive covenants, fiduciary duties along with disciplinary and grievance procedures. This is a definitive guide for ensuring any Service Agreement or contractual document is intelligible, says what it means, covers as many eventualities as possible and is fair and balanced.

Routledge
Market: Business and Management
June 2018: 246x174: 180pp
Pack - Book and CD: 978-1-409-44075-8: **£95.00**
* For **full contents** and more information, visit: **www.routledge.com/9781409440758**

Extremophiles

From Biology to Biotechnology



Edited by **Ravi V. Durvasula**, University of New Mexico, Albuquerque, USA and **D. V. Subba Rao**, University of New Mexico, Albuquerque, USA

Extremophiles are nature's ultimate survivors, thriving in environments ranging from the frozen Antarctic to abyssal hot hydrothermal vents. Their lifeforms span bacteria to fishes, and are categorized as halophiles from hypersaline environments, acidophiles from acidic waters, psychrophiles from cold habitats, and thermophiles from warm waters. *Extremophiles: From Biology to Biotechnology* comprehensively covers the basic biology, physiology, habitats, secondary metabolites for bioprospecting, and biotechnology of these extreme survivors. The chapters focus on the novel genetic and biochemical traits that lend these organisms to biotechnological applications.

CRC Press
Market: Life Science
January 2018: 254 x 178: 399pp
Hb: 978-1-498-77492-5: **£92.00**
* For **full contents** and more information, visit: **www.crcpress.com/9781498774925**

TEXTBOOK • READER

Exploratory Data Analysis Using R

Ronald K. Pearson

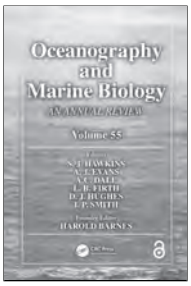
Series: Chapman & Hall/CRC Data Mining and Knowledge Discovery Series

This textbook introduces exploratory data analysis (EDA) and covers the range of interesting features we can expect to find in data. The book also explores the practical mechanics of using R to do EDA. Based on the author's course at the University of Connecticut, the book assumes no prior exposure to data analysis or programming, and is designed to be as non-mathematical as possible. Exercises are included throughout, and a Solutions Manual will be available. The author will also provide a supplemental R package through the Comprehensive R Archive Network that will include implementations of some of the features in this book, along with data examples, tools, and datasets.

Chapman and Hall/CRC
Market: Computer Science & Engineering
April 2018: 235 x 156: 584pp
Hb: 978-1-138-48060-5: **£125.00**
eBook: 978-1-315-38211-1
Pack - Book and Ebook: 978-1-498-73023-5: **£53.99**
* For **full contents** and more information, visit: **www.crcpress.com/9781498730235**

Oceanography and Marine Biology

An Annual Review, Volume 55



Edited by **S. J. Hawkins**, University of Southampton, UK, **A. J. Evans**, University of Southampton, UK, **A.C. Dale**, Scottish Association for Marine Science, Argyll, UK, **L. B. Firth**, School of Biological and Marine Sciences, Plymouth University, UK, **D. J. Hughes**, Scottish Association for Marine Science, Argyll, UK and **I. P. Smith**, School of Biological Sciences, University of Aberdeen, U.K.

Series: Oceanography and Marine Biology - An Annual Review

Oceanography and Marine Biology: An Annual Review remains one of the most cited sources in marine science and oceanography. The ever increasing interest in work in oceanography and marine biology and its relevance to global environmental issues, especially global climate change and its impacts, creates a demand for authoritative reviews summarizing the results of recent research. OMBAR has catered to this demand since its foundation more than 50 years ago. It is an essential reference for research workers and students in all fields of marine science, and the series volumes find a place in the libraries of not only marine laboratories and institutes but also universities.

CRC Press
Market: Life Science
December 2017: 254 x 178: 488pp
Hb: 978-1-138-19786-2: **£145.00**
eBook: 978-1-315-27227-6
* For **full contents** and more information, visit: **www.crcpress.com/9781138197862**

Shark Research

Emerging Technologies and Applications for the Field and Laboratory

Edited by **Jeffery C Carrier**, Albion College, Michigan, USA, **Michael R. Heithaus**, Florida International University, Miami, Florida, USA and **Colin A. Simpfendorfer**

Series: CRC Marine Biology Series

The study of shark biology has benefited from the development, refinement, and rapid expansion of novel techniques and advances in technology. These have given new insight into shark genetics, feeding, foraging, bioenergetics, imaging, age and growth, movement, migration, habitat preference, and habitat use. This pioneering book, written by experts in shark biology, examines technologies such as autonomous vehicle tracking, underwater video approaches, molecular genetics techniques, and accelerometry, among many others. Each detailed chapter offers new insights and promises for future studies of elasmobranch biology and provides an overview of appropriate uses of each technique.

CRC Press
Market: Life Science
July 2018: 352pp
Hb: 978-1-138-03292-7: **£76.99**
eBook: 978-1-315-31712-0
* For **full contents** and more information, visit: **www.crcpress.com/9781138032927**

African Indigenous Medical Knowledge and Human Health

Edited by **Charles Wambebe**, Professor Extra-Ordinary (Pharmacology) at Tswane University of Technology, Pretoria and Witwatersrand University, Johannesburg, South Africa

Despite its relevance and the empirical evidence of African Traditional Medicine, which is based on African Indigenous Medical Knowledge (AIMK), research and development of new phytomedicines from this continent has been slow. African Indigenous Medical Knowledge and Human Health will serve as a catalyst for health innovations based on this biodiversity and knowledge. The book serves as a one-step reference for pharmacognosists, ethnobiologists, botanists, phytochemists, pharmacologists and medical scientists and professionals interested in the research and development of medical interventions based on the rich African biodiversity and AIMK.

CRC Press
Market: Healthcare
February 2018: 235 x 156: 226pp
Hb: 978-1-138-03810-3: **£61.99**
eBook: 978-1-315-17747-2
* For **full contents** and more information, visit: **www.crcpress.com/9781138038103**

Medicinal Plants

Promising Future for Health and New Drugs

Edited by **Thangaraj Parimelazhagan**

This book highlights the importance of traditional medicines and how they are used in development of herbal drugs. It also focuses on the standardization of herbal medicine and evaluates opportunities for advancing herbal drug research. It addresses issues in relation to utilization of medicinal plants and shares the importance of herbs in neutraceutics and research innovations in herbal science. The book provides most competitive techniques being used in research pertaining to plants.

CRC Press
Market: Chemistry
April 2018: 235 x 156: 432pp
Hb: 978-0-815-37052-9: **£130.00**
eBook: 978-1-351-04651-0
* For **full contents** and more information, visit: **www.crcpress.com/9780815370529**

Neurotransmitters in Plants

Perspectives and Applications

Edited by **Akula Ramakrishna**, Monsanto Crop Breeding Station, India Vegetable R & D, Chikkaballapur, Karnataka, India and **Victoria Vladimirovna Roshchina**, Russian Academy of Sciences, Laboratory of Microspectral Analysis of Cells and Cellular Systems, Institute of Cell Biophysics, Puschino, Moscow Region, Russia

Neurotransmitters in Plants: Perspectives and Applications presents information on where neurotransmitters occur, the location of their biosynthesis, the molecular biology of some enzymes participating in the process, their role *in vivo* and *in vitro* processes, their functions in environmental adaptation in plants and their role in enriching the food and medicinal value of plants. These issues have been reviewed in the book based on literature published globally and original author's research data. This knowledge will help us understand better the possible physiological role of neurotransmitter molecules in plant development, stress adaptation adn interactions with other living organisms.

