BIOMEDICINE

Rights Title Selection

Fall 2018

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Spirochete Biology: The Post Genomic Era
B. Adler (Ed)

- Provides new insights into the key aspects of spirochete biology
- Summarizes the major advances in our knowledge made possible by genome sequencing and the development of genetic tools for the manipulation of spirochetes
- Written by leading spirochetologists

Contents
The Treponema pallidum Outer Membrane.- Gene regulation, two component regulatory systems, and adaptive responses in Treponema denticola.- Physiologic and Genetic Factors Influencing the Zoonotic [...]

Fields of Interest
Medical Microbiology; Parasitology; Infectious Diseases; Bacteriology

Series Title
Current Topics in Microbiology and Immunology

September 2018
VIII, 295 p. Hardcover. 155 x 235 mm
£ 119.99 | € 139.99 | $ 169.99
ISBN 978-3-319-89637-3
All Languages Rights Available

Basic Serological Testing
R. Y. Alhabbab

- Each chapter contains study questions and learning objectives
- Easy-to-follow directions for the novice user
- Contains numerous helpful illustrations

This book discusses in detail various serological tests that are used to identify medical conditions and diseases, from a general overview of each test to the equipment and steps needed to carry them out. The book is aimed specifically at immunology students and professionals who may occasionally need to use these tests, and thus lack training and experience in performing them. [...]

Contents
Foreword.- Preface.- Acknowledgements.- Introduction to the Immune System.- Antibody and antigen interaction.- Precipitation and Agglutination Reactions.- Rapid Plasma Reagin (RPR) Test.- [...]

Fields of Interest
Laboratory Medicine; Immunology

Series Title
Techniques in Life Science and Biomedicine for the Non-Expert

June 2018
XV, 139 p. 51 illus. in color. Hardcover. 155 x 235 mm
£ 44.99 | € 49.99 | $ 59.99
ISBN 978-3-319-77693-4
All Languages Rights Available

Lung Innate Immunity and Inflammation
Methods and Protocols
S. Alper, W. J. Janssen (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This detailed book explores methods to isolate, characterize, and investigate key lung innate immune cells. Beginning with an overview, the volume then continues with methods for creating in vitro and in vivo model systems to study inflammatory lung diseases. [...]

Contents
500 Million Alveoli from 30,000 Feet: A Brief Primer on Lung Anatomy.- Overview of Innate Lung Immunity and Inflammation.- Isolation and Characterization of Mononuclear Phagocytes in the Mouse [...]

Fields of Interest
Molecular Medicine

Series Title
Methods in Molecular Biology

August 2018
XII, 433 p. 91 illus., 70 illus. in color. Hardcover. 178 x 254 mm
£ 149.99 | € 169.99 | $ 219.99
All Languages Rights Available
HSP70 in Human Diseases and Disorders
A. A. A. Asea, P. Kaur (Eds)

- Combines studies of the role of HSP70 in Human Diseases and Disorders
- Contains colored photos of unique model systems
- Is easy to read and understand for professionals in the field

The book HSP70 in Human Diseases and Disorders provides the most comprehensive review on contemporary knowledge on the role of HSP70 family - one of the most studied HSP - in human diseases and disorders. [...] Contents
Heat Shock Protein 70 and Molecular Confession during Neurodegeneration.- Hsp70-Family Proteins and Neurodegenerative Diseases.- Heat Shock Protein70 in Neurological Disease.- Involvement of Heat [...] Fields of Interest
Laboratory Medicine; Biological and Medical Physics, Biophysics; Pharmaceutical Sciences/Technology

Series Title
Heat Shock Proteins

July 2018
IX, 403 p. 39 illus., 31 illus. in color. Hardcover. 155 x 235 mm
£ 129.99 | € 149.99 | $ 179.99
ISBN 978-3-319-89550-5

All Languages Rights Available

Regulation of Heat Shock Protein Responses
A. A. A. Asea, P. Kaur (Eds)

- The only book that reviews Regulation of HSP Responses with a focus on human diseases
- Fully illustrated
- Easy to read and understand making it a must read for graduate students, clinicians and researchers

This book provides the most up-to-date reviews on current advances in our understanding of the regulation of heat shock protein responses. [...] Contents
HSP AND STRESS RESPONSES.- Regulation of Mammalian HSP70 Expression and Stress Response.- Heat Shock Proteins and Pesticide Stress.- Heat Shock Proteins and Abiotic Stress Tolerance in Plants.- [...] Fields of Interest
Pharmaceutical Sciences/Technology; Human Genetics

Series Title
Heat Shock Proteins

May 2018
IX, 472 p. 99 illus., 79 illus. in color. Hardcover. 155 x 235 mm
£ 109.99 | € 129.99 | $ 159.99
ISBN 978-3-319-74714-9

All Languages Rights Available

3D Printing of Pharmaceuticals
A. W. Basit, S. Gaisford (Eds)

- A book for all who are interested in printing pharmaceuticals--from general readers to undergraduate students, post graduate research students, and professionals in the industrial sector
- The first comprehensive overview of 3D printing technologies in the pharmaceutical sciences
- Highlights the latest applications to which printing technologies have been applied, from isolation of single crystals through to printing complex biological structures

3D printing is forecast to revolutionise the pharmaceutical sector, changing the face of medicine development, manufacture and use. [...] Contents
Paradigm of personalised medicines.- Pharmaceutical ink-jet printing.- Fused-deposition modelling (FDM) 3D printing.- Stereolithographic (SLA) 3D printing.- Selective laser sintering (SLS) 3D [...] Fields of Interest
Pharmaceutical Sciences/Technology; Biomedical Engineering/Biotechnology

Series Title
AAPS Advances in the Pharmaceutical Sciences Series

August 2018
XI, 236 p. 116 illus., 105 illus. in color. Hardcover. 155 x 235 mm
£ 119.99 | € 139.99 | $ 169.99
ISBN 978-3-319-90754-3

All Languages Rights Available
Accelerated Path to Cures  
J. Bassaganya-Riera (Ed)

- Details the role of modeling and computational approaches in precision medicine
- Highlights the progress towards precision medicine
- Advances Path to Cures

Accelerated Path to Cures provides a transformative perspective on the power of combining advanced computational technologies, modeling, bioinformatics and machine learning approaches with nonclinical and clinical experimentation to accelerate drug development. [...]  

Contents
Chapter 1: Introduction to Accelerated Path to Cures and Precision Medicine in Inflammatory Bowel Disease.- Chapter 2: Computer-Aided Drug Discovery.- Chapter 3: Preclinical Studies: Efficacy and [...]  

Fields of Interest
Immunology; Computational Biology/Bioinformatics; Health Informatics; Computer Appl. in Life Sciences

Stress, Trauma and Synaptic Plasticity  
M. Bennett, J. Lagopoulos

- written by internationally recognized experts in the field
- comprehensive overview on the role of synaptic plasticity in induction of fear and fear extinction
- discusses the impact of stress and trauma on structure and cellular basis of grey matter

This book presents the latest state of knowledge on grey matter changes in the brain following stress and trauma. Where do these changes take place and what are the underlying molecular mechanisms? These questions are addressed in several sections, providing detailed insights into the cellular and molecular alterations that occur in the brain after stress and trauma. [...]  

Contents
Grey matter changes in the brain following stress and trauma.- Synaptic changes responsible for grey matter changes in the brain of animal models following stress.- Identification of the core [...]  

Fields of Interest
Neurosciences; Neurobiology; Neurology

HLA Typing  
Methods and Protocols  
S. Boegel (Ed)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume explores the rapidly evolving field of HLA typing and its use in both the laboratory setting and in silico methods. [...]  

Contents
The Past, Present, and Future of HLA Typing in Transplantation.- Role of Human Leukocyte Antigens (HLA) in Autoimmune Diseases.- The IPD Databases: Cataloguing and Understanding Allele Variants.- [...]  

Fields of Interest
Immunology

Series Title
Methods in Molecular Biology

May 2018
VIII, 82 p. 11 illus. in color. Hardcover. 155 x 235 mm  
£ 59.99 | € 66.99 | $ 79.00  
ISBN 978-3-319-73237-4

All Languages Rights Available

October 2018
Approx. 300 p. 60 illus. in color. Hardcover. 155 x 235 mm  
£ 129.99 | € 149.99 | $ 179.99  
ISBN 978-3-319-91115-1

All Languages Rights Available

June 2018
XI, 287 p. 52 illus., 38 illus. in color. With online files/update. Hardcover. 178 x 254 mm  
£ 149.99 | € 169.99 | $ 219.99  
ISBN 978-1-4939-8545-6

All Languages Rights Available
The Adenosine Receptors
P. A. Borea, K. Varani, S. Gessi, S. Merighi, F. Vincenzi (Eds)

- Provides detailed overview of all adenosine receptor types
- Addresses the role of adenosine receptors in disease
- Focuses on adenosine receptors’ potential as therapeutic targets

This book traces the history of adenosine receptor research from molecular biology to medicinal chemistry to behavior, including their implications in disease and potential strategies as therapeutic targets. […]

Contents
Purinergic signalling: an historical overview.- Regulation of extracellular adenosine.- Adenosine receptors: structure, distribution and signal transduction.- Binding thermodynamic characteristics […]

Fields of Interest
Neurochemistry

Series Title
The Receptors

Activation of Viruses by Host Proteases
E. Böttcher-Friebertshäuser, W. Garten, H. D. Klenk (Eds)

- Presents recent findings on this topic
- Deals with all aspects of the role of proteases in virus activation
- Explores the topic from different points of view

This book will give an overview on viruses undergoing proteolytic activation through host proteases. The chapters will be organized in three themed parts, the first part describing respective viruses and their characteristics in detail. In the second part the molecular and cellular biology of the proteases involved as well as their physiological functions will be further explored. […]

Contents

Fields of Interest
Virology; Enzymology; Protein-Ligand Interactions

Functional Genomics in Medicago truncatula
Methods and Protocols
L. A. Cañas, J. P. Beltrán (Eds)

- Includes cutting-edge techniques for the study of Medicago truncatula and its functional genomics
- Provides step-by-step detail essential for reproducible results
- Contains key implementation advice from the experts

This volume discusses popular methods to achieve different types of mutagenesis and forward/reverse genetics in Medicago truncatula. Several studies on genetic control of developmental and metabolic processes in this model legume are also described. […]

Contents
Grain and forage legumes: nutritional value and agriculture sustainability.- Model legumes: functional genomics tools in Medicago truncatula.- The Medicago truncatula genome: genomic data […]

Fields of Interest
Plant Genetics and Genomics

Series Title
Methods in Molecular Biology

August 2018
XX, 593 p. 71 illus., 29 illus. in color. Hardcover. 155 x 235 mm
£ 129.99 | € 149.99 | $ 179.99
ISBN 978-3-319-90807-6

All Languages Rights Available

May 2018
X, 335 p. 71 illus., 53 illus. in color. Hardcover. 155 x 235 mm
£ 149.99 | € 169.99 | $ 219.99
ISBN 978-3-319-75473-4

All Languages Rights Available

August 2018
XI, 343 p. 45 illus., 35 illus. in color. Hardcover. 178 x 254 mm
£ 149.99 | € 169.99 | $ 219.99

All Languages Rights Available
Voltage-gated Sodium Channels: Structure, Function and Channelopathies
M. Chahine (Ed)

• Reviews exhaustively the key recent research into Na+ channels and related diseases
• Broadens our understanding on Na+ channels and their associated diseases
• Summarizes the latest studies on the physiopathology of Na+ channels

This book provides a timely state-of-the-art overview of voltage-gated sodium channels, their structure-function, their pharmacology and related diseases. Among the topics discussed are the structural basis of Na+ channel function, methodological advances in the study of Na+ channels, their pathophysiology and drugs and toxins interactions with these channels and their associated channelopathies.

