

# LIFE SCIENCES



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2024

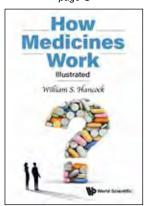




# Highlights

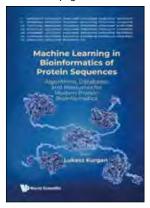
### Life Sciences Catalogue 2024

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by **William S Hancock** (Northeastern University, USA)

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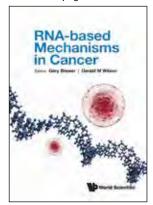
edited by Lukasz Kurgan

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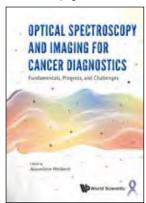
by Julian Gendreau (Johns Hopkins University, USA), Nolan J Brown (University of California Irvine, USA), Shane Shahrestani (University of Southern California, USA) & Ronald Sahyouni (University of California San Diego, USA)

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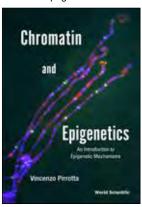
edited by Gary Brewer (Rutgers University, USA) & Gerald M Wilson (University of Maryland, USA)

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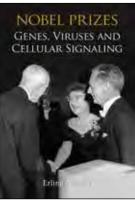
edited by **Noureddine Melikechi** (University of Massachusetts Lowell, USA)

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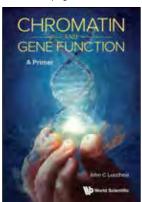
by **Vincenzo Pirrotta** (Rutgers University, USA)

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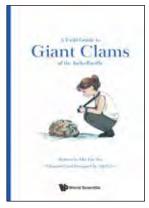
by **Erling Norrby** (The Royal Swedish Academy of Sciences, Sweden)

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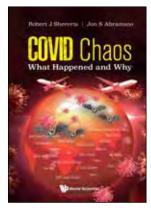
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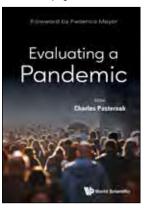
by **Mei Lin Neo** (National University of Singapore, Singapore)

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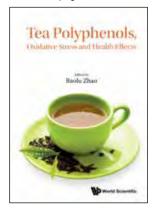
by Robert J Sherertz (Wake Forest School of Medicine, USA) & Jon S Abramson (Wake Forest School of Medicine, USA)

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edited by **Charles Pasternak** (Oxford International Biomedical Centre, UK)

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edited by **Baolu Zhao** (Chinese Academy of Sciences, China)

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- Computer Science
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- Electrical and Electronics Engineering
- Mathematics
- Materials Science and Nanoscience
- Medical Science
- Nonlinear Science
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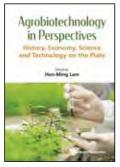


#### AGRICULTURAL / CROP SCIENCE

#### AGROBIOTECHNOLOGY IN PERSPECTIVES

History, Economy, Science and Technology on the Plate edited by Hon-Ming Lam (The Chinese University of Hong Kong, Hong Kong)

This title with selected agrobiotechnology talks in 13 chapters, bringing together the knowledge and expert insights of agrobiotechnology by renowed speakers with diverse expertise. It covers a range of topics from food chemistry



opper Bioinorganic

& nutrition, seed trade & quality assurance, plant breeding, agricultural product marketing, crop genomics, soybean culture and history, plant laws, agribusiness, sustainability, chemical pollution, to food security.

Readership: Undergraduates, graduates, researchers in agrobiotechnology and agricultural sciences.

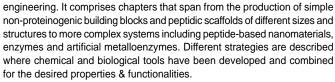
300pp Oct 2023 978-981-127-672-9 US\$118 £105 978-981-127-673-6(ebook) US\$189 £165

#### **BIOCHEMISTRY**

#### **PEPTIDE AND PROTEIN ENGINEERING FOR BIOTECHNOLOGICAL** AND THERAPEUTIC **APPLICATIONS**

edited by Pierre Rousselot-Pailley (Aix Marseille Université, France) & Olga Iranzo (Aix Marseille Université, France)

This book give an overview of the last developments in the field of peptide and protein



Readership: Students/researchers in peptide & protein engineering, peptide-based nanotubes & nanomaterials.