CRC Press
Market: Life Science
November 2018: 235 x 156: 480pp
Hb: 978-1-138-56077-2: **£145.00**
eBook: 978-0-203-71148-4
* For **full contents** and more information, visit: **www.crcpress.com/9781138560772**

Preventing Infections in Personal Services

Tan to Tattoos and Beyond

Christian Lapensee, Ottawa Public Health, Canada and **Syed Sattar**, University of Ottawa, Faculty of Medicine, Ontario, Canada

This book comprehensively covers the prevention of infection in personal service settings based on technically sound information. The book emphasizes the proper selection, use and disposal of disinfectants and antiseptics for optimal effectiveness. It also emphasizes why human health risks from procedures in personal service settings are currently underestimated. The role of hand hygiene for client and operator safety is discussed and details given on the proper selection and use of handwash and handrub agents. There is also a listing of current regulations and guidelines available worldwide while noting the need for their updating and standardization.

CRC Press
Market: Healthcare
August 2018: 235 x 156: 288pp
Hb: 978-1-498-76219-9: **£63.99**
eBook: 978-1-315-15333-9
* For **full contents** and more information, visit: **www.crcpress.com/9781498762199**

An Ebola Outbreak

Lessons from the 2014-2015 Epidemic

Gene Garrard Olinger, Jr., Boston University, School of Medicine, Massachusetts, USA

This book recounts the *Ebola* Virus Outbreak of 2014-2015 by merging clinical and diagnostic issues with behavioral and political factors. Lessons learned are intended to help future respondents by improving coordination and collaboration. The book begins with a report of an earlier prediction of an impending outbreak based on serological evidence from a decade earlier. This warning was ignored. As a result, early cases of *Ebola* and efforts to control the epidemic were hindered by old approaches, and human behavior, facilitating the spread of the virus, worsening the outbreak. This is a case study of failures and successes highlighted by the struggle to halt this devastating epidemic.

CRC Press
Market: Life Science
March 2018: 235 x 156: 300pp
Hb: 978-1-138-05524-7: **£62.00**
eBook: 978-1-315-16599-8
* For **full contents** and more information, visit: **www.crcpress.com/9781138055247**

Microbial Control of Vector-Borne Diseases

Edited by **Brij Kishore Tyagi**, Visiting Professor, Department of Environment Biotechnology, Bharathidasan University, Tiruchirappalli, India and **Dharumadurai Dhanasekaran**

Vector-borne diseases have increasingly emerged as significant causes of human illnesses worldwide, largely due to environmental changes (deforestation), population movements (migration and travelling), international trades, and buildup of drug resistance. These are presenting major challenge to the efficacy and use of conventional tools for controlling vector-borne diseases. Therefore, use of microbial approach for the control of vector-borne diseases is gaining importance. This book comprehensively reviews vector-borne diseases and their microbial control, emphasizing majorly on ecofriendly ways of microbial control.

CRC Press
Market: Life Science
February 2018: 235 x 156: 462pp
Hb: 978-1-138-05581-0: **£180.00**
eBook: 978-1-315-16569-1
* For **full contents** and more information, visit: **www.crcpress.com/9781138055810**

Nanobioengineering

Nanobioengineering

Edited by **Bhupinder Singh Bhoop**

This objective of this book is to provide the fundamental comprehension of a broad range of topics in an integrated volume such that readership hailing from diverse disciplines can rapidly acquire the necessary background for applying it in pertinent research and development field. The book volume endeavors to provide vital selective aspects of nanobioengineering, thereby paving the way to develop next generation diagnostics and therapeutics, and thus improving the quality of human life.

CRC Press
Market: Biomedical Science
May 2018: 254 x 178: 312pp
Hb: 978-0-815-34835-1: **£145.00**
eBook: 978-1-351-13890-1
* For **full contents** and more information, visit: **www.crcpress.com/9780815348351**

Pocket Guide to Bacterial Infections

Edited by **K Balamurugan**

Series: Pocket Guides to Biomedical Sciences

Pocket Guide to Bacterial Infections provides information pertinent to the behaviour of bacterial cells during their interactions with different cell types of multiple host systems. This book will present the role of various bacterial pathogens affecting the host system. The book is to be organized flexibly so that chapters and topics are arranged with continuity from the former chapters. Each chapter has been made as self-contained as possible to promote this flexibility. This book will discuss each of the virulence properties of the bacteria with reference to their interacting hosts in a larger perspective.

CRC Press
Market: Medicine
August 2018
Hb: 978-1-138-05491-2: **£99.00**
Pb: 978-1-138-05489-9: **£40.00**
eBook: 978-1-315-16637-7
* For **full contents** and more information, visit: **www.crcpress.com/9781138054912**

Pocket Guide to Microfungi

A Taxonomic and Phylogenetic Toolkit

Keith A. Seifert

Series: Pocket Guides to Biomedical Sciences

Most fungi are microscopic; they cause diseases, degrade organic matter, are the sources of antibiotics, and are involved in the making of bread, cheese, wine, and beer. There are lots of sources of information for macrofungi, but not so much for microfungi. This guide will provide succinct taxonomic and phylogenetic information on microfungi. Examples of microfungi in this book will include black yeasts, endophytes, indoor moulds, insect pathogens, mychrhizal fungi, thermophiles, plant pathogens, blights, ergot, mildews and smuts. This book will help inform anyone using DNA barcoding to identify microfungi and help merge molecular laboratory work with field biology.

CRC Press
Market: Life Science
August 2018: 203 x 133: 248pp
Pb: 978-1-498-77151-1: **£38.99**
eBook: 978-1-498-77152-8
* For **full contents** and more information, visit: **www.crcpress.com/9781498771511**

Pocket Guide to Mycological Diagnosis

Edited by **Rossana de Aguiar Cordeiro**, Universidade Federal do Ceará, Fac Medicina, Depto Patalogia Medicina Legal, Fortaleza, Ceará, Brasil

Series: Pocket Guides to Biomedical Sciences

The *Pocket Guide to Mycological Diagnosis* aims to provide useful and concise information for microbiologists and professionals interested in the diagnosis of the most relevant fungal species of medical importance. Cellular and molecular techniques, immunological methods, and more accurate microscopy equipment are now available for mycology laboratories. Furthermore, information regarding medical mycology, including identification of specific fungal pathogens, is profusely available. This book will allow mycologists to face the emergoing challenges of routine diagnosis.

CRC Press
Market: Medicine
August 2018
Hb: 978-1-138-05594-0: **£99.00**
Pb: 978-1-138-05593-3: **£40.00**
eBook: 978-1-315-16562-2
* For **full contents** and more information, visit: **www.crcpress.com/9781138055940**

Recent Advances in Environmental Management

Edited by **Ram Naresh Bharagava**

This book focuses on the toxicity of various organic and inorganic pollutants, their eco-toxicological effects and eco-friendly approaches for remediation of environmental pollutants. Extensive focus has been relied on the recent advances in ecofriendly approaches such as bioremediation and phytoremediation technologies, including the use of various group of microbes for remediation of environmental pollutants, etc. Researchers working in the field of bioremediation, phytoremediation, waste management and related fields will find this compilation most useful for further study to learn about the subject matter.