Contents
Pharmacology/Toxicology; Human Genetics; Human Physiology; Protein Structure

Series Title
Handbook of Experimental Pharmacology

Defining Physiology: Principles, Themes, Concepts
Cardiovascular, Respiratory and Renal Physiology
H. M. Cheng, F. Jusof

• Provides definitions of essential key words with conceptual elaborations
• Offers figures to enhance each definition
• Is a useful companion to the "Physiology-Question Based Learning" titles

This book will provide the reader with an overview of the essential meanings of key words in the physiology of various organ systems. This book is linked to a Question and Answer book on these organ systems that was published previously by Springer and will focus on cardiovascular, pulmonary and renal physiology. [...] Fields of Interest
Human Physiology

Novel Biomaterials for Regenerative Medicine
H. J. Chun, K. Park, C. Kim, G. Khang (Eds)

• Discusses a wide range of novel biomaterials of promise for applications in regenerative medicine
• Presents up-to-date information on functional biomaterials, inorganic biomaterials, and smart natural biomaterials
• Provides stimulating ideas for future research in the ever more important field of biomedical engineering

This book explores in depth a wide range of new biomaterials that hold great promise for applications in regenerative medicine. The opening two sections are devoted to biomaterials designed to direct stem cell fate and regulate signaling pathways. [...] Fields of Interest
Biomedical Engineering/Biotechnology; Regenerative Medicine/Tissue Engineering; Biomedical Engineering

Series Title
Advances in Experimental Medicine and Biology

July 2018
X, 450 p. 80 illus., 55 illus. in color. Hardcover.
155 x 235 mm
£ 129.99 | € 149.99 | $ 179.99
ISBN 978-3-319-90283-8

All Languages Rights Available

July 2018
XIX, 187 p. 69 illus., 54 illus. in color. Hardcover.
155 x 235 mm
£ 109.99 | € 129.99 | $ 159.99

All Languages Rights Available

September 2018
VII, 625 p. 156 illus., 113 illus. in color. Hardcover.
178 x 254 mm
£ 179.99 | € 199.99 | $ 249.99

All Languages Rights Available
Cutting-Edge Enabling Technologies for Regenerative Medicine
• Discusses in detail a wide range of new and emerging enabling technologies for regenerative medicine
• Reviews areas such as 3D bioprinting, electrospinning, intelligent nanocomposites, and drug delivery systems
• Provides stimulating ideas for future research in the ever more important field of biomedical engineering
This book explores in depth the latest enabling technologies for regenerative medicine. The opening section examines advances in 3D bioprinting and the fabrication of electrospun and electrospayed scaffolds. [...] 
Contents
I.3D Printing and 3D Electro-spun for Regenerative Medicine.- 1.3D bioprinting of adipose-derived stem cells for organ manufacturing.- 2.3D printed gelatin scaffold with desired porosity and its [...] 
Fields of Interest
Biomedical Engineering/Biotechnology; Regenerative Medicine/Tissue Engineering; Biomedical Engineering
Series Title
Advances in Experimental Medicine and Biology

Behavioral Neuroscience of Learning and Memory
R. E. Clark, S. Martin (Eds)
• Brings evidence from human and animal research together in a single volume
• Explains how technological advances are opening up new possibilities for research that would have seemed like science fiction only a few years ago
• Showcases the knowledge and opinions of some of the world’s cutting-edge neurobiological researchers in learning and memory
‘Behavioral Neuroscience of Learning and Memory’ brings together the opinions and expertise of some of the world’s foremost neuroscientists in the field of learning and memory research. [...] 
Contents
Preface.- A History and Overview of the Behavioral Neuroscience of Learning and Memory. - Current Topics Regarding the Function of the Medial Temporal Lobe Memory System.- Neural activity patterns [...] 
Fields of Interest
Neurosciences; Behavioral Sciences; Neurobiology; Neurology; Transgenics
Series Title
Current Topics in Behavioral Neurosciences

Inflammasomes: Clinical and Therapeutic Implications
M. D. Cordero, E. Alcocer-Gómez (Eds)
• Extensive coverage of the roles played by inflammasomes in various diseases
• Examines the inflammasome as a potential therapeutic target
• Discusses pharmacological developments in inflammasome inhibition
The inflammasome is a protein complex composed of an intracellular sensor—typically a Nod-like receptor (NLR), the precursor procaspase-1, and the adaptor ASC. Inflammasome activation leads to the maturation of caspase-1 and the processing of its substrates, IL-1β and IL-18. The inflammasome has been implicated numerous diseases, and blockade of inflammasome-derived IL-1β has beneficial effects on [...] 
Contents
Chapter 1: Bases of the inflammasomes in the clinical practice. A brief introduction.- Chapter 2: The Inflammasomes in Cardiovascular Disease.- Chapter 3: Inflammasomes in CNS diseases.- Chapter [...] 
Fields of Interest
Molecular Medicine; Medical Biochemistry
Series Title
Experientia Supplementum

September 2018
X, 615 p. 134 illus., 108 illus. in color. Hardcover.

September 2018
VIII, 359 p. 196 illus., 158 illus. in color. Hardcover.
155 x 235 mm £ 139.99 | € 159.99 | $ 199.99 ISBN 978-3-319-78755-8

August 2018
VIII, 400 p. 63 illus., 26 illus. in color. Hardcover.
155 x 235 mm £ 129.99 | € 149.99 | $ 179.99 ISBN 978-3-319-89389-1
Prostate Cancer
Methods and Protocols
Z. Culig (Ed)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume presents methods and protocols on modern analysis of steroid receptor and prostate cancer function. Chapters detail androgen, androgen receptor action, anti-androgen enzalutamide, in vitro and in vivo models, imaging, gene fusions, and help facilitate studies with novel drugs including anti-androgens and chemotherapeutics. [
...

Contents
Generation of Prostate Cancer Patient-derived Xenografts to Investigate Mechanisms of Novel Treatments and Treatment Resistance.- Methods to Study Angiogenesis in a Mouse Model of Prostate [...] 

Fields of Interest
Cancer Research

Series Title
Methods in Molecular Biology

Innovations for Next-Generation Antibody-Drug Conjugates
M. Damelin (Ed)

- Focus on next-generation ADCs for oncology and other diseases
- Description & analysis of current technological innovations for ADCs
- ADC clinical development in the context of immuno-oncology

Antibody-drug conjugates (ADCs) stand at the verge of a transformation. Scores of clinical programs have yielded only a few regulatory approvals, but a wave of technological innovation now empowers us to overcome past technical challenges. This volume focuses on the next generation of ADCs and the innovations that will enable them. [...] 

Contents
Chapter 1 Introduction: Motivations for Next-Generation ADCs.- Chapter 2 Combining ADCs with Immuno-oncology Agents.- Chapter 3 Improving the Safety Profile of ADCs.- Chapter 4 Utility of PK-PD [...] 

Fields of Interest
Cancer Research; Molecular Medicine

Series Title
Cancer Drug Discovery and Development

Rodent Bioacoustics
M. L. Dent, R. R. Fay, A. N. Popper (Eds)

- Provides a comprehensive summary of all things bioacoustics in rodents
- Includes field research and highlights the bioacoustics of many species of wild rodents in their natural environments
- Covers research on less popular rodent species and provides the basis for a broader understanding of these rodents

By far, the most widely used subjects in psychological and biological research today are rodents. Although rats and mice comprise the largest group of animals used in research, there are over 2,000 species and 27 families of rodents, living all over the world (except Antarctica) and thriving in many different habitat types. [...] 

Contents

Fields of Interest
Neurosciences; Otorhinolaryngology

Series Title
Springer Handbook of Auditory Research
Advances in Microbiology, Infectious Diseases and Public Health

Volume 9

G. Donelli (Ed)

- Provides state-of-the-art information about infectious diseases affecting humans and animals
- Addresses the epidemiology and pathogenesis of emerging and re-emerging microbial infections
- Discusses the role of vaccines in the prophylaxis of severe infectious diseases

This book series focuses on current progress in the broad field of medical microbiology, and covers both basic and applied topics related to the study of microbes, their interactions with human and animals, and emerging issues relevant for public health. [...]
Antimicrobial Resistance in the 21st Century
I.W. Fong, D. Shlaes, K. Drlica (Eds)

- Contributors are leading international experts on antimicrobial resistance
- Provides comprehensive coverage of antimicrobial resistance
- Tool to help control and slow the emergence of antimicrobial resistance

Antimicrobial resistance is now a general problem. Many of us have elderly relatives who died from a drug-resistant infection, and some of us have suffered from a resistant urinary infection that likely came from intestinal bacteria following antibiotic consumption. […]

Contents

Fields of Interest
Immunology; Infectious Diseases; Microbiology; Virology; Epidemiology; Public Health

Series Title
Emerging Infectious Diseases of the 21st Century

Clinical Trials in Neurology
F. Fregni (Ed)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume provides in-depth descriptions and discussion of clinical trial designs based on novel data analysis of high-quality trials for 11 different neurological conditions in order to ultimately improve the quality of care in neurology. Some of the conditions discussed in this book are stroke, traumatic brain injury, Alzheimer's disease, epilepsy, and tumors of the central nervous system. […]

Contents

Fields of Interest
Neurosciences

Series Title
Neuromethods

Acute Neuronal Injury
The Role of Excitotoxic Programmed Cell Death Mechanisms
D. G. Fujikawa (Ed)

- Covers major causes of nerve cell death including strokes, seizures, etc
- Material from previous edition has been comprehensively updated
- Includes 3 new chapters

An overview of the biochemical mechanisms that produce acute nerve cell death in the brain. Covers injuries and disorders including stroke, brain and spinal cord trauma, hypoglycemic coma, and prolonged epileptic seizures. […]

Contents
Introduction.- Excitotoxic programmed cell death involves caspase-independent mechanisms.- To survive or to die: how neurons deal with it.- Oxidative damage mechanisms in traumatic brain injury […]

Fields of Interest
Neurosciences; Neurology; Pathology; Cell Biology; Neurobiology; Psychiatry
Receptor-Receptor Interactions in the Central Nervous System
K. FUXE, D. O. Borroto-Escuela (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume covers methodologies, ranging from the molecular level to the network level, used to study receptor-receptor interactions in heteroreceptor complexes inside the central nervous system. [...] 