520pp Jan 2023 US\$158 978-981-126-165-7 £140 978-981-126-166-4(ebook) US\$253 £220

#### COPPER BIOINORGANIC CHEMISTRY

From Health to Bioinspired Catalysis edited by A Jalila Simaan (Centre Nationale de la Recherche Scientifique, France & Aix Marseille Université, France) & Marius Réglier (Centre Nationale de la Recherche Scientifique, France & Aix Marseille Université, France)

The seven chapters in this book, contributed by internationally recognized authors cover recent developments on these aspects illustrated by



Readership: Masters/graduate students and researchers in copper bioinorganic chemistry and biological chemistry.

350pp Aug 2023 978-981-126-948-6 US\$138 £120 978-981-126-949-3(ebook) US\$221 £195



#### **BIOMATERIALS FOR MODERN CANCER IMAGING AND THERAPIES**

by Maoquan Chu (Tongji University, China)

Methylene blue (MB) is a biocompatible and environmentally friendly material that has been widely used in clinical and biomedical research fields for over a century. This publication covers MB-mediated in vivo fluorescence, photoacoustic imaging and light-induced cancer therapy. The optical properties and photothermal effect of MB are also systematically described.

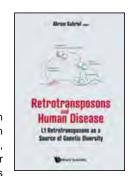
Readership: Undergraduate and postgraduate students, clinical doctors, researchers and developers.

Sep 2023 978-981-127-769-6 US\$108 £95 978-981-127-770-2(ebook) US\$173 £150

#### RETROTRANSPOSONS AND HUMAN DISEASE

L1 Retrotransposons as a Source of Genetic Diversity edited by Abram Gabriel (Rutgers University, USA)

This volume explores an array of diseases in humans associated with L1 retrotransposon movement within the human genome, including some cancers such as colon cancer and neuropsychiatric disorders such as



schizophrenia. The chapters explore the diversity of retrotransposons, their different biological mechanisms, the role of L1 in their movement, and their contribution to human diseases. This book posits that somatic events caused by retrotransposons have implications for mosaicism and are often associated with cancers. Germline events are common, occur quite early in development, and are a cause of single gene diseases. All in all, the authors implicate L1 retrotransposons as major sources of human diversity and advocate for their continued study.

Readership: Researchers from both academia and industry, graduate students, premed students, clinicians.

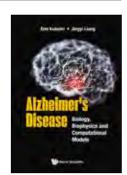
260pp Sep 2022 978-981-124-921-1 **US\$98** £85 978-981-124-922-8(ebook) US\$157 £140

#### ALZHEIMER'S DISEASE

Biology, Biophysics and Computational Models

by Don Kulasiri (Lincoln University, New Zealand) & Jingyi Liang (UiT The Arctic University of Norway, Norway)

The book helps the reader to understand Alzheimer's Disease (AD) from mechanistic and biochemical perspectives at intra- and inter-cellular levels. It focuses on biochemical pathways and modeling associated with AD.



Some of the recent research on biophysics and computational models related to AD are explained using context-driven computational and mathematical modeling and essential biology is discussed to understand the modeling research.

Readership: Undergraduate students, graduate students and researchers in neurosciences, biomedical engineering, mathematical biology, theoretical biology and computational biology.

416pp Feb 2022 978-1-80061-011-8 US\$158 978-1-80061-012-5(ebook) US\$253



#### **IRON-SULFUR CLUSTERS AND PROTEINS**

Molecular Biology and Applications by **Huangen Ding** (Louisiana State University, USA)

Iron-sulfur proteins have been discovered in many biological processes including DNA replication and repair, RNA modification, protein synthesis, energy metabolism, and signal transduction, so understanding these complexes is important for further studies of a rapidly expanding group of metabolic pathways vital to all kingdoms of life. This book will summarize the significance of iron-sulfur clusters in evolution, healthy metabolic function and dysfunction, and the exciting discoveries of iron-sulfur proteins in diverse physiological pathways.