CRC Press
Market: Engineering - Environmental
September 2018: 235 x 156
Hb: 978-0-815-38314-7: **£145.00**
***** For **full contents** and more information, visit: **www.crcpress.com/9780815383147**

2nd Edition • NEW EDITION

Biochemistry and Molecular Biology Compendium

Roger L. Lundblad, Lundblad Biotechnology, Chapel Hill, North Carolina, USA

This book is an accessible resource offering practical information not found in more database-oriented resources. The first chapter lists acronyms with definitions, and a glossary of terms and subjects used in biochemistry, molecular biology, biotechnology, proteomics, genomics, and systems biology. There follows chapters on chemicals employed in biochemistry and molecular biology, complete with properties and structure drawings. Researchers will find this book to be a valuable tool that will save them time, as well as provide essential links to the roots of their science.

CRC Press
Market: Life Science
October 2018: 1100pp
Hb: 978-1-138-05458-5: **£155.00**
eBook: 978-1-315-16662-9
Prev. Ed Hb: 978-1-420-04347-1
* For **full contents** and more information, visit: **www.crcpress.com/9781138054585**

2nd Edition • NEW EDITION

Lipid-Mediated Signaling Transduction, Second Edition

Edited by **Eric Murphy**, University of North Dakota, Grand Forks, USA, **Thad Rosenberger**, University of North Dakota, School of Medicine and Health Sciences, Grand Forks, USA and **Mikhail Golovko**, University of North Dakota, School of Medicine and Health Sciences, Grand Forks, USA

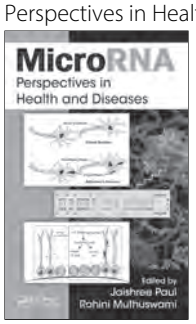
Series: Methods in Signal Transduction Series

This volume is an extension of the subjects covered in the first edition. There are 5 sections each with 4 to 7 chapters. The 1st and 5th sections will present advances in techniques for study of mammalian lipids over the past 6-7 years since the 1st edition was assembled. The 2nd and 3rd section concerning analysis of plant lipids and signaling are novel and will describe methodology not available elsewhere. Of practical interest will be the chapter outlining approaches to modify lipid production. The 4th section that deals with the impact of bioactive lipids on receptor function will be complementary to the extensive knowledge of lipid-mediated signaling pathways.

CRC Press
Market: Life Science
August 2018: 235 x 156: 452pp
Hb: 978-1-498-76834-4: **£146.00**
eBook: 978-1-315-36729-3
Prev. Ed Hb: 978-0-849-38141-6
* For **full contents** and more information, visit: **www.crcpress.com/9781498768344**

MicroRNA

Perspectives in Health and Diseases



Jaishree Paul and **Rohini Muthuswami**, School of LIfe Sciences, Jawaharal Nehru University, Delhi, India

MicroRNA (miRNA) has played significant role in disease biology since its discovery. These molecules can behave either as oncogenes or tumor suppressors and thus, regulate the tumorigenesis process. They have also been implicated to play a role in other diseases including neurodegenerative disorders, diabetes, inflammatory diseases and cardiovascular ailments. This book explores the role of miRNA as therapeutic agents, the progress made in this direction and the problems that need to be addressed for miRNA based therapies to become successful. It also discusses the basic biology of miRNA sythesis, regulation, and their role in disease biology.

CRC Press
Market: Life Science
March 2018: 235 x 156: 208pp
Hb: 978-1-138-05483-7: **£77.00**
eBook: 978-1-315-16639-1
* For **full contents** and more information, visit: **www.crcpress.com/9781138054837**

Signal Transduction and Smooth Muscle

Edited by **Mohamed Trebak**, Penn State College of Medicine, University Park, State College, USA and **Scott Earley**, University of Nevada, Reno, USA

Series: Methods in Signal Transduction Series

All hollow organs, such as blood vessels, the gastrointestinal tract, airways, male and female reproductive systems, and the urinary bladder are primarily composed of smooth muscle. Such organs regulate flow, propulsion and mixing of luminal contents and storage by the contraction and relaxation of smooth muscle cells. Smooth muscle cells respond to numerous inputs, including pressure, shear stress, intrinsic and extrinsic innervation, hormones and other circulating molecules, as well as autocrine and paracrine factors. This book is a review of smooth muscle cell regulation in the cardiovascular, reproductive, GI, and other organ systems with emphasis on calcium and receptor signaling.

CRC Press
Market: Life Science
April 2018: 235 x 156: 500pp
Hb: 978-1-498-77422-2: **£99.00**
eBook: 978-1-315-15458-9
* For **full contents** and more information, visit: **www.crcpress.com/9781498774222**

BioGeoBEARS - A Bayesian Approach to Biogeography

Nicholas J. Matzke, The Australian National University, Division of Evolution, Ecology, and Genetics, Acton, Canberra

Biogeography has been dominated by a "dispersal versus vicariance" debate. Users of computational methods, which included assumptions with respect to this debate, were often unaware of embedded assumptions. "BioGeoBEARS" (BioGeography with Bayesian (and likelihood) Evolutionary Analysis in R Scripts) is a new approach. Rather than choosing one model a priori, BioGeoBEARS uses multiple models, allowing researchers to perform model testing and model choice of the many different possible models of how current distributions come into being. This book explains the theory and practices of statistical model choice in general, and then explains how these can be applied in biogeography.

CRC Press
Market: Life Science
October 2018: 235 x 156: 200pp
Hb: 978-1-498-78403-0: **£63.99**
eBook: 978-1-498-78404-7
* For **full contents** and more information, visit: **www.crcpress.com/9781498784030**

Biology and Evolution of the Mollusca, Volume 1

Winston Frank Ponder, **David R. Lindberg**, University of California, USA and **Juliet Mary Ponder**

The phylum Mollusca is the second largest group of animals and occur in virtually all habitats. Many non-marine molluscs are threatened with more recorded extinctions than all tetrapod vertebrates combined. This text will provide the first general account of molluscs in decades and will include hundreds of colour figures. General chapters bring together a diverse and extensive literature, while taxon chapters provide overviews of their evolution, phylogeny and classification as well as more specific and detailed coverage of their biology (reproduction, feeding and digestion, excretion, respiration etc.), their long fossil record, and their natural history. This will be volume 1.

CRC Press
Market: Life Science
October 2018: 279 x 216: 700pp
Hb: 978-0-815-36169-5: **£185.00**
eBook: 978-1-351-11566-7
* For **full contents** and more information, visit: **www.crcpress.com/9780815361695**

TEXTBOOK • READER

Essential Experimental Evolution

Edited by **Frank Rosenzweig**, University of Montana, Missoula, USA and **Gavin Sherlock**

Experiments using microbes are the best way to make sense of evolution in real time. This edited book highlights the experimental approach, using Viruses, Bacteria, "lower" Eukaryotes and digital organisms. The contributors illustrate the ways this approach is revolutionizing our understanding of adaptation, recombination and mutation rates, speciation and the evolutionary transitions from prokaryotic to eukaryotic and from unicellular to multicellular life forms.

CRC Press
Market: Life Science
September 2018: 254 x 178: 400pp
Hb: 978-1-498-74318-1: **£108.00**
eBook: 978-1-498-74319-8
* For **full contents** and more information, visit: **www.crcpress.com/9781498743181**

Macroevolution of Complex Morphologies

Edited by **Miriam Leah Zelditch**, University of Michigan, Ann Arbor, USA

Series: Species and Systematics

A goal of macroevolutionary theory is to explain both diversity and disparity. These actively researched questions, the growing number of case studies, and the increasingly rigorous theory, has resulted in the re-examination of classical models for evolutionary tempo and mode. Time-calibrated molecular phylogenies are now used in conjunction with quantitative analyses of morphology to evaluate models of evolution. This book will present novel methods and case-studies of the tempo and mode of evolution of complex morphologies, including recent innovations in methods for describing and modeling complex morphologies, which have the potential to advance the field still further.