Contents
Analysis and Quantification of GPCR Allosteric Receptor-Receptor Interactions using Radioligand Binding Assays: The A2AR-D2R Heteroreceptor Complex Example.- Analysis and Quantification of GPCR [...] 

Fields of Interest
Neurosciences

Series Title
Neuromethods

Advances in Animal Biotechnology and its Applications
S. K. Gahlawat, J. S. Duhan, R. K. Salar, P. Siwach, S. Kumar, P. Kaur (Eds)

- Provides updated information on important and advanced topics of Biotechnology i.e. Drug delivery, Genome editing, Diagnostics, Probiotics, and Nanotechnology
- Represents comprehensive overview of the interdisciplinary field of Biotechnology
- Includes application of Biotechnology in Diagnostics, Therapeutics, and drug discovery

This book explores the recent advancements in cutting-edge techniques and applications of Biotechnology. It provides an overview of prospects and applications while emphasizing modern, and emerging areas of Biotechnology. [...] 

Contents

Fields of Interest
Biomedical Engineering/Biotechnology; Animal Genetics and Genomics; Gene Therapy; Nanotechnology; Virology

August 2018
XIX, 346 p. 63 illus., 46 illus. in color. Hardcover.
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All Languages Rights Available

June 2018
XII, 401 p. 72 Illus., 44 illus. in color. Hardcover.
155 x 235 mm
£ 129.99 | € 149.99 | $ 179.99

All Languages Rights Available

September 2018
IX, 212 p. 319 Illus., 318 illus. in color. Hardcover.
155 x 235 mm
£ 119.99 | € 139.99 | $ 169.99
ISBN 978-3-319-78363-5

All Languages Rights Available

Standards for Ocular Toxicology and Inflammation
B. C. Gilger, C. S. Cook, M. H. Brown (Eds)

- This book is an international effort to standardize the language, terms, and methods used in ocular toxicology and all research organizations and pharmaceutical companies will need to reference the material
- Step-by-step procedures
- Endorsed by the American College of Veterinary Ophthalmologists

This book is an international effort to standardize the language, terms, and methods used in ocular toxicology. With over 300 color illustrations this consensus volume provides standards and harmonization for procedures, terminology, and scoring schemes for ocular toxicology. [...] 

Contents
Standards for Conducting Ophthalmic Examinations in Laboratory Animals.- Standard Operating Procedures for Common Ocular Experimental Procedures.- Harmonization of Lesion Nomenclature and [...] 

Fields of Interest
Pharmacology/Toxicology; Ophthalmology
Computational Drug Discovery and Design
M. Gore, U. B. Jagtap (Eds)
- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts
This volume details methods and techniques for identification of drug targets, binding sites prediction, high-throughput virtual screening, and prediction of pharmacokinetic properties using computer-based methodologies. [...] 

Contents

Fields of Interest
Pharmacology/Toxicology

Series Title
Methods in Molecular Biology

Single Cell Biomedicine
J. Gu, X. Wang (Eds)
- Focuses on various detection targets applied in single cell studies
- Includes the methods newly developed
- Highlights the importance and potential of single cell biomedicine in the development and validation of precision medicine strategies
The book focuses on various detection targets applied in single cell studies, including tumor tissue cells, circulating tumor cells (CTCs), disseminated tumor cells (DTCs), circulating tumor DNA (ctDNA), cell-free DNA (cfDNA) and cancer stem cells (CSCs). It also discusses and compares detection methods using these detection targets in different fields to reveal single cell biomedical functions. [...] 

Contents

Fields of Interest
Molecular Medicine; Cell Biology

Series Title
Advances in Experimental Medicine and Biology

The Neuroimaging of Brain Diseases
Structural and Functional Advances
C. Habas (Ed)
- Comprehensive overview of advances in neuroimaging for brain disorders
- Presents structural and functional aspects of neurological disorders
- Addresses both common and uncommon disorders
Notable experts in the field of neuroimaging provide comprehensive overviews of advances in functional and structural aspects of both common and uncommon brain disorders. Functional imaging is evolving quickly but researchers and clinicians do not always have a strong understanding of the fundamental basis of the imaging techniques that they use. [...] 

Contents

Fields of Interest
Neurosciences; Imaging / Radiology; Neurology

Series Title
Contemporary Clinical Neuroscience
Behavioral Neurobiology of Psychedelic Drugs
A. L. Halberstadt, F. X. Vollenweider, D. E. Nichols (Eds)

- The volume brings together clinical and preclinical research literatures
- A balanced view of the potential risks and benefits of these compounds is presented
- The focus is on rigorous scientific findings in a field that has been fraught with speculative reports

This volume brings together the latest basic and clinical research examining the effects and underlying mechanisms of psychedelic drugs. Examples of drugs within this group include LSD, psilocybin, and mescaline. Despite their structural differences, these compounds produce remarkably similar experiences in humans and share a common mechanism of action. [...]
Pharmaceutical Powder and Particles
A. J. Hickey, S. Giovagnoli
• Concisely reviews important aspects of powder and particle systems
• Essential primer or rapid reference guide for the new scientist or experienced professional
• Emphasizes quality by design
This first monograph in the new AAPS book series concisely reviews important aspects of powder and particle systems and the critical quality attributes that should be used as a guide to future developments intended to maximize the control of product quality and performance. Drs. […]

Contents
Introduction.- Importance of Finely Divided Solids in Pharmaceutical Dosage Forms.- Solid State Chemistry.- Crystallization.- Physical Properties.- Particle Size and Size Distribution.- Particle […]

Fields of Interest
Pharmacology/Toxicology; Pharmacy

Series Title
AAPS Introductions in the Pharmaceutical Sciences

August 2018
IX, 104 p. 34 illus., 12 illus. in color. Hardcover. 155 x 235 mm

All Languages Rights Available

Dengue and Zika: Control and Antiviral Treatment Strategies
R. Hilgenfeld, S. G. Vasudevan (Eds)
• Provides broad coverage of dengue and Zika countermeasures Written by leading experts in the field
• Gives transcripts of lively discussions at the end of each presentation – “the salt in the soup”
• Shows industry perspective on dengue and zika antiviral discovery and development
This contributed volume contains 25 chapters from leading international scientists working on dengue and Zika viruses, who came together in Praia do Tofo in Mozambique to discuss the latest developments in the fields of epidemiology, pathogenesis, structural virology, immunology, antiviral drug discovery and development, vaccine efficacy, and mosquito control programs. […]

Contents
Chapter 1. Arboviruses on the rise.- Chapter 2. Historical perspective of arboviruses in Mozambique and its implication for current and future epidemics.- Chapter 3. Reliable serological testing […]

Fields of Interest
Virology

Series Title
Advances in Experimental Medicine and Biology

June 2018
XIII, 375 p. 99 illus., 70 illus. in color. Hardcover. 178 x 254 mm

All Languages Rights Available

Resistance to Ibritumomab in Lymphoma
M. Hosono, J. Chatal (Eds)
• This book features chapters written by internationally known experts in the field
• This book will focus on the mechanism, hematological aspects, radiological and nuclear medicine aspects and medical physics that deals with radiation dosimetry
• This book will provide future prospects for overcoming resistance and enhancing the efficacy of Ibritumomab
This volume, in discussing resistance to ibritumomab, will focus on the mechanism, hematological aspects, radiological and nuclear medicine aspects, and medical physics that deal with radiation dosimetry, and will outline future prospects for overcoming resistance and enhancing efficacy of ibritumomab.

Contents
Clinical Use and Efficacy of Ibritumomab in B-cell Lymphoma.- Biology and Pathology of B-cell lymphoma.- Resistance to Y-90 Ibritumomab Tiuxetan Therapy.- Features of Ibritumomab as Radionuclide […]

Fields of Interest
Cancer Research

Series Title
Resistance to Targeted Anti-Cancer Therapeutics

May 2018
XIII, 158 p. 18 illus., 14 illus. in color. Hardcover. 155 x 235 mm

All Languages Rights Available
The 3-Dimensional Atlas of the Marmoset Brain
Reconstructible in Stereotaxic Coordinates
A. Iriki, H. J. Okano, E. Sasaki, H. Okano (Eds)

- Provides cross-modality matched references for multiple usage by combining Nissl stained and MRI images obtained from the same marmoset
- Provides the original digital datasets that are freely rotatable in three dimensions
- Presents higher resolution structures to match systematic accuracy for supplementation of the digital data on the website

This book provides accurate, comprehensive, and convenient reference for usages of the "freely rotatable three dimensional combined Nissl-stained and MRI digital data of the marmoset brain". [...]
Cerebral Ischemic Reperfusion Injuries (CIRI)

Bench Research and Clinical Implications


- Thorough review of the mechanisms behind cerebral ischemic reperfusion injuries
- Brings together important pre-clinical research with a view to informing future therapeutic interventions
- Topics addressed include recanalization, no or low reflow, blood pressure, collateral circulation, inflammation and immunity, oxidative stress, and brain edema

This volume is focused on subjects related to cerebral ischemia and reperfusion injuries after acute stroke. All chapters are selected from the Sixth Elite Stroke meeting named Pangu Stroke Conference and written by members of world leading laboratories of stroke studies. [..]

Contents

Introduction.- Gelatinase-mediated Impairment of Microvascular Beds in Cerebral Ischemia and Reperfusion Injury.- Characters of ischemic stroke and recanalization arteries.- Cerebral Ischemic [..]

Fields of Interest

Neurosciences; Neurology

Series Title

Springer Series in Translational Stroke Research

July 2018

XVII, 259 p. 40 illus., 29 illus. in color. Hardcover.
155 x 235 mm
£ 129.99 | € 149.99 | $ 179.99
ISBN 978-3-319-90193-0

All Languages Rights Available

Handbook of ELISPOT

Methods and Protocols

A. E. Kalyuzhny (Ed)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This third edition volume expands on the previous editions with new protocols and up-to-date techniques to help researchers excel in this field. The chapters in this book cover topics such as ELISpot’s sibling (FluoroSpot); ELISpot for influenza, Dengue virus, and tuberculosis; and vaccine research, essentials control, and assay evaluation in ELISpot. [..]

Contents

Challenges in Developing Protein Secretion Assays at a Single-Cell Level.- To Count or Not to Count: ELISPOT Evaluation Revisited.- Essential Controls for ELISpot Assay.- Automatic Search of Spots [..]

Fields of Interest

Immunology

Series Title

Methods in Molecular Biology

June 2018

X, 251 p. 74 illus., 68 illus. in color. Hardcover.
178 x 254 mm
£ 139.99 | € 159.99 | $ 199.99
ISBN 978-1-4939-8566-1

All Languages Rights Available

Quorum Sensing and its Biotechnological Applications

V. C. Kalia (Ed)

- Provides up-to-date applications of the quorum sensing process
- Describes difficult concept through a lucid language and by using figures and flowcharts
- Highlights the use of quorum sensing to address a very pressing need of environmental pollution control and developing green fuel

This book delves into the biotechnological applications of Quorum sensing (QS)- a peculiar gene-regulatory process of some microorganisms. Quorum Sensing allows a large bacterial population to work together in a coordinated manner to carry out metabolic activities, which individual bacterium cannot. [..]