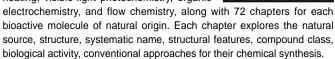
**Readership:** Upper undergraduate/graduate students, researchers and lecturers/professors in Biochemistry, Molecular Biology & Bioinorganic Chemistry.

250pp Apr 2024 978-981-126-477-1 US\$98 £85 978-981-126-478-8(ebook) US\$157 £140

#### MODERN SUSTAINABLE TECHNIQUES IN TOTAL SYNTHESIS OF BIOACTIVE NATURAL PRODUCTS

by Sasadhar Majhi (Kazi Nazrul University, India) & Bhubaneswar Mandal (Indian Institute of Technology Guwahati, India)

The book comprises five parts for green tools, such as ultrasonic waves, microwave heating, visible-light photochemistry, organic



**Readership:** Medicinal chemists, Synthetic and semisynthetic chemists, Biochemists, Pharmacologists, Botanists, Green chemists, Phytochemists, Researchers.

468pp May 2023 978-981-126-868-7 US\$158 £140 978-981-126-869-4(ebook) US\$253 £220

Regenerative Medicine, Artificial Cells and Nanomedicine - Vol 6

#### NANOBIOTHERAPEUTIC BASED BLOOD SUBSTITUTES

Others: Leif Bülow (Lund University, Sweden), Others: Jonathan Jahr University of California at Los Angeles, USA), Others: Hiromi Sakai (Nara Medical University, Japan) & Others: Chengmin Yang (Chinese Academy of Medical Sciences, China)

NANOBIOTHERAPEUTIC
BASED BLOOD SUBSTITUTES

Plants Mins Int Chang
Int A Territoria Intelligence Intelligence

Editor-in-chief: Thomas Ming Swi Chang (McGill University, Canada)

This volume provides up to date information and the most recent science of nanobiotherapeutic-based blood substitutes. There are recent updates that make their use in patients more promising, and with one product approved for human use, many more in the pipeline. These include 2nd generations and even third generation ones, the later with enhancement of red blood cell functions.

1044pp Jan 2022 978-981-122-868-1 US\$248 220



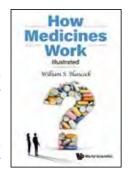
#### **HOW MEDICINES WORK**

Illustrated

by William S Hancock

(Northeastern University, USA)

"William Hancock... has deftly integrated and characterized classical and newly approved pharmaceutical and biologic agents by presenting their chemistry, biological mode of action and relevance to medical disorders in clear prose and brilliantly explanatory figures and diagrams to enable the reader to understand the drug, its chemistry and its



mode of action. I anticipate wide use of this book in medical schools and physicians' offices."

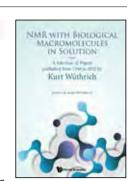
Stephen Wasserman MD
Professor and Chairman Emeritus
Department of Medicine, University of California, San Diego

316pp Sep 2022 978-981-124-819-1 US\$68 £60 978-981-124-820-7(ebook) US\$109 £95

#### **Title by Nobel Laureate**

## NMR WITH BIOLOGICAL MACROMOLECULES IN SOLUTION

A Selection of Papers Published from 1996 to 2020 by Kurt Wüthrich edited by **Kurt Wüthrich** (ETH Zürich, Switzerland & The Scripps Research Institute, USA)



"The collection of papers ...showcases his scientific achievements in NMR of proteins that led to his Noble Prize. The monograph is enjoyable to read, full of details about the successes and controversies with colleagues and editors of scientific journals and rich on information about the individual steps that made his research career so successful. It also gives readers using or planning to use NMR in their research a useful guide into the vast literature on modern NMR techniques."