CRC Press
Market: Life Science
September 2018: 235 x 156: 352pp
Hb: 978-1-498-72431-9: **£114.00**
eBook: 978-1-498-72432-6
* For **full contents** and more information, visit: **www.crcpress.com/9781498724319**

Neotropical Birds

Edited by **Jeffrey A. Stratford**

Series: Studies in Avian Biology

The growth of studies from the Neotropics stands in stark contrast with the threats facing neotropical birds. Forest fragmentation, and destructive projects, such as dams, will obliterate large tracts of tropical habitat. New threats to birds includes rapidly expanding palm oil plantations, petroleum exploration, and humaninduced climate change. The proposed book will cover four broad areas: evolutionary history, life history and populations, ecosystem services and habitat, and conservation.Three to four chapters will cover each section and will include one or two case studies. For example, the conservation section will describe the SAVE project, which leads conservation efforts in Brazil.

CRC Press
Market: Life Science
July 2018: 254 x 178: 400pp
Hb: 978-1-138-70540-1: **£115.00**
eBook: 978-1-315-20218-1
* For **full contents** and more information, visit: **www.crcpress.com/9781138705401**

Species

The Evolution of the Idea

John S. Wilkins

Series: Species and Systematics

Over time the complex idea of "species" has evolved, yet its meaning is far from resolved. This comprehensive work is a fresh look at an idea central to the field of biology by tracing its history from antiquity to today. *Species* is a benchmark exploration and clarification of a concept fundamental to the past, present, and future of the natural sciences. In this edition, a section is added on the debate over species since the time of the New Synthesis, and brings the book up to date. This edition is better suited nonspecialists in philosophy, so that it will be of greater use for scientists wishing to understand how the notion came to be that living organisms form species.

CRC Press
Market: Life Science
February 2018: 235 x 156: 394pp
Hb: 978-1-138-05574-2: **£92.00**
eBook: 978-1-315-16573-8
* For **full contents** and more information, visit: **www.crcpress.com/9781138055742**

Variability and Phylogeny

Gabriel S. Bever

A core concept of evolutionary theory is Darwin's prediction that the origin of derived phenotypes are accompanied by periods of increased variability. These "Zones of Variability" are transient in time and tree space. The book will establish an Extended Model of Variability by exploring how biologists perceive the relationship between microevolutionary variation and macroevolutionary patterns. It will support three primary predictions, drawing on examples from animal phylogeny. The book will conclude with an examination of the model's implications - from systematics to paleontology to developmental biology and beyond.

CRC Press
Market: Life Science
July 2018: 235 x 156: 400pp
Hb: 978-1-498-77376-8: **£82.00**
eBook: 978-1-498-77377-5
* For **full contents** and more information, visit: **www.crcpress.com/9781498773768**

What Species Mean

Julia Sigwart, University of California, Berkely Berkeley, California, USA

Series: Species and Systematics

Everyone uses species names and yet there are communication gaps between those who who name species (systematists) and those who use species names (everyone). Species are real, and have macroevolutionary meaning. And it follows that systematists have a broadly macroevolution-oriented approach to describing diversity. But taxon names are used by all areas of science, including many fields such as ecology that come from a strictly microevolution-centric approach. This book is intended to explore why different groups of scientists understand and use taxa in very different ways, and the consequences for measuring and understanding biodiversity.

CRC Press
Market: Life Science
July 2018: 235 x 156: 225pp
Hb: 978-1-498-79937-9: **£63.99**
eBook: 978-1-498-79938-6
* For **full contents** and more information, visit: **www.crcpress.com/9781498799379**

Soil Amendments for Sustainability

Challenges and Perspectives

Edited by **Amitava Rakshit**, **Binoy Sarkar** and **Purushothaman Abhilashis**

This book aims to focus on the current state of knowledge and scientific advances about the pros and cons of amendment materials to restore the functioning of soil resources. A holistic overview on affected land revitalization, clean up and revegetation using these amendments will be presented that could be implemented in the long term management of the soil-plant-atmosphereanimal continuum. The scope of the inexpensive and energy neutral soil amendments and technologies will specifically be highlighted.

CRC Press
Market: Agricultural Science
May 2018: 235 x 156: 296pp
Hb: 978-0-815-37077-2: **£115.00**
eBook: 978-1-351-02702-1
* For **full contents** and more information, visit: **www.crcpress.com/9780815370772**

Soil and Climate

Edited by **Rattan Lal**, The Ohio State University, Columbus, USA and **B. A. Stewart**, West Texas A&M University, Canyon, USA

Series: Advances in Soil Science

Climate is a soil-forming factor, and soil can impact the climate through a reduction in the emissions of greenhouse gases. There is growing interest in soil management practices capable to mitigating climate change and enhancing environmental quality. This book addresses global issues through soil management and outlines strategies of advancing sustainable development goals of the United Nations. It focuses on soil restoration as a strategy to mitigate climate change, the soil-food-water-climate nexus, soil and ecosystem services, as well as soil and carbon farming. Chapters provide an understanding of the soil as part of alleviating climate change to allow for food security.

CRC Press
Market: Agricultural Science
April 2018: 254 x 178: 400pp
Hb: 978-1-498-78365-1: **£145.00**
eBook: 978-1-498-78366-8
* For **full contents** and more information, visit: **www.crcpress.com/9781498783651**

4th Edition • NEW EDITION

Parenteral Medications, Fourth Edition

Edited by **Sandeep Nema**, Pfizer R&D, Chesterfield, Missouri, USA and **John D. Ludwig**, Pfizer,Chesterfield, MO

Parenteral Medications is an authoritative, comprehensive reference work on the formulation and manufacturing of parenteral dosage forms, effectively balancing theoretical considerations with practical aspects of their development. Previously published as a three-volume set, all volumes have been combined into one comprehensive publication that addresses the plethora of changes in the science and considerable advances in the technology associated with these products and routes of administration. All chapters in the new edition have been updated, and there are 13 new chapters.

CRC Press
Market: Pharmaceutical Science & Regulation
August 2018: 254 x 178: 800pp
eBook: 978-1-498-71915-5
Pack - Book and Ebook: 978-1-498-71914-8: **£155.00**
* For **full contents** and more information, visit: **www.crcpress.com/9781498719148**

Soil Nitrogen Uses and Environmental Impacts

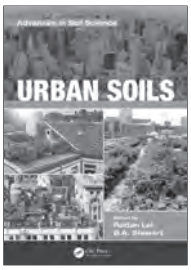
Edited by **Rattan Lal**, The Ohio State University, Columbus, USA and **B. A. Stewart**, West Texas A&M University, Canyon, USA

Series: Advances in Soil Science

In natural ecosystems, nitrogen (N) is in short supply and an important control of numerous ecosystem functions. Understanding the N cycle is imperative to improve capacity to meet global N demands while reducing environmental impacts. The natural N cycle has been disturbed by the industrial process of fertilizer production resulting in climate change and global warming. This book discusses availability, production, and recycling of N in air, water, plants, and soils. It features information on N impacts to soil and water quality, management of N in agroecosystems, and techniques to maximize the use efficiency while minimizing the risks of leakage of reactive N into the environment.