Contents


Fields of Interest

Biomedical Engineering/Biotechnology; Bacteriology; Applied Microbiology; Environmental Engineering/Biotechnology; Microbial Genetics and Genomics

Series Title

Humana Press

Professional/practitioner
Cell Culture Technology
C. Kasper, V. Charwat, A. Lavrentieva (Eds)
- Established in cooperations with postdoctoral scientists
- Written by international experts
- Focuses on modern, mammalian cell culture techniques and applications
This textbook provides an overview on current cell culture techniques, conditions, and applications specifically focusing on human cell culture.[…]

Contents
History of cell culture - beyond animal cell lines.- Essentials in Cell Culture.- Cell Culture Media.- Primary cell culture.- 2 D vs 3 D cell culture.- Biomaterials.- Cell surface interaction.- […]

Fields of Interest
Biomedical Engineering/Biotechnology; Cell Culture; Science Education; Regenerative Medicine/Tissue Engineering

Series Title
Learning Materials in Biosciences

Glucose-sensing Receptor in Pancreatic Beta-cells
I. Kojima (Ed)
- The first book to review the glucose-sensing receptor in pancreatic beta-cells
- Helps readers understand the pathophysiology of diabetes
Since the 1970s, there has been much discussion about the “glucoreceptor” and “substrate site” and which of these two is the dominant theory, but new findings on the glucose-sensing receptor have now shed new light on the “glucoreceptor theory.” This volume reviews recent advances concerning the glucose-sensing receptor in pancreatic beta-cells.[…]

Contents
1 HISTORY OF THE RESEARCH ON THE GLUCOSE RECEPTOR.- 2 Cell-surface Glucoreceptor Recognizing Anomers of Glucose in Pancreatic β-cells.- 3 KATP CHANNEL-INDEPENDENT PATHWAY and THE GLUCORECEPTOR […]

Fields of Interest
Human Physiology; Endocrinology

Developmental Origins of Health and Disease (DOHaD)
From Biological Basis to Clinical Significance
T. Kubota, H. Fukuoka (Eds)
- Covers numerous diseases associated with DOHaD
- Presents an update of our understanding of molecular mechanisms for DOHaD
- Based on the latest biological data
- Suggests importance of early interventions for adult diseases
This book addresses the developmental origins of health and disease (DOHaD), a new medical concept that demonstrates that various adult diseases start in the fetal period.[…]

Contents
Part 1 Biological Basis.- One carbon metabolism and lipid metabolism in DOHaD.- Novel models of epigenetic gene regulation in the nutritional environment.- Epigenetic switching and neonatal […]

Fields of Interest
Human Physiology; Reproductive Medicine; Developmental Biology

Series Title
Advances in Experimental Medicine and Biology

May 2018
VIII, 168 p. 64 illus., 60 illus. in color. With online files/update. Softcover.
168 x 240 mm
£ 54.99 | € 64.99 | $ 79.99
ISBN 978-3-319-74853-5

All Languages Rights Available

June 2018
V, 71 p. 15 illus., 7 illus. in color. Hardcover.
155 x 235 mm
£ 109.99 | € 129.99 | $ 159.99
ISBN 978-981-13-0001-1

All Languages Rights Available

June 2018
VII, 95 p. 23 illus., 16 illus. in color. Hardcover.
178 x 254 mm
£ 109.99 | € 129.99 | $ 159.99
ISBN 978-981-10-5525-6

All Languages Rights Available
The 3D Stereotaxic Brain Atlas of the Degu
With MRI and Histology Digital Model with a Freely Rotatable Viewer

N. Kumazawa-Manita, T. Hashikawa, A. Iriki

- Helps the reader to identify individual brain structures in the degu by including numerous histological images with delineation lines
- Presents anatomical information simultaneously from Nissl and magnetic resonance images
- Readers can enjoy 3D views of the reconstructed brain and freely oriented planes of sections at a dedicated website described in the book

This book is the first digital atlas of the degu brain with microscopic features simultaneously in Nissl sections and magnetic resonance imaging (MRI).

Contents
Chapter 1: Introduction, Materials and Methods, and References.
Chapter 2: List of Structures.
Chapter 3: The Degu Brain Atlas.
Chapter 4: SG-eye Operation Manual.
Index of Structures and Fields of Interest

Fields of Interest
Neurosciences; Behavioral Sciences; Animal Anatomy / Morphology / Histology; Human Physiology

Series Title
Brain Science

September 2018
IX, 145 p. 198 illus., 144 illus. in color. Hardcover.
178 x 254 mm
£ 119.99 | € 139.99 | $ 169.99
ISBN 978-4-431-56613-7

All Languages Rights Available

The Genetics and Development of Scoliosis
K. Kusumi, S. L. Dunwoodie (Eds)

- Written by leaders in genetic and developmental research on scoliosis and developmental studies of the spine
- The only book currently on the market that incorporates knowledge in clinical, genetic, and developmental aspects of scoliosis
- Recent developments in key clinical and molecular genetic studies of these disorders are also discussed
- Our understanding of the genetic and developmental mechanisms underlying scoliosis is rapidly evolving, this timely second edition of The Genetics and Development of Scoliosis is to provide researchers, clinicians, and students with the most current views in this field.

Contents
Chapter 2: Environmental Factors and Axial Skeletal Dysmorphogenesis.
Chapter 3: Congenital Scoliosis and Segmentation Defects of the Spine.

Fields of Interest
Human Genetics; Developmental Biology; Human Physiology; Orthopedics

June 2018
XII, 199 p. 29 illus., 12 illus. in color. Hardcover.
155 x 235 mm
£ 109.99 | € 129.99 | $ 169.99
ISBN 978-3-319-90148-0

All Languages Rights Available

Plant Medicines, Healing and Psychedelic Science
Cultural Perspectives
B. C. Labate, C. Cavnar (Eds)

- Biomedical findings on the therapeutic potentials of psychedelics
- Ethnographic findings on the therapeutic potentials of traditional psychedelics
- Self-reflection on the nature of the history of psychiatry and the field of psychedelic science

This is a book about the intersections of three dimensions. The first is the way social scientists and historians treat the history of psychiatry and healing, especially as it intersects with psychedelics. The second encompasses a reflection on the substances themselves and their effects on bodies.

Contents
2. Peyote's Race Problem.
4. The Use [and Abuse] of Psilocybin

Fields of Interest
Neurosciences; Cultural Anthropology; Psychiatry; Pharmacotherapy; Cultural History

May 2018
XVIII, 227 p. 1 illus. in color. Hardcover.
155 x 235 mm
£ 119.99 | € 139.99 | $ 169.99
ISBN 978-3-319-76719-2

All Languages Rights Available
Quality Management in Scientific Research
Challenging Irreproducibility of Scientific Results
A. Lanati

- The book covers multiple aspects of a researcher’s scientific activity: management of study; day-by-day management of a laboratory; specialized statistical and methodological approaches for the design and analysis of experiments, risk management, various hard and soft skills [...]

- The book treats a topic that has not received proper attention yet in the existing literature, with the sole exceptions of the WHO guidelines on “Quality Practice in biomedical research” and few scientific papers on specific topics

In recent years, the attention of the scientific and social community has not solely been on producing new findings, but increasingly also on the [...]

Contents
Part I: Principles, references and standards.- Quality basics.- Total Quality Management.- Quality certification and accreditation. [...]
Prospects of Plant-Based Vaccines in Veterinary Medicine

J. MacDonald (Ed)

- Provides an in-depth explanation of the advantages and current limitations of recombinant plant-made vaccines for use in veterinary medicine
- Discusses the background to and latest scientific advances in plant-made vaccines for the most commonly targeted veterinary infections

This book provides an in-depth explanation of the advantages and current limitations of recombinant plant-made vaccines for use in veterinary medicine, including for livestock, pets, and wild animals. Written by top scientists in the field, it discusses the background to and latest scientific advances in plant-made vaccines for the most commonly targeted veterinary infections.

Contents
1) History and promise of plant-made vaccines for animals, Ed Rybicki.- 2) Plant transformation strategies, Verónica Araceli Márquez-Escobar, Omar González-Ortega, Sergio Rosales-Mendoza.- [...]

Fields of Interest
Vaccine; Veterinary Medicine/Veterinary Science; Agriculture; Biomedical Engineering/Biotechnology

Head and Neck
Morphology, Models and Function
E. Marani, C. Heida

- Integrates anatomical, physiological, and clinical aspects of head and neck research
- Focuses on therapeutic applications, e.g. sleep, aging, blindness, and cortical stimulation

This book offers a critical review of the head and neck from an anatomical, physiological and clinical perspective. It begins by providing essential anatomical and physiological information, then discusses historical and current views on specific aspects in subsequent chapters.

Contents
Introduction.- Skull cap and trepanation.- Malformation and identity.- The development of the bony skull.- Gustation, the act or sensation of tasting.- Oral cavity: Lips, tongue and teeth.- Nose, [...]

Fields of Interest
Neurosciences; Anatomy; Head and Neck Surgery; Human Physiology

Introduction in Synthetic Biology
About Modeling, Computation, and Circuit Design
M. A. Marchisio

- Explains how to make mathematical models of synthetic gene circuits
- Presents concepts such as kinetics, circuit dynamics and equilibria, stochastic and deterministic simulations, parameter analysis and optimization
- Shows how to build up models for synthetic gene circuits with four different open-source software

The textbook is based on the lectures of the course "Synthetic Biology" for Master’s students in biology and biotechnology at the Harbin Institute of Technology. The goal of the textbook is to explain how to make mathematical models of synthetic gene circuits that will, later on, drive the circuit implementation in the lab.

Contents

Fields of Interest
Biomedical Engineering/Biotechnology; Systems Biology; Biotechnology

Series Title
Learning Materials in Biosciences

August 2018
VIII, 367 p. 28 illus., 24 illus. in color. Hardcover.
155 x 235 mm
£ 119.99 | € 139.99 | $ 169.99
ISBN 978-3-319-90136-7

All Languages Rights Available

September 2018
XXXVI, 511 p. 192 illus., 142 illus. in color. Hardcover.
155 x 235 mm
£ 139.99 | € 159.99 | $ 199.99
ISBN 978-3-319-92104-4

All Languages Rights Available

June 2018
XII, 187 p. 91 illus., 74 illus. in color. Softcover.
168 x 240 mm
£ 64.99 | € 74.99 | $ 89.99
ISBN 978-981-10-8751-6

All Languages Rights Available
Rational Drug Design
Methods and Protocols
T. Mavromoustakos, T. F. Kellici (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key note and implementation advice from the expert

This volume covers several aspects of rational drug design, such as synthesis of novel bioactive drugs; development and application of new methodologies; computational methods valuable for the establishment of new approaches in drug discovery; and the effects of physical-chemical and ADMET properties of the designed potential drugs. [...] 