Werner Braun
Professor Department of Biochemistry and Molecular Biology
University of Texas

264pp Nov 2021 978-981-123-913-7(pbk) US\$58 £50 978-981-123-578-8 US\$108 £95 978-981-123-579-5(ebook) US\$173 £150

### Bestselling Titles on BIOCHEMISTRY

#### **Title by Nobel Laureate**

#### **BIOLUMINESCENCE**

Chemical Principles and Methods (3rd Edition) edited by Osamu Shimomura (The Marine Biological Laboratory, USA) & Ilia Yampolsky Russian Academy of Sciences, Moscow, Russia)

556pp Jun 2019 978-981-3277-10-6 US\$158 £140

Series in Structural Biology - Vol 8

## TEXTBOOK OF STRUCTURAL BIOLOGY (2nd Edition)

by Anders Liljas (Lund University, Sweden), Lars Liljas (Uppsala University, Sweden), Miriam-Rose Ash (The University of Sydney, Australia), Göran Lindblom (Umeå University, Sweden), Poul Nissen (Aarhus University, Denmark) & Morten Kjeldgaard (Aarhus University, Denmark)

612pp Jan 2017 978-981-3142-47-3(pbk) US\$95 £79 978-981-3142-46-6 US\$178 £148



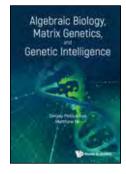


#### **BIOINFORMATICS**

#### ALGEBRAIC BIOLOGY, **MATRIX GENETICS, AND** GENETIC INTELLIGENCE

by Sergey Petoukhov (Russian Academy of Sciences, Russia) & Matthew He (Nova Southeastern University, USA)

"The book is highly topical and interesting. The two authors are very respected and diligent scientists with many years of research experience in the specified field. It is very much in the interest of the international



Practical

Bioinformatics

interdisciplinary scientific community that the individual results of the authors, which have been published in several articles up to now, appear in book form, which can particularly clearly emphasize a kind of red thread in this important research area."

**Fimmel** Professor, Mannheim University of Applied Sciences, Germany

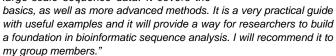
Readership: Computational biologist, bioinformaticians, mathematicians, statisticians, computer scientists.

Dec 2023 500pp 978-981-127-825-9 US\$168 £150 978-981-127-826-6(ebook) US\$269 £235

#### PRACTICAL **BIOINFORMATICS FOR BEGINNERS**

From Raw Sequence Analysis to Machine Learning Applications edited by Lloyd Low (University of Adelaide, Australia) & Martti Tammi (Tanalink Sdn Bhd, Malaysia)

"This book contains a series of tutorials for a biologist who wants to learn to analyze large-scale sequence data. It covers the



**Björn Andersson** Department of Cell & Molecular Biology, Karolinska Institutet

268pp Feb 2023 US\$98 978-981-125-898-5 £80 978-981-125-899-2(ebook) US\$157 £125

## Readership: Lecturers in bioinformatic & professional.

### **MACHINE LEARNING IN BIOINFORMATICS OF**

**PROTEIN SEQUENCES** 

Algorithms, Databases and Resources for Modern Protein Bioinformatics edited by Lukasz Kurgan

This book covers a broad spectrum of algorithms, databases and software resources for the efficient and accurate prediction and characterization of functional and structural aspects of proteins. It spotlights key advances



which include deep neural networks, natural language processing-based sequence embedding. This volume loaded with practical information that identifies and describes leading predictive tools, useful databases, webservers, and modern software platforms.

Readership: Graduate students and researchers in computational biology, bioinformatics, structural biology.

380pp Jan 2023 978-981-125-857-2 US\$138 £120 978-981-125-858-9(ebook) US\$221 £195

#### THE COMPACT KERNEL OF A METABOLIC FLUX **BALANCE SOLUTION SPACE**

Concepts, Algorithms and Implementation by Wynand S Verwoerd

(Lincoln University, New Zealand)

This monograph offers a fundamentally new approach to facilitate the study of metabolic networks in cells. It aims to overcome the



Readership: Students/Professionals in Bioinformatics/ Biocomputing, Researchers in bioengineering.

Oct 2022 978-981-125-583-0 **US\$88** £70 978-981-125-584-7(ebook) US\$141 £115

#### ARTIFICIAL INTELLIGENCE **APPLICATIONS IN HUMAN PATHOLOGY**

edited by Ralf Huss (