CRC Press
Market: Agricultural Science
March 2018: 254 x 178: 400pp
Hb: 978-1-138-62636-2: **£130.00**
eBook: 978-1-315-22886-0
* For **full contents** and more information, visit: **www.crcpress.com/9781138626362**

Urban Soils



Edited by **Rattan Lal**, The Ohio State University, Columbus, USA and **B. A. Stewart**, West Texas A&M University, Canyon, USA

Series: Advances in Soil Science

Urban soil comprises geological material drastically disturbed by anthropogenic activities. Urban soils play a role in the production of food, aesthetics of residential areas, and pollutant dynamics. Properties of urban soils are normally not favorable to plant growth, are contaminated by heavy metals, and are compacted and sealed. Therefore, the quality of urban soils must be restored. This book explains properties of urban soils; effects of urbanization on the cycling of C, N, and water assesses; impacts of management of urban soils; soil restoration; urban agriculture and food security; assesses ecosystem services provisioned by urban soils, and describes synthetic and artificial soils.

CRC Press
Market: Agricultural Science
October 2017: 254 x 178: 406pp
Hb: 978-1-498-77009-5: **£114.00**
eBook: 978-1-315-15425-1
* For **full contents** and more information, visit: **www.crcpress.com/9781498770095**

3rd Edition • NEW EDITION

Barile's Clinical Toxicology, Third Edition

Frank A. Barile, St. John's University, Queens, New York, USA

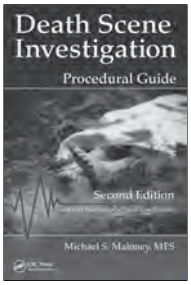
Examines the complex interactions associated with clinical toxicological events as a result of therapeutic drug administration or chemical exposure. Special emphasis is placed on signs and symptoms of diseases and pathology caused by toxins and clinical drugs. Includes the source, pharmacological and toxicological mechanism of action, detection and identification in body fluids, and treatment of exposure. An overview of protocols for managing various toxic ingestions, and the antidotes and treatments associated with their pathology, are discussed. In addition, effect of toxins on a limited number of body systems and drug-induced adverse drug reactions are also covered.

CRC Press
Market: Biomedical Science
July 2018: 235 x 156: 500pp
Hb: 978-1-498-76530-5: **£130.00**
eBook: 978-1-498-76538-1
Prev. Ed Hb: 978-1-420-09225-7
* For **full contents** and more information, visit: **www.crcpress.com/9781498765305**

2nd Edition • NEW EDITION

Death Scene Investigation

Procedural Guide, Second Edition



Michael S. Maloney, Forensic Solutions Inc., Independence, Missouri, USA

Death Scene Investigation: Procedural Guide, 2e provides investigators best-practice techniques and procedures for almost any death scene imaginable. Fully updated to include new coverage on shallow graves, human remains at crime scenes, poisonings, expanded coverage of projectile weapons, videography, touch DNA, death notifications, and a new chapter on sexual deaths. Serving as an on-scene reference with instructions on procedure including the initial notification of a death, processing the scene and body, the investigator's role at autopsy, and analyzing the scene to place evidence in context, Death Scene Investigation is a must-have for any crime scene and death investigator's tool kit.

CRC Press
Market: Forensics & Criminal Justice
November 2017: 235 x 156: 532pp
Pb: 978-1-498-75924-3: **£52.99**
eBook: 978-1-315-10727-1
Prev. Ed Pb: 978-1-439-84590-5
* For **full contents** and more information, visit: **www.crcpress.com/9781498759243**

Environmental Toxicity of Nanomaterials

Edited by **Vineet Kumar**, **Nandita Dasgupta**, Nano-food Research Group, VIT University, Vellore, Tamil Nadu, India and **Shivendu Ranjan**, Nano-food Research Group, VIT University, Vellore, Tamil Nadu, India

The book focuses on causes and prevention of environmental toxicity induced by various nanomaterials. This edited work contains five sections describing the basic principles, trends, challenges and future directions of nanoecotoxicity. The book introduces nanoecotoxicity, describes various factors affecting toxicity of nanomaterials, discusses various factors that can impart nanoecotoxicity, reviews various studies in the area of nanoecotoxicity evaluation, and describes the safety and risk assessment of nanomaterials. In addition chapters will discuss strategies for mitigating nanoecotoxicity.

CRC Press
Market: Biomedical Science
April 2018: 235 x 156: 518pp
Hb: 978-0-815-36652-2: **£160.00**
eBook: 978-1-351-25296-6
* For **full contents** and more information, visit: **www.crcpress.com/9780815366522**

The Illustrated Dictionary of Toxicologic Pathology and Safety Science

Edited by **Pritam S. Sahota**, Global ToxPath, LLC., Kennewick, Washington, USA, **Robert H. Spaet**, RSPathologics, LLC., Granby, Colorado, USA, **Philip Bentley**, Toxicodynamix International, LLC., Hendersonville, North Carolina, USA and **Zbigniew Wojcinski**, Drug Development & Preclinical Services, LLC., Ann Arbor, Michigan, USA

The illustrated dictionary would provide descriptions of commonly used terms in toxicologic pathology accompanied by select pictures and illustrations to augment the written material where appropriate. It would also contain concise but less detailed information, describing the terms used in related areas such as anatomy, metabolism, drug development, and the allied fields of general toxicology. Illustrations would be provided to add visual context to the terms and descriptions. The definitions and descriptions would be prepared and peer reviewed by editors and contributors who are known experts in toxicologic pathology, toxicology, and drug development.

CRC Press
Market: Medicine
May 2018: 279 x 216: 1000pp
Hb: 978-1-498-75471-2: **£180.00**
eBook: 978-1-498-75472-9
* For **full contents** and more information, visit: **www.crcpress.com/9781498754712**

Nanotoxicology

Toxicity Evaluation, Risk Assessment and Management

Edited by **Vineet Kumar**, Department of Chemistry, Panjab University, Chandigarh, UT, India, **Nandita Dasgupta**, Nano-food Research Group, VIT University, Vellore, Tamil Nadu, India and **Shivendu Ranjan**, Nano-food Research Group, VIT University, Vellore, Tamil Nadu, India

The future of nanomaterials in electronics, mechanical, medical and various other industries depends up on how accurate are our nanotoxicity testing protocols and safety guidelines. This book focuses on causes and prevention of nanotoxicity induced by various nanoproducts. This book describes all these aspects of nanotoxicity critically in detail. This edited book contains five sections describing the basic principles, trends, challenges and future directions of nanotoxicity. Further, the limitations and challenges of current toxicity testing and future scope of toxicity testing of nanomaterials are discussed in detail.

CRC Press
Market: Biomedical Science
March 2018: 235 x 156: 664pp
Hb: 978-1-498-79941-6: **£170.00**
eBook: 978-1-498-79945-4
* For **full contents** and more information, visit: **www.crcpress.com/9781498799416**

Toxicology of the Gastrointestinal Tract, Second Edition

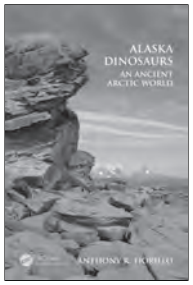
Edited by **Shayne Cox Gad**, Gad Consulting Services, Raleigh, North Carolina, USA

The Second Edition of Toxicology of the Gastrointestinal Tract continues its mission to provide a complete and multidisciplinary overview of the gastrointestinal system both in health and as it is involved in the toxicity of exogenous agents. The new edition is up to date and comprehensive in exploring the anatomy, physiology, immunology, and function of the GI Tract as the primary portal for entry of xenobiotics into the body, and for the models and methods for identifying and evaluating toxic effects, as well as a broad review of classes of drugs with gastrointestinal tract toxicity. It features five new chapters, including one on species differences in G.I. toxicity.