Contents
Conformational Properties of hIAPP22-29 (NFGAILSS) and Rational Drug Design.- Electronic and Electrostatic Approaches to the Development of Peptide-based Inhibitors of Amylin Aggregation.- In [...] 

Fields of Interest
Pharmacology/Toxicology

Series Title
Methods in Molecular Biology

JIMD Reports, Volume 39
E. Morava, M. Baumgartner, M. Patterson, S. Rahman, J. Zschocke, V. Peters (Eds)

- Unique collection of case and research reports on rare metabolic disorders
- Contains unusual or previously unrecorded features relevant to metabolic disorders
- All contributions rigorously peer-reviewed

JIMD Reports publishes case and short research reports in the area of inherited metabolic disorders. Case reports highlight some unusual or previously unrecorded feature relevant to the disorder, or serve as an important reminder of clinical or biochemical features of a Mendelian disorder. 

Contents
Successful Pregnancy in a Young Woman with Multiple Acyl-CoA Dehydrogenase Deficiency.- Role of Intramuscular Levofolinate Administration in the Treatment of Hereditary Folate Malabsorption: [...] 

Fields of Interest
Human Genetics; Metabolic Diseases; Pediatrics; Molecular Medicine

Series Title
JIMD Reports

The Human Virome
Methods and Protocols
A. Moya, V. Pérez Brocal (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This book details the most comprehensive, up-to-date, and cutting-edge protocols used in wet and dry labs to investigate the viral communities harbored within and on the human body. Chapters guide readers through methods on collection, isolation, identification and computational/statistical analysis, and body niches to cover those methodological issues inherent to the human tissues and organs. [...] 

Contents
EM Tomography of LINC Complexes.- Recombinant Purification of the Periplasmic Portion of the LINC Complex.- Analysis of High Molecular Weight Isoforms of Nesprin-1 and Nesprin-2 with Vertical [...] 

Fields of Interest
Immunology

Series Title
Methods in Molecular Biology
Analysis of Drugs of Abuse  
R. A. Musah (Ed)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume features a comprehensive set of protocols featuring a range of both old and new technologies that can be used to analyze drugs of abuse, including prescription drugs, new psychoactive substances and psychoactive plants. […]

Contents
Color Tests for the Preliminary Identification of New Psychoactive Substances.- Illicit and Counterfeit Drug Analysis by Morphologically Directed Raman Spectroscopy.- Analysis of Drugs of Abuse by […]

Fields of Interest
Pharmacology/Toxicology

Series Title
Methods in Molecular Biology

Antibody Engineering  
Methods and Protocols  
D. Nevoltris, P. Chames (Eds)

- Includes cutting-edge techniques for the study of antibody engineering
- Provides step-by-step detail essential for reproducible results
- Contains updated key implementation advice from the experts

This detailed new edition provides complete and easy access to a variety of antibody engineering techniques. […]

Contents
Antibody Design and Humanization via In Silico Modeling.- Antibody Affinity Maturation by Computational Design.- Use of IMGT® Databases and Tools for Antibody Engineering and Humanization.- […]

Fields of Interest
Immunology

Series Title
Methods in Molecular Biology

Computational Toxicology  
Methods and Protocols  
O. Nicolotti (Ed)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume explores techniques that are currently used to understand solid target-specific models in computational toxicology. […]

Contents

Fields of Interest
Pharmacology/Toxicology

Series Title
Methods in Molecular Biology
Animal Biotechnology 2
Emerging Breeding Technologies
H. Niemann, C. Wrenzycki (Eds)

- Discusses transgenic technologies in livestock breeding
- Critically reviews animal biotechnology in regard of ethics and legal aspects
- Volume 1 and Volume 2 together provide a comprehensive overview on technologies and developments in the field of animal biotechnology

This two-volume textbook provides a comprehensive overview on the broad field of Animal Biotechnology with a special focus on livestock reproduction and breeding. The reader will be introduced to a variety of state-of-the-art technologies and emerging genetic tools and their applications in animal production. [...] 

Contents

Fields of Interest
Biomedical Engineering/Biotechnology; Veterinary Medicine/Veterinary Science; Animal Genetics and Genomics; Genetic Engineering

Animal Biotechnology 1
Reproductive Biotechnologies
H. Niemann, C. Wrenzycki (Eds)

- Discusses state-of-the art methods in artificial insemination
- Reviews embryo transfer technologies in ruminants, pigs and horses
- Volume 1 and Volume 2 together provide a comprehensive overview on technologies and developments in the field of animal biotechnology

This two-volume textbook provides a comprehensive overview on the broad field of Animal Biotechnology with a special focus on livestock reproduction and breeding. [...] 

Contents

Fields of Interest
Biomedical Engineering/Biotechnology; Veterinary Medicine/Veterinary Science; Animal Genetics and Genomics; Genetic Engineering

Reviews of Physiology, Biochemistry and Pharmacology Vol. 174
B. Nilius, P. de Tombe, T. Gudermann, R. Jahn, R. Lill, O. H. Petersen (Eds)

- Provides high quality, in-depth reviews covering the full range of modern physiology, biochemistry and pharmacology
- Aims to filter, highlight and review the latest development in these rapidly advancing fields
- Each author is an international, well-respected expert and specially invited to provide a complete understanding of key topics in their particular area of research

Leading researchers are specially invited to provide a complete understanding of a key topic within the multidisciplinary fields of physiology, biochemistry and pharmacology. [...] 

Contents

Fields of Interest
Human Physiology; Cancer Research; Pharmacology/Toxicology

Series Title
Reviews of Physiology, Biochemistry and Pharmacology
Textbook of Energy Balance, Neuropeptide Hormones, and Neuroendocrine Function
E. A. Nillni (Ed)
• Presents for the first time a comprehensive body of the latest knowledge in the field of neuropeptides and their action on energy balance
• Includes review questions for each chapter
• Excellent text for teaching graduate and medical school courses

This textbook presents for the first time a comprehensive body of the latest knowledge in the field of neuropeptides and their action on energy balance. It contains a detailed and comprehensive account of the specific hypothalamic peptides in regards to their roles in energy balance, food intake control and co-morbidities, to better understand the patho-physiology of obesity. [...] 

Contents

Fields of Interest
Neurochemistry; Endocrinology; Human Physiology

Biomimetic Medical Materials
From Nanotechnology to 3D Bioprinting
I. Noh (Ed)
• Outlines the features of biomimetic material in the context of 3D bioprinting
• Combines a review of applications of biomimetic materials and intellectual property
• Illustrates the use of biomimetic materials in stem cell migration and differentiation

This volume outlines the current status in the field of biomimetic medical materials and illustrates research into their applications in tissue engineering. The book is divided into six parts, focusing on nano biomaterials, stem cells, tissue engineering, 3D printing, immune responses and intellectual property. [...] 

Contents

Fields of Interest
Biomedical Engineering/Biotechnology; Biological Techniques

miRNA Biogenesis
Methods and Protocols
U. A. V. Ørom (Ed)
• Includes cutting-edge methods and protocols for the study of miRNA biogenesis
• Provides step-by-step detail essential for reproducible results
• Contains key notes and implementation advice from the experts

This detailed volume collects chapters that seek to expand our knowledge of molecular events and extended molecular networks in gene regulation. The contents explore numerous aspects of miRNA biogenesis, a sophisticated series of events that assure a finely tuned regulation of miRNA expression and activity. [...] 

Contents
High-throughput characterization of primary microRNA transcripts.- Identifying pri-miRNA transcription start sites.- Metabolic pulse-chase RNA labelling for pri-miRNA processing dynamics.- In [...] 

Fields of Interest
Human Genetics

Series Title
Methods in Molecular Biology
Stromal Immunology
B. M. Owens, M. A. Lakins (Eds)

• Discusses the newfound role of stromal cells in immune response
• Provides a solid grounding in the fundamentals of stromal immunology
• First comprehensive resource about stromal immunology

Research into and interest in the role of stromal cells in immunology has exploded over the past 15 years. [...] 

Contents
Leukocyte-Stromal Interactions within Lymph Nodes.- Stromal Cell Responses in Infection.- Fibroblasts and Osteoblasts in Inflammation and Bone Damage.- Molecular and Cellular Requirements for [...] 

Fields of Interest
Immunology; Cell Biology 

Series Title
Advances in Experimental Medicine and Biology 

August 2018 
XII, 151 p. 15 illus. in color. Hardcover. 
155 x 235 mm 
£ 109.99 | € 119.99 | $ 149.99 
ISBN 978-3-319-78125-9 

All Languages Rights Available

Melanin-Concentrating Hormone and Sleep
Molecular, Functional and Clinical Aspects
S. R. Pandi-Perumal, P. Torterolo, J. M. Monti (Eds)

• Discusses in depth the role of MCH in sleep medicine and related disorders
• Takes an interdisciplinary approach, focusing on anatomy, psychiatry, and endocrinology
• Examines possible future clinical applications of MCHR-1 antagonists for treating conditions related to sleep disorders

This book offers a compilation of papers on the role of melanin-concentrating hormone (MCH) in sleep, sleep disorders and neuroendocrine functions. [...] 

Contents
1. Neuroanatomical structure of the MCH system. - 2. Projections of the MCH system to structures involved in the regulation of sleep and wakefulness. - 3. MCH and the Orexin system – reciprocal [...] 

Fields of Interest
Molecular Medicine; Neurosciences 

May 2018 
XVI, 225 p. 27 illus., 7 illus. in color. Hardcover. 
155 x 235 mm 
£ 119.99 | € 139.99 | $ 169.99 
ISBN 978-3-319-75764-3 

All Languages Rights Available

Biology and Pathology of Perineuronal Satellite Cells in Sensory Ganglia
E. Pannese

• Provides a comprehensive review of perineuronal satellite cells in sensory ganglia
• Casts new light on satellite cells as possible targets for neuropathic pain treatment
• Covers all aspects of perineuronal satellite cells from shape, structure and molecular characteristics to relationships with the ganglion sensory neuron and reactions to experimental and pathological conditions

This volume provides a comprehensive and updated review of perineuronal satellite cells in sensory ganglia. For a long time since their discovery by Valentin in the first half of the 19th century these cells received only modest attention. [...] 

Contents

Fields of Interest
Neurosciences; Pain Medicine 

Series Title
Advances in Anatomy, Embryology and Cell Biology 

May 2018 
XI, 83 p. 36 illus., 33 illus. in color. Softcover. 
155 x 235 mm 
£ 96.50 | € 109.99 | $ 139.00 
ISBN 978-3-319-60139-7 

All Languages Rights Available
Genomics-Driven Healthcare
Trends in Disease Prevention and Treatment
Y. Pathak (Ed)

- Outlines steps for translating functional genomics into rational therapeutics
- Describes recent trends in understanding the influence of genomics in disease and disease prevention
- Provides understanding of the contribution of “-omics”-driven pharmaceuticals in delivering better health care

This book evaluates trends arising in “-Omics” sciences in terms of their current and potential future application to therapeutic design and understanding of disease. Chapters consider the impact of pharmacogenomics and bioinformatics on drug development, as well as trends in genomics, as applied to understanding of neurodegenerative and lung disease, psychiatry and oncology. [..]

Contents
Chapter 1. Rethinking drug discovery and targeting after the genomic revolution.- Chapter 2. Living between sickness and health: Where is the human genome leading us?- Chapter 3. [..]

Fields of Interest
Pharmaceutical Sciences/Technology; Health Promotion and Disease Prevention

Integrin Targeting Systems for Tumor Diagnosis and Therapy
E. Patsenker (Ed)

- Features techniques and methodologies to facilitate integrin biology research and target identification
- Examines approaches for the treatment of multiple organ diseases, with a focus on cancer
- Includes practical advice to ensure success in the lab

This volume collects a variety of techniques and methodologies developed to facilitate research on integrin biology and to identify ideal targets and approaches for the treatment of multiple organ diseases, with a focus on cancer in particular. [..]

Contents
Tumor Targeting by RGD-Grafted PLGA-Based Nanotheranostics Loaded with Paclitaxel and Superparamagnetic Iron Oxides. - Fabrication of cRGD Conjugated Dual Responsive Micelles to Target αvβ5 [..]

Fields of Interest
Pharmacology/Toxicology

Series Title
Methods in Pharmacology and Toxicology

Thyroid Hormone Nuclear Receptor Methods and Protocols
M. Plateroti, J. Samarut (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume aims to detail the advances in the field of Thyroid hormones (THs), namely T3 and T4, and their nuclear receptor TRs from a conceptual and methodological point of view. [..]

Contents
Thyroid Hormone Receptors: Several Players for One Hormone and Multiple Functions. - Two Protocols to Study the Interactions of Thyroid Hormone Receptors with Other Proteins and Chromatin. - [..]

Fields of Interest
Molecular Medicine

Series Title
Methods in Molecular Biology

June 2018
XV, 409 p. 52 illus., 37 illus. in color. Hardcover. 155 x 235 mm
£ 159.99 | € 179.99 | $ 219.99
ISBN 978-981-10-7505-6

All Languages Rights Available

May 2018
XI, 226 p. 68 illus. Hardcover. 178 x 254 mm
£ 83.50 | € 94.99 | $ 119.00
ISBN 978-1-4939-7443-6

All Languages Rights Available

June 2018
XII, 300 p. 48 illus., 30 illus. in color. Hardcover. 178 x 254 mm
£ 149.99 | € 169.99 | $ 219.99
ISBN 978-1-4939-7901-1

All Languages Rights Available
The Hair Fibre: Proteins, Structure and Development  
J. E. Plowman, D. P. Harland, S. Deb-Choudhury (Eds)
- Is the first book that brings together decades of research on keratin biochemistry and fibre
- Fills a gap in the market for a research book in the scientific, cosmetic and medical areas
- Has contributions from globally recognized experts in their field

Hair is a sophisticated bio-based material, whether it is on a human head or part of a mammalian coat. In particular, the role of the proteins in the follicle, integral to hair development, are not well understood. [...] 

Contents
Fibre Ultrastructure.- The Follicle Cycle in Brief.- Diversity of Trichocyte Keratins and Keratin.- Evolution of Trichocyte Keratins.- Evolution of Trichocyte Keratin Associated Proteins.- [...] 

Fields of Interest  
Human Physiology 

Series Title  
Advances in Experimental Medicine and Biology 

Targeting the DNA Damage Response for Anti-Cancer Therapy  
J. Pollard, N. Curtin (Eds)
- Reviews the basic science of the DDR, its role in tumorigenesis, in dictating response to DNA damaging drugs and the emerging crop of clinical agents that target the DDR for potential anti-cancer benefit
- It features chapters from world leaders in the field of DNA Damage Response and covers topics that are of great interest to a broad range of academic, industrial and clinical researchers

Over the past decade a complex role for DNA damage response (DDR) in tumorigenesis has emerged. A proficient DDR has been shown to be a primary cause for cellular resistance to the very many DNA damaging drugs, and IR, that are widely used as standard-of-care across multiple cancer types. [...] 

Contents

Fields of Interest  
Cancer Research; Gene Therapy 

Series Title  
Cancer Drug Discovery and Development 

Drug Resistance in Leishmania Parasites  
Consequences, Molecular Mechanisms and Possible Treatments  
A. Ponte-Sucre, M. Padrón-Nieves (Eds)
- Contains new chapters on metabolism
- Provides detailed information on basic principles of and new findings in Leishmania and Leishmaniasis

Drug resistance is a fundamental factor in treatment failure in diseases like leishmaniasis, although additional factors also play a role in this phenomenon. This volume is the second edition of a well-received book that provides a comprehensive update on the pathology of the disease, as well as on the concept of parasitic drug resistance, its molecular basis, consequences and possible treatments. [...] 

Contents
Prologue.- Introduction.- Part I Determinant features in Leishmaniasis.- Molecular evolution and phylogeny of Leishmania.- The role of reservoirs: canine Leishmaniasis.- Epidemiology of [...] 

Fields of Interest  
Drug Resistance; Infectious Diseases; Pharmaceutical Sciences/Technology; Vaccine; Parasitology; Microbiology 

Series Title  
Cancer Drug Discovery and Development 

July 2018  
VIII, 225 p. 76 illus., 42 illus. in color. Hardcover. 178 x 254 mm  
£ 129.99 | € 149.99 | $ 179.99  
ISBN 978-981-10-8194-1  

All Languages Rights Available 

May 2018  
IX, 401 p. 80 illus., 52 illus. in color. Hardcover. 155 x 235 mm  
£ 179.99 | € 199.99 | $ 249.99  
ISBN 978-3-319-75834-3  

All Languages Rights Available 

August 2018  
XVII, 366 p. 50 illus. in color. Hardcover. 155 x 235 mm  
£ 129.99 | € 149.99 | $ 179.99  
ISBN 978-3-319-74185-7  

All Languages Rights Available
Cyto- and myeloarchitectural brain atlas of the ferret (Mustela putorius) in MRI aided stereotaxic coordinates
S. Radtke-Schuller

- First ever cyto- and myeloarchitectural brain atlas of the ferret (Mustela putorius)
- New approach combines high resolution histology images with MRI in a common stereotaxic reference coordinate system
- Resulting reference coordinates provide a highly accurate anatomical database as a foundation for research

Description This stereotaxic atlas of the ferret brain provides detailed architectonic subdivisions of the cortical and subcortical areas in the ferret brain using high-quality histological material stained for cells and myelin together with in vivo magnetic resonance (MR) images of the same animal.

Contents
Introduction.- Methods.- Index of Brain Structures.- Surface Views of the Ferret Brain.- Atlas Plates with Sub-panels.

Fields of Interest
Neurosciences; Animal Anatomy / Morphology / Histology

Gene Expression Analysis Methods and Protocols
N. Raghavachari, N. Garcia-Reyero (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume provides experimental and bioinformatics approaches related to different aspects of gene expression analysis. Divided in three sections chapters detail wet-lab protocols, bioinformatics approaches, single-cell gene expression, highly multiplexed amplicon sequencing, multi-omics techniques, and targeted sequencing.

Contents

Fields of Interest
Human Genetics

Series Title
Methods in Molecular Biology

Inflammatory Mechanisms in Mediating Hearing Loss
V. Ramkumar, L. P. Rybak (Eds)

- Details several different aspects of the cochlear inflammatory process
- Discusses recent clinical trials focusing on the use of anti-inflammatory agents for the treatment of drug, noise-induced and auto-immune mediated hearing loss
- Provides novel insight into the impact of inflammatory mechanisms on hearing loss

Common forms of preventable hearing loss are drug and noise-induced hearing loss which are believed to be produced by a similar mechanism. The generation of reactive oxygen species appears to be a common mechanism mediating hearing loss produced by these different sources.

Contents
Preface.- The Cochlea.- Oxidative Stress and Hearing Loss.- Corticotropin Releasing Factor Signaling in the Mammalian Cochlea: An Integrative Niche for Cochlear Homeostatic Balance Against Noise.- [...]

Fields of Interest
Neurosciences; Otorhinolaryngology
Photocarcinogenesis & Photoprotection


- This book elucidates UV-R induced epigenetic regulation & photocarcinogenesis
- It highlights the phototoxicity mechanism of Poly Aromatic Hydrocarbons and its photoproducts formation
- It provides a modern concept of photosensitization mechanism of different therapeutic drugs (Fluoroquinolones, Quinones and NSAIDs)

This book highlights the problem of UV-R-induced photocarcinogenesis and its molecular mechanism. It covers different photosensitive xenobiotics (drugs, cosmetics, and environmental pollutants) and their photosensitization mechanisms under ambient UV-R exposure. It also summarizes the role of nanotechnology in skin cancer remedies.

Contents

Fields of Interest
Cancer Research; Effects of Radiation/Radiation Protection; Immunology; Nanotechnology; Gene Expression

Type 2 Immunity
Methods and Protocols

R. L. Reinhardt (Ed)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This book provides researchers the opportunity to investigate type-2-associated diseases in their laboratories.

Contents
A Fungal Protease Model To Interrogate Allergic Lung Immunity.- Use of the Litomosoides sigmodontis Infection Model of Filariasis to study Type 2 Immunity.- Production of Hymenolepis diminuta in

Fields of Interest
Immunology

Judah Folkman
A Biography

D. Ribatti

- Judah Folkman is recognized as the modern father of angiogenesis research worldwide
- Folkman isolated the first tumor angiogenesis factor (TAF)
- From 1980 to 2005, Folkman’s laboratory reported the discovery of 11 angiogenesis inhibitors

The aim if this book is to analyze the scientific biography of Judah Folkman, one of the most important scientist of the last century. More 50 years ago, Folkman found a revolutionary new way to think about cancer. Blood supply, Folkman hypothesized, was the key to tumor growth. Without new blood vessels, tumors simply did not thrive.

Contents
Biographic profile.- Development of assays to study angiogenesis.- Tumor angiogenesis.- The discovery of angiogenic factors.- Anti-angiogenesis.- Concluding remarks.- References.- Publications of

Fields of Interest
Biomedicine, general; Cell Biology; History of Biology

October 2018
VIII, 174 p. 57 illus., 48 illus. in color. Hardcover.
155 x 235 mm
£ 109.99 | € 129.99 | $ 159.99
ISBN 978-981-10-5492-1

All Languages Rights Available

June 2018
XVI, 434 p. 80 illus., 53 illus. in color. Hardcover.
178 x 254 mm
£ 149.99 | € 169.99 | $ 219.99
ISBN 978-1-4939-7895-3

All Languages Rights Available

July 2018
VIII, 124 p. 29 illus., 16 illus. in color. Hardcover.
155 x 235 mm
£ 119.99 | € 139.99 | $ 169.99
ISBN 978-3-319-92632-2

All Languages Rights Available
**Immunopharmacology and Inflammation**
C. Riccardi, F. Levi-Schaffer, E. Tiligada (Eds)

- Includes atherosclerosis, ischemic-reperfusion injury, sepsis/multiply organ failure and COPD
- Discusses current trends in inflammatory mediator and anti-inflammatory drug research
- Presents an array of therapeutic approaches towards both inflammatory and autoimmune diseases

A comprehensive overview of the current research on inflammation and immunopharmacology, with particular attention to the use of anti-inflammatory drugs, this book discusses future trends in this area of pharmacological research. It addresses an audience with basic knowledge in the inflammatory process, immune system and pharmacology.