CRC Press
Market: Biomedical Science
November 2018: 235 x 156: 408pp
Hb: 978-1-138-08054-6: **£145.00**
eBook: 978-1-315-11340-1
* For **full contents** and more information, visit: **www.crcpress.com/9781138080546**

Alaska Dinosaurs

An Ancient Arctic World



Anthony R. Fiorillo

The Arctic was not always cold and inhospitable. Millions of years ago dinosaurs roamed under tree ferns in a warmer world. This book is a survey of the dinosaurs found in the rocks of this now frigid landscape. The author has spent decades exploring fossil bearing sediments of the Mesozoic and has written a lively and readable account of this ancient world. But the book is more than dinosaurs. It is also a geological overview of Alaska; a report on the fossils that have been found; descriptions of footprints of long dead animals; and a review of the fossil plants and the paleoclimate and paleoecology of the Arctic.

CRC Press
Market: Life Science
December 2017: 235 x 156: 224pp
Hb: 978-1-138-06087-6: **£77.00**
eBook: 978-1-315-16281-2
* For **full contents** and more information, visit: **www.crcpress.com/9781138060876**

TEXTBOOK • READER

Groundwater Contaminant Transport Modeling

Venkatesh Uddameri

Groundwater contamination can present health risks to humans and other ecological receptors. This book introduces the fundamental concepts and principles of contaminant movement in subsurface environments. It presents a quantitative approach and describes the mathematical tools and methods for assessing exposures and risks from groundwater-related transport pathways. The practical calculations necessary for analyzing slug test data to be included, as well as how to delineate groundwater plumes, estimate natural attenuation, and evaluate different remediation technologies. Integrated R programming environments are utilized throughout the book for more of a hands-on and practical engagement.

CRC Press
Market: Water Science & Engineering
August 2018: 235 x 156: 350pp
Hb: 978-1-138-03461-7: **£82.00**
* For **full contents** and more information, visit: **www.crcpress.com/9781138034617**

Atlas of Comparative Morphology of the Vertebrate Skull

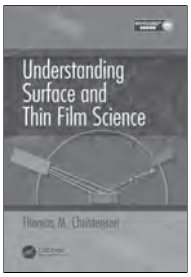
Christopher J. Bell, University of Texas, Austin, USA and **Matthew Colbert**, University of Texas, Austin, USA

This book is intended to be a pictorial atlas of the morphology of the vertebrate skull. The volume will include high-quality images of skulls from all the major groups of vertebrates (elasmobranchs, actinoptrygian fishes, lungfish, anurans, caudatans, gymnophionans, lizards, snakes, amphisbaenians, tuatara, crocodilians, turtles, birds, mammals). Images will be accompanied by explanatory text, and will be supplemented with literature citations to the voluminous literature on the vertebrate skull.

CRC Press
Market: Life Science
October 2018: 279 x 216: 700pp
Hb: 978-1-498-77415-4: **£114.00**
eBook: 978-1-498-77416-1
* For **full contents** and more information, visit: **www.crcpress.com/9781498774154**

TEXTBOOK • READER

Understanding Surface and Thin Film Science



Thomas M. Christensen, University of Colorado at Colorado Springs, USA

This book offers a clear and experiment-driven introduction to the materials science of surfaces and thin films. It includes only simple mathematics and numerous illustrations to help develop an intuitive understanding of how atomic level processes relate to macroscopic variables such as temperature, deposition rate, and energies. The book starts by addressing properties of clean surfaces and surfaces with adsorbed atoms on them, and advances to discussion of the coalescence, growth, and thickening of thin solid films for various applications.

CRC Press
Market: Materials Science
August 2018: 235 x 156: 300pp
eBook: 978-1-482-23304-9
Pack - Book and Ebook: 978-1-482-23303-2: **£63.99**
* For **full contents** and more information, visit: **www.crcpress.com/9781482233032**

Cattle Welfare in North America

Edited by **Terry Engle**, National Agricultural Research Foundation, Ioannina, Greece, **Donald J. Klingborg, DVM**, School of Veterinary Medicine, University of California, Davis, USA and **Bernard E. Rollin**, Colorado State University, Fort Collins, USA

Cattle Welfare in North America is an accurate and detailed account about ethical and welfare concerns with the human use of cattle. There is currently no significant book dealing with the welfare of cattle, animals that are usually seen as the archetypal paradigms of farm animals. Divided into two sections, one covering beef cattle and the other covering dairy cattle, this book will provide in-depth information on the husbandry roots of traditional agriculture, its replacement by an industrial model, the welfare problems created by industrial agriculture, and explores in detail the way in which the equivalent of husbandry can be restored in todays's industrial agriculture.

CRC Press
Market: Agricultural Science
August 2018: 254 x 178: 344pp
Hb: 978-1-138-19706-0: **£63.99**
eBook: 978-1-315-28245-9
* For **full contents** and more information, visit: **www.crcpress.com/9781138197060**

3rd Edition • TEXTBOOK • NEW EDITION

Theory for Today's Musician, Third Edition (Textbook and Workbook Package)

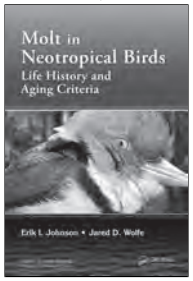
Ralph Turek, University of Akron, USA and **Daniel McCarthy**, University of Akron, USA

Theory for Today's Musician, Third Edition, recasts the scope of the traditional music theory course to meet the demands of the professional music world, in a style that speaks directly and engagingly to today's music student. It uses classical, folk, popular, and jazz repertoires with clear explanations that link music theory to musical applications. The authors help prepare students by not only exploring how music theory works in art music, but how it functions within modern music, and why this knowledge will help them become better composers, music teachers, performers, and recording engineers. This package includes both the textbook and accompanying workbook.

Routledge
Market: Music Theory
November 2018: 1200pp
Pack: 978-0-815-37173-1: **£110.00**
Prev. Ed Pack: 978-0-415-73036-5
* For **full contents** and more information, visit: **www.routledge.com/9780815371731**

Molt in Neotropical Birds

Life History and Aging Criteria



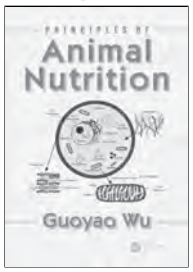
Erik I. Johnson, National Audubon Society, Baton Rouge, Louisiana, USA and **Jared D. Wolfe**, Louisiana State University, School of Renewable Natural Resources, Baton Rouge, USA

Series: Studies in Avian Biology

Avian molt is a process in which certain feathers are shed and replaced during the life cycle. The timing, duration, seasonality, extent and pattern of molt follows certain strategies. This book reviews and describes these strategies for nearly 200 species of birds from a 30-year study of Central Amazonian birds. Each account is to be illustrated with several color photos focusing on wing and tail feather molt.

CRC Press
Market: Life Science
October 2017: 254 x 178: 400pp
Hb: 978-1-498-71611-6: **£140.00**
eBook: 978-1-315-11975-5
* For **full contents** and more information, visit: **www.crcpress.com/9781498716116**

Principles of Animal Nutrition



Guoyao Wu, Texas A & M University, College Station, Texas, USA

This book provides information on basic principles of animal nutrition for daily husbandry—related practices, research, and teaching. It describes relationships between nutrients and feedstuffs as well as techniques of nutrient supplies to animals through dietary manipulation. Topics include digestive tracts of ruminant and nonruminant animals; absorption and metabolism of carbohydrates, proteins, lipids, energy, vitamins, and minerals; nutritional requirements for maintenance, growth, reproduction, egg production, milk production, and work production; nutritional diseases in animals; and feed additives in animal nutrition.

CRC Press
Market: Agricultural Science
December 2017: 254 x 178: 772pp
Hb: 978-1-498-72160-8: **£77.00**
eBook: 978-1-498-72161-5
* For **full contents** and more information, visit: **www.crcpress.com/9781498721608**

2nd Edition • TEXTBOOK • NEW EDITION

World Music: A Global Journey

Concise Edition

Terry E. Miller, Kent State University, USA and **Andrew Shahriari**, Kent State University, USA

World Music: A Global Journey, CONCISE, Second Edition introduces students to the diversity of musical expression around the world, taking them across the globe to experience cultural traditions that challenge the ear, the mind, and the spirit. Based on the fourth edition, the CONCISE second edition serves as an introduction to the many and varied world music traditions, rooted in a solid pedagogical framework.
The CONCISE second edition maintains the same format of a geographical orientation to each locale, but the reader visits 47 musical "sites" instead of 70--these sites are selected from the existing compilation, yet keep representation within all continents.

Routledge
October 2018: 254 x 203: 384pp
Pack - Book and CD: 978-0-815-38609-4: **£64.99**
* For **full contents** and more information, visit: **www.routledge.com/9780815386094**

The Ecology and Conservation of Plovers Charadius

Edited by **Mark A. Colwell**, Humboldt State University, Arcata, California, USA and **Susan M. Haig**, U.S. Geological Survey, Corvallis, Oregon, USA

Series: Studies in Avian Biology

More than 30 species of plover (genus *Charadrius)* have provided key insights shaping theory across a wide range of ecological sub-discipline. Many of these species are also threatened because they live where human population is greatest. The editors propose to organize a group of international specialists to write a series of multi-authored chapters. The book will have a strong applied emphasis. The book will be of great use to conservationists worldwide. The book will be organized into sections corresponding to the annual cycle of each taxon. As such, it will use the Full Life Cycle Biology approach championed by researchers spearheading conservation of migratory species worldwide.

CRC Press
Market: Life Science
August 2018: 254 x 178: 400pp
Hb: 978-1-498-75582-5: **£114.00**
eBook: 978-1-498-75583-2
* For **full contents** and more information, visit: **www.crcpress.com/9781498755825**

The Evolutionary, Structural and Functional Biology of the Avian Respiratory System

Edited by **John N. Maina**, University of Johannesburg, South Africa

Series: Studies in Avian Biology

The book will broadly examine and synthesize aspects of the evolution, development, structure and function of the avian respiratory system and the lung-air sac system. The following questions will be answered: from where did the avian respiratory system originate?; how did it form?; how is it built?; how does it function? and; how does the functional design of the system allow and sustain powered flight and flight at high altitude? The chapters will be contributed by an international group of researchers who are renowned authorities in their areas of specialization.

CRC Press
Market: Life Science
August 2018: 254 x 178: 350pp
Hb: 978-1-498-76498-8: **£95.00**
eBook: 978-1-498-76500-8
* For **full contents** and more information, visit: **www.crcpress.com/9781498764988**

Modeling and Simulation of Everyday Things

Michael W. Roth, Hawkeye Community College, Iowa, USA

Mathematical models and computer simulations are powerful tools for understanding systems in any scientific discipline. A biologist may want to model bones breaking, or an engineer may need to simulate heating and cooling of manufactured gears. For these and so many other applications, only a basic foundation in modeling and simulation is required. This user friendly, easy-to-follow introductory guide is written for this purpose. It teaches basic modeling and visualization without assuming any background in programming or physics. It includes a general introduction to tools, platforms and a coding language, followed by focused chapters dealing with examples from physical systems encountered in everyday life, as well as applications in more advanced systems, including some modeling algorithms.

CRC Press
Market: Computing for Science
March 2018: 235 x 191: 232pp
Hb: 978-1-138-48544-0: **£140.00**
Pb: 978-1-439-86937-6: **£53.99**
eBook: 978-1-351-06775-1
* For **full contents** and more information, visit: **www.crcpress.com/9781439869376**

Urban Deer Management Handbook

Clark E. Adams, Texas A&M University, College Station, USA and **Cassandra LaFleur**, City of Dallas Water Utilities Department, Rockwall, TX

Urban sprawl into the geographic range of cervid (deer) species has resulted in the need for management intervention. Cervids have a profound impact on culture and the economy of rural areas and are a significant factor in the ecology of the urban landscape. This book examines cervid species that are known to inhabit urban communities across the United States. It reviews various aspects of urban cervid management including national distributions and estimated populations within states; their ecological role as a keystone species; management activities that promote or preclude their urban existence; available funding and public education options; and conflict resolution.

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A

Advances in Agricultural Machinery and Technologies ... 2
Advances in Molecular Techniques ... 12
Advancing Food Integrity ... 2
African Indigenous Medical Knowledge and Human Health ... 15
Aging ... 7
Alaska Dinosaurs ... 23
Artemisia annua ... 2
Atlas of Comparative Morphology of the Vertebrate Skull ... 23

B

Barile's Clinical Toxicology, Third Edition ... 22
Biochemistry and Molecular Biology Compendium ... 18
BioGeoBEARS - A Bayesian Approach to Biogeography ... 19
Biology and Evolution of the Mollusca, Volume 1 ... 19
Biotechnology to Enhance Sugarcane Productivity and Stress Tolerance ... 2
Biotechnology: Recent Trends and Emerging Dimensions ... 2
Blue Carbon Primer, A ... 14

C

Cattle Welfare in North America ... 23
Cells in Evolutionary Biology ... 7
Climate Change and Crop Production ... 3
Crop Responses to Environment ... 3

D

Death Scene Investigation ... 22
Definitive Guide to Texture Painting ... 13
Developing Sustainable Agriculture in Pakistan ... 3
Drafting Directors' Service Agreements ... 14
Dwarf Horticultural Plants ... 3

E

Ebola Outbreak, An ... 16
Eco-Friendly Techniques for Enhancing Crop Productivity ... 3
Ecology and Conservation of Plovers Charadius, The ... 24
Ecosystem Modeling, Data Assimilation, and Prediction ... 11
Embryos of Living Dinosaurs ... 7
Environmental Toxicity of Nanomaterials ... 22
Epithelial Cell Interactions ... 7
Essential Experimental Evolution ... 19
Essentials of Clinical Pulmonology ... 2
Essentials of Human Physiology and Pathophysiology for Pharmacy and Allied Health ... 12
Evolution of the Structure and Function of the Notochord ... 7
Evolutionary, Structural and Functional Biology of the Avian Respiratory System, The ... 24
Exploratory Data Analysis Using R ... 14
Extremophiles ... 14

F

Field to Palette ... 4
Forestry Applications ... 4

G

Gene and Cell Delivery for Invertebral Disc Degeneration ... 8
Genetics and the Lives of Geneticists ... 12
Groundwater Contaminant Transport Modeling ... 23

H

Hair and Scalp Disorders ... 10
Hearing ... 10
History of Plant Breeding ... 4
Hydrogen Peroxide Metabolism in Health and Disease ... 8