**Contents**
Part 1-The Molecular Mechanisms of Inflammation.- Mediators of Inflammation.- Innate Immunity in Inflammation.- Adaptive Immunity in Inflammation.- Histamine.- Neural Regulation of Inflammation: [...]

**Fields of Interest**
Pharmaceutical Sciences/Technology; Immunology

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**Fundamentals of the Study of Urine and Body Fluids**
J. W. Ridley

- Discusses the topic from various angles: medical laboratory technology, clinical medicine and nursing
- Includes a wealth of clinical information which is important to perform the described analysis procedures
- Contains numerous didactic elements to enhance the learning experience

This volume provides the essential theory as well as practice for the study of urine and body fluids other than urine. It is a concise compendium of information both of a practical as well as a clinical resource for understanding conditions of patients with whom the laboratory analyst has contact.

**Contents**

**Fields of Interest**
Laboratory Medicine; Urology

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**Epitope Mapping Protocols**
J. Rockberg, J. Nilvebrant (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This third edition volume expands on the previous editions with more detailed research on the characterization of antibody antigen interactions between different users with different requirements.

**Contents**
An Introduction to Epitope Mapping.- Epitope Mapping of Antibody-Antigen Interactions with X-Ray Crystallography.- Mapping Antibody Epitopes by Solution NMR Spectroscopy: Practical [...]

**Fields of Interest**
Immunology

**Series Title**
Methods in Molecular Biology
Pharmacotherapeutic Potential of Natural Products in Neurological Disorders
A. S. Saroya, J. Singh

- Gives an authoritative account of the latest research finding of the herbal natural products for treatment of various neurological disorders
- Provides data on rare herbal drugs which have potential remedial role in neurological diseases
- Presents translational aspects of herbal medicines

Natural Products have always played a pivotal role as sources for drug lead compounds. This book is aimed at providing inside purview of the scope of natural products (including herbal and marine) in the possible treatment of neurological disorders. […]

Contents

Fields of Interest
Neurosciences; Pharmaceutical Sciences/Technology; Drug Safety and Pharmacovigilance

August 2018
XX, 310 p. 34 illus. in color. Hardcover. 155 x 235 mm
£ 129.99 | € 149.99 | $ 179.99
ISBN 978-3-319-89688-5
All Languages Rights Available

RNA Metabolism in Neurodegenerative Diseases
R. Sattler, C. J. Donnelly (Eds)

- Looks at major neurodegenerative diseases affected by RNA toxicity
- Explores multiple disease mechanisms triggered by RNA metabolism
- Taken together, the chapters provide insight on potential therapeutic strategies

It has become evident over the last years that abnormalities in RNA processing play a fundamental part in the pathogenesis of neurodegenerative diseases. […]

Contents
RNA Metabolism in Neurodegenerative Diseases.- Mechanism of Splicing Regulation of Spinal Muscular Atrophy Genes.- RNA Editing Deficiency in Neurodegeneration.- RNA Nucleocytoplasmic Transport […]

Fields of Interest
Neurosciences

Series Title
Advances in Neurobiology

June 2018
XI, 390 p. 66 illus., 47 illus. in color. Hardcover. 178 x 254 mm
£ 149.99 | € 169.99 | $ 219.99
ISBN 978-1-4939-8608-8
All Languages Rights Available

Olfactory Receptors
Methods and Protocols
F. M. Simoes de Souza, G. Antunes (Eds)

- Includes cutting-edge techniques for the study of olfactory receptors
- Provides step-by-step detail essential for reproducible results
- Contains key implementation advice from the experts

This detailed volume explores olfactory receptors, a topic that goes beyond classical biochemical essays and involves methods to investigate the brain areas associated with the perception of odorants. Gathering the strands of many advanced techniques, the book organizes these key methods in order to achieve a unifying comprehension of the olfactory system. […]

Contents
CD36 Neuronal Identity in the Olfactory Epithelium.- Deorphanization of Olfactory Trace Amine-Associated Receptors.- G Protein-Coupled Receptor Kinase 3 (GRK3) in Olfaction.- Virus-Mediated […]

Fields of Interest
Neurosciences

Series Title
Methods in Molecular Biology

June 2018
XV, 191 p. 233 illus. Hardcover. 155 x 235 mm
£ 109.99 | € 129.99 | $ 159.99
All Languages Rights Available
Synthetic Biology
Omics Tools and Their Applications
S. Singh (Ed)

- Discusses the concepts of synthetic and systems biology in a comprehensive yet lucid manner
- Presents the latest applications of synthetic biology in different areas of biology
- Gives insights into methods to handle and use the massive Omics data

The book uses an integrated approach to predict the behavior of various biological interactions. It further discusses how synthetic biology gathers the information about various systems, in order to either devise an entirely new system, or, to modulate existing systems. The book also tackles the concept of modularity, where biological systems are visualized in terms of their parts. [...] 

Contents
Chapter 1. Integrated Systems and Chemical biology approaches for targeted therapies.- Chapter 2. Application of bioengineering in revamping human health.- Chapter 3. Integrative Omics for [...] 

Fields of Interest
Biomedical Engineering/Biotechnology; Systems Biology; Metabolomics; Biomedical Engineering

Targeted Drug Delivery
Methods and Protocols
R. W. Sirianni, B. Behkam (Eds)

- Includes cutting-edge methods and protocols
- Provides step-by-step detail essential for reproducible results
- Contains key notes and implementation advice from the experts

This volume looks at the latest techniques used to enable therapeutic molecules to be targeted for site-specific delivery. The chapters in this book discuss topics such as approaches to express biologically derived and synthetic nanocarriers; strategies to assist in nanocarrier targeting to specific cells and tissues; and methods for evaluating delivery and efficiency for new classes of agents. [...] 

Contents
Synthesis of Cationic Polymer Libraries for Gene Delivery using Diglycidyl Ethers.- Generation of Ultra-Small PLGA Nanoparticles by Sequential Centrifugation.- Construction of Bacteria-Based Cargo [...] 

Fields of Interest
Pharmacology/Toxicology

Series Title
Methods in Molecular Biology

Effects of Anthropogenic Noise on Animals
H. Slabbekoorn, R. J. Dooling, A. N. Popper, R. R. Fay (Eds)

- Brings together what is known about effects of sound on vertebrates
- Provides a critical introduction to fundamental principles of hearing and acoustics that are needed by all investigators interested in effects of noise on animals
- Chapters focus on taking what is known about basic hearing principles and applying them to the acoustic world of animals.

Over the past several years, many investigators interested in the effects of man-made sounds on animals have come to realize that there is much to gain from studying the broader literature on hearing sound and the effects of sound as well as data from the effects on humans. [...] 

Contents

Fields of Interest
Neurosciences; Ecology

Series Title
Springer Handbook of Auditory Research
Nanomedicine
Gene Delivery, Imaging and Evaluation Systems
R. A. Slavcev, S. Wettig, Z. Zeng (Eds)
- Provides an up to date overview of the latest developments in nanomedical techniques and applications
- Offers detailed insight into the use of nanomedicine for gene delivery and imaging systems
- Outlines future perspectives in this field
This work was compiled to serve as a convenient source that covers a number of techniques (and details of their use) in the rather large field of nanomedicine, with special attention paid to gene delivery. As principal investigators working in the field of nanomedicine, we sought to put together the most current and relevant topics in gene delivery, imaging and evaluation systems. [...]
Oxygen Transport to Tissue XL
O. Thews, J. C. LaManna, D. K. Harrison (Eds)

- Comprises papers from presentations at the 45th Annual Meeting of the International Society on Oxygen Transport to Tissue (ISOTT), held in Halle (Saale), Germany, in 2017.
- Major focus on oxygen supply of the brain, imaging and measurement techniques of tissue oxygenation as well as clinical aspects of oxygen transport.
- Presents an interdisciplinary view of various aspects of oxygen delivery to tissues and tumors in peer reviewed short articles.


Contents
Cerebral Angioplasticity: The Anatomical Contribution to Ensuring Appropriate Oxygen Transport to Brain.- Changes in Cytochrome-C-Oxidase Account for Changes in Attenuation of Near-Infrared Light [...]

Fields of Interest
Biomedicine, general

Series Title
Advances in Experimental Medicine and Biology

September 2018
XXXII, 452 p. 188 illus., 121 illus. in color. Hardcover.
178 x 254 mm
£ 149.99 | € 169.99 | $ 219.99
ISBN 978-3-319-91285-1

All Languages Rights Available

Channelopathies in Heart Disease
D. Thomas, C. A. Remme (Eds)

- Unique work on channelopathies in cardiac disease, describing cellular mechanisms, scientific methodologies as well as clinical relevance
- Written by scientists, that contributed significantly to the field
- Highlights the latest scientific findings and techniques
This book provides an expert overview on ion channel-related arrhythmia mechanisms, and describes important advances in our understanding of how ion channel dysfunction causes cardiac disease. Both, scientific findings and clinical implications are presented and discussed by scientists who have considerably contributed to the field. [...] 

Contents
Introduction.- Part 1: (Dys)function of cardiac ion channels. Cardiac sodium channel (dys)function and inherited arrhythmia syndromes.- Potassium channels in the heart.- Voltage-gated calcium [...]

Fields of Interest
Biomedical Engineering/Biotechnology; Cardiology; Regenerative Medicine/Tissue Engineering; Cardiovascular Biology; Computational Biology/Bioinformatics

Series Title
Cardiac and Vascular Biology

June 2018
VI, 437 p. Hardcover.
155 x 235 mm
£ 129.99 | € 149.99 | $ 179.99
ISBN 978-3-319-77811-2

All Languages Rights Available

Lumpy Skin Disease
E. S. M. Tuppurainen, S. Babiuk, E. Klement

- First book entirely dedicated to Lumpy Skin Disease
- Provides in-depth insights into epidemiology and geographic distribution of cattle pox virus
- Essential guide for researchers, students and field veterinarians in LSD affected regions
This book provides a comprehensive but concise overview on the economically important emerging cattle pox virus derived Lumpy Skin Disease, including the characteristics of causative agent, description of clinical signs in cattle, pathology and histopathology, immunity, geographical distribution, epidemiology and transmission pathways, control and eradication of the disease. [...] 