I

Illustrated Dictionary of Toxicologic Pathology and Safety Science, The ... 22
Introduction to Human Factors and Ergonomics, Fourth Edition ... 8
Introduction to Systems Biology, An ... 8
Invasive Stink Bugs and Related Species (Pentatomoidea) ... 10

K

Knowledge Representation in Systematic Biology ... 4

L

Laboratory Techniques in Plant Bacteriology ... 4
Lipid-Mediated Signaling Transduction, Second Edition ... 18

M

Macroevolution of Complex Morphologies ... 19
Measuring Dynamic Terrestrial Ecosystem Processes ... 11
Medicinal Plants ... 15
Metabolic Adaptations in Plants During Abiotic Stress ... 4
Microbial Cell Factories ... 8
Microbial Control of Vector-Borne Diseases ... 16
MicroRNA ... 18
Modeling and Simulation of Everyday Things ... 24
Molt in Neotropical Birds ... 24

N

Nanoagroceuticals and Nanophytochemicals ... 5
Nanobioengineering ... 16
Nanonutraceuticals ... 5
Nanotoxicology ... 22
Neotropical Birds ... 19
Neurobiology of TRP Channels ... 8
Neurotransmitters in Plants ... 15

O

Oceanography and Marine Biology ... 14
Origin and Evolution of Metazoan Cell Types ... 9
Origin and Evolution of Neural Crest Cells ... 9

P

Parenteral Medications, Fourth Edition ... 21
Phylogeny of Insects ... 10
Phytoremediation of Emerging Contaminants in Wetlands ... 11
Pictorial Atlas of Soilborne Fungal Plant Pathogens and Diseases ... 5
Plant Molecular Systematics ... 5
Plant Tolerance to Environmental Stress ... 5
Plant Viruses ... 6
Pocket Guide to Bacterial Infections ... 16
Pocket Guide to Microfungi ... 16
Pocket Guide to Mycological Diagnosis ... 16
Practical Manual on Plant Cytogenetics ... 6
Preventing Infections in Personal Services ... 15
Principles of Animal Nutrition ... 24

R

Recent Advances in Environmental Management ... 17

S

Shark Research ... 14
Signal Transduction and Smooth Muscle ... 18
Soil Amendments for Sustainability ... 21
Soil and Climate ... 21
Soil Nitrogen Uses and Environmental Impacts ... 21
Species ... 19
Standing on the Shoulders of Darwin and Mendel ... 12
Stem Cell Bioreactors ... 9
Stress Physiology of Woody Plants ... 6

T

Targeted Gene Capture for Phylogenetic Systematics and Population Genetics ... 13
Theory for Today's Musician, Third Edition (Ebook Package) ... 5
Theory for Today's Musician, Third Edition (Textbook and Workbook Package) ... 23
Thermophilic Fungi ... 6
Toxicology of the Gastrointestinal Tract, Second Edition ... 22
Tumors and Cancers ... 9

U

Understanding Surface and Thin Film Science ... 23
Urban Deer Management Handbook ... 25
Urban Geography ... 7
Urban Geography ... 7
Urban Soils ... 21

V

Variability and Phylogeny ... 20

W

What Species Mean ... 20
World Music: A Global Journey ... 24

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A

Adams, Clark E. ... 25
Aftab, Tariq ... 2
Ahmad, Shamim I. ... 7
Allen, Michael F. ... 11
Alon, Uri ... 8
Arunachalam, Vadivel ... 3

B

Balamurugan, K ... 16
Barile, Frank A. ... 22
Bell, Christopher J. ... 23
Benkeblia, Noureddine ... 3
Bever, Gabriel S. ... 20
Bharagava, Ram Naresh ... 17
Bhargava, Atul ... 2
Bhoop, Bhupinder Singh ... 5
Bhoop, Bhupinder Singh ... 5
Bhoop, Bhupinder Singh ... 16
Borkar, Suresh G. ... 4
Bridger, Robert ... 8

C

Cabral, Joaquim M.S. ... 9
Carrier, Jeffery C ... 14
Chen, Guangnan ... 2
Christensen, Thomas M. ... 23
Colwell, Mark A. ... 24

D

Dai, Wenhao ... 6
de Aguiar Cordeiro, Rossana ... 16
Dronamraju, Krishna ... 12
Durvasula, Ravi V. ... 14

E

Engle, Terry ... 23

F

Fiorillo, Anthony R. ... 23
Franz, Nico M. ... 4

G

Gad, Shayne Cox ... 22
Galton, David J. ... 12
Gaur, Rajarshi Kumar ... 6
Gelfand, Stanley A. ... 10
Gonçalves, Raquel Madeira ... 8

H

Hall, Anthony E. ... 3
Hall, Brian K. ... 7
Hall, Tim ... 3
Hall, Tim ... 7
Hasanuzzamam, Mirza ... 5
Hawkins, S. J. ... 14
Howard, Gillian S. ... 14

J

Johnson, Erik I. ... 24

K

Khan, Iqrar Ahmad ... 3
Khurana, Seema ... 7
Kjer, Karl ... 10
Kumar, Vineet ... 22
Kumar, Vineet ... 22

L

Lal, Rattan ... 21
Lal, Rattan ... 21
Lal, Rattan ... 21
Lapensee, Christian ... 15
Leys, Sally ... 9
Li, Chenhong ... 13
Liu, Dongyou ... 9
Lundblad, Roger L. ... 18
Luo, Yiqi ... 11

M

Maina, John N. ... 24
Maloney, Michael S. ... 22
Matzke, Nicholas J. ... 19
McCorry, Laurie K. ... 12
McMichael, Amy J. ... 10
McPherson, J.E. ... 10
Medeiros, Daniel Meulemans ... 9
Miller, Terry ... 24
Murphy, Eric ... 18

N

Nema, Sandeep ... 21

O

Olinger, Jr., Gene Garrard ... 16

P

Pandey, Arun Kumar ... 5
Paradis, Gregory ... 4
Parimelazhagan, Thangaraj ... 15
Paul, Jaishree ... 18
Pearson, Ronald K. ... 14
Ponder, Winston Frank ... 19

R

Rai, Prabhat Kumar ... 11
Rakshit, Amitava ... 21
Ramakrishna, Akula ... 4
Ramakrishna, Akula ... 15
Rosenbaum Emir, Tamara Luti ... 8
Rosenzweig, Frank ... 19
Roth, Michael W. ... 24

S

Sahota, Pritam S. ... 22
Salar, Raj Kumar ... 6
Schlegel, Rolf H. J. ... 4
Schwartz, Lopsie ... 13
Seifert, Keith A. ... 16
Sengar, Kalpana ... 2
Sengar, Kalpana ... 3
Sengar, Rakesh S. ... 12
Shah, Pallav ... 2
Sharma, Deepansh ... 8
Sigwart, Julia ... 20
Singh, Ram J. ... 6
Steier, Gabriela ... 2
Stratford, Jeffrey A. ... 19

T

Toland, Alexandra ... 4
Trebak, Mohamed ... 18
Turek, Ralph ... 5
Turek, Ralph ... 23
Tyagi, Brij Kishore ... 16

U

Uddameri, Venkatesh ... 23

V

Vargas Milne, Alexander O. ... 7
Vissers, Margreet C M ... 8

W

Wambebe, Charles ... 15
Watanabe, Tsuneo ... 5
Wilkins, John S. ... 19
Windham-Myers, Lisamarie ... 14
Witten, P. E. ... 7
Wu, Guoyao ... 24

Z

Zelditch, Miriam Leah ... 19

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