Contents
Chapter 1: Introduction to lumpy skin disease.- Chapter 2: General description of lumpy skin disease.- Chapter 3: Economic impact of lumpy skin disease.- Chapter 4: Geographic distribution of [...]

Fields of Interest
Medical Microbiology; Veterinary Medicine/Veterinary Science; Virology

July 2018
VI, 109 p. 10 illus., 7 illus. in color. Hardcover.
155 x 235 mm
£ 89.99 | € 99.99 | $ 119.99
ISBN 978-3-319-92410-6

All Languages Rights Available
Nanotoxicology in Caenorhabditis elegans
D. Wang

- Focusing on the toxicity of engineered nanomaterials (ENMs) and their underlying physicochemical, cellular, physiological, and molecular mechanisms.
- Discussing chemical and pharmacological strategies used to combat nanotoxicity.
- With ample color figures.

This book focuses on the toxicity of engineered nanomaterials (ENMs) and their underlying physicochemical, cellular, physiological, and molecular mechanisms. Further, it covers ENMs’ translocation and their targeted organ toxicology, and discusses chemical and pharmacological strategies used to combat nanotoxicity.

Contents
Values of C. elegans in Toxicological Study.- Endpoints for Toxicity Assessment of Nanomaterials.- Exposure Routes of Nanomaterials.- Toxic Effects of Certain Nanomaterials.- Physicochemical Basis...

Fields of Interest
Pharmacology/Toxicology; Nanochemistry; Cell Biology; Invertebrates

Lipidomics in Health & Disease
Methods & Application
X. Wang, D. Wu, H. Shen (Eds)

- Contributions from worldwide experts.
- With special focus on lipidomic profiles in human disease.
- Provides a resource in this emerging area of clinical lipidomics.

This volume covers the emerging area of science, Clinical Lipidomics, which is the application of lipidology to the understanding of physiological and pathophysiological changes of lipidomes, with a special focus on lipidomic profiles in human diseases. Lipidomics is widely used to map lipid molecular species in a biological system.

Contents
Chapter 1. Clinical Lipidomics: A Critical Approach for Disease Diagnosis and Therapy.- Chapter 2. The role of lipid metabolism in the development of lung cancer.- Chapter 3. Bioinformatics of...

Fields of Interest
Molecular Medicine; Human Physiology; Lipidology; Cancer Research

Series Title
Translational Bioinformatics

Retinal Degeneration
Methods and Protocols
B. Weber, T. Langmann (Eds)

- Includes cutting-edge methods and protocols.
- Provides step-by-step detail essential for reproducible results.
- Contains key notes and implementation advice from the experts.

This volume provides key updates on several methods from the first edition as well as including new novel techniques to address the most recent technological developments and their applications in retinal research. Chapters guide readers through gene identification approaches, detailed protocols to generate functional retinal pigment epithelium cells, mouse retina and oth...

Contents
Identification and Analysis of Genes Associated with Inherited Retinal Diseases.- eQTL Analysis in Retinal Research.- Testing for known Retinal Degeneration Mutants in Mouse Strains.- CRISPR/Cas9...

Fields of Interest
Molecular Medicine

Series Title
Methods in Molecular Biology
Coordinating Organismal Physiology Through the Unfolded Protein Response

R. L. Wiseman, C. M. Haynes (Eds)

- Highlights the importance of UPR signaling in regulating endoplasmic reticulum function
- Examines how imbalances in UPR signaling can influence human disease pathogenesis
- Discusses therapeutic potential for UPR-dependent remodeling of ER proteostasis to intervene in etiologically diverse human diseases

This volume reviews the current research focused on the functional importance of unfolded protein response (UPR) signaling in the context of health and disease. [...]

Contents
Adapting Secretory Proteostasis and Function Through the Unfolded Protein Response.- Cell Non-Autonomous UPRER Signaling.- The unfolded protein response in the immune cell development: Putting the [...] 

Fields of Interest
Immunology; Human Physiology; Neurosciences; Cancer Research; Infectious Diseases

Series Title
Current Topics in Microbiology and Immunology

May 2018
155 x 235 mm
£ 109.99 | € 129.99 | $ 159.99
ISBN 978-3-319-78529-5

All Languages Rights Available

Human Temperature Control
A Quantitative Approach

E. H. Wissler

- Provides a concise summary and interpretation of the key literature on physical and physiological factors relevant to human thermoregulation
- Sheds new light on various aspects of human temperature control
- Enables the reader to develop a mathematical model of the human thermal system

The principal objective of this book is to provide information needed to define human thermal behavior quantitatively. Human thermal physiology is defined using mathematical methods routinely employed by physicists and engineers, but seldom used by physiologists. [...] 

Contents

Fields of Interest
Human Physiology; Thermodynamics; Biochemical Engineering; Neurosciences

Series Title
Advances in Experimental Medicine and Biology

November 2018
XII, 425 p. 165 illus., 30 illus. in color. Hardcover.
155 x 235 mm
£ 139.99 | € 159.99 | $ 199.99

All Languages Rights Available

Drosophila Models for Human Diseases

M. Yamaguchi (Ed)

- Discusses specific and commonly used techniques involving the Drosophila model
- Provides not only reviews but also protocols commonly used in laboratories related to each subject
-Equips designers to develop a screening kit for new medicines using the Drosophila model

Most biological pathways, physical and neurological properties are highly conserved between humans and Drosophila and nearly 75% of human disease-causing genes have a functional homologue in Drosophila. [...] 

Contents
Ch1 Drosophila as a model organism.-Ch2 Adult intestine aging model.-Ch3 Alzheimer's disease model.-Ch 4 Parkinson's disease model.-Ch 5 Repeat expansion disease model.-Ch 6 Amyotrophic lateral [...] 

Fields of Interest
Human Genetics; Cell Biology; Pharmacology/Toxicology; Neurosciences; Metabolic Diseases

Series Title
Advances in Experimental Medicine and Biology

July 2018
X, 308 p. 79 illus., 64 illus. in color. Hardcover.
178 x 254 mm
£ 129.99 | € 149.99 | $ 179.99

All Languages Rights Available
Molecular and Therapeutic actions of Thymoquinone

**Actions of Thymoquinone**

H. Younus (Ed)

- This book describes molecular and therapeutic properties of thymoquinone
- It highlights the anti-diabetic, anti-cancer, anti-oxidant, anti-inflammatory, anti-microbial and hepatoprotective actions of thymoquinone
- This book elucidates the pharmaceutical importance of thymoquinone

Throughout history black seeds, Nigella sativa seeds, have been highly revered for its medicinal properties. [...]

**Contents**


**Fields of Interest**

Pharmacology/Toxicology; Cancer Research; Molecular Medicine; Infectious Diseases

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**Obesity, Fatty Liver and Liver Cancer**

J. Yu (Ed)

- Covers a state-of-the-art illustration of recent discoveries concerning obesity-related fatty liver diseases and liver cancer
- Brings important topics in the field all together under one umbrella
- Provides an extensive and comprehensive material for the researchers, clinicians and students in fatty liver diseases, GI/Liver cancer field

This volume covers a state-of-the-art illustration of recent discoveries concerning obesity-related fatty liver diseases and liver cancer. The contents are extensive and comprehensive. [...]

**Contents**

Chapter 1. Introduction.- Chapter 2. Epidemiology and etiology of NAFLD and associated HCC.- Chapter 3. Pathogenesis of NASH: How metabolic complications of overnutrition favour lipotoxicity and [...]

**Fields of Interest**

Molecular Medicine; Cancer Research; Hepatology

**Series Title**

Advances in Experimental Medicine and Biology

---

**Synthetic Cathinones**

**Novel Addictive and Stimulatory Psychoactive Substances**

J. B. Zawilska (Ed)

- First book to explore the chemical structure, detection, and usage of synthetic cathinones
- Intended for scientists, clinicians, and academicians
- Discusses acute and chronic toxicity of synthetic cathinones

Over the last decade, and particularly during the recent five years, a rapidly increasing number of novel psychoactive substance (NPSs), often marketed as “designer drugs”, “legal highs”, “herbal highs”, “research or intermediate chemicals” and “laboratory reagents”, has appeared on the drug market in an effort to bypass controlled substance legislation. [...]

**Contents**

Introduction.- Novel Psychoactive Substances: classification and General Information.- Khat – A Natural Precursor of Synthetic Cathinones.- Analytical Techniques for the Detection of Synthetic [...]

**Fields of Interest**

Neurosciences; Pharmacology/Toxicology

**Series Title**

Current Topics in Neurotoxicity
Chromosome Translocation

Y. Zhang (Ed)

- Introduces mechanisms and methodologies of chromosome translocations
- Provides a clear overview of the basics
- Reviews up-to-date knowledge of chromosome translocations

This volume discusses various aspects of mechanisms and methodologies of chromosome translocations, ranging from a historical and clinical overview of chromosome translocations to the rapid development of the next-generation sequencing technologies, which has dramatically increased our understanding of the spectrum of chromosome translocations in human diseases. [...] 

Contents
Chapter 1: Historical and clinical overview of chromosome translocations.- Chapter 2: Next generation sequencing to identify chromosome translocation.- Chapter 3: The experimental models to study [...]

Fields of Interest
Human Genetics; Cell Biology

Series Title
Advances in Experimental Medicine and Biology

HIV Vaccines and Cure

The Path Towards Finding an Effective Cure and Vaccine

L. Zhang, S. R. Lewin (Eds)

- Providing a comprehensive review of the major barriers to HIV cure and vaccine
- Covering the fundamental virology and immunology of HIV
- Discussing the challenges related to development of HIV vaccine and its clinical trials

This book provides a comprehensive review of the major barriers to HIV cure and vaccine. It covers the fundamental virology and immunology leading to HIV transmission, protection from infection and long term HIV persistence on antiretroviral therapy. In addition, strategies being tested to eliminate persistent HIV and the rational design of vaccines to induce protective immunity are covered. [...] 

Contents
HIV Vaccine Efficacy Trials: RV144 and beyond.- HIV T-cell vaccines.- HIV broadly neutralizing antibodies: VRC01 and beyond.- Structural features of broadly neutralizing antibodies and rational [...]

Fields of Interest
Virology; Vaccine; Immunology; Animal Models

Series Title
Advances in Experimental Medicine and Biology

Synthetic Biology of Cyanobacteria

W. Zhang, X. Song (Eds)

- Highlights recent breakthroughs in the interdisciplinary areas of synthetic biology
- Presents practical experimental and computational tools for the design
- Cover new technologies in the field

This volume highlights recent breakthroughs in the interdisciplinary areas of synthetic biology, metabolic engineering and bioprocess engineering for the production of green chemicals. It also presents practical experimental and computational tools for the design, construction and manipulation of cyanobacteria cell factories. [...] 

Contents
Challenges in the application of synthetic biology towards synthesis of commodity products by cyanobacteria via ‘direct conversion’.- Transporters related with stresses responses and their [...]

Fields of Interest
Biomedical Engineering/Biotechnology; Microbiology; Industrial Chemistry/Chemical Engineering

Series Title
Advances in Experimental Medicine and Biology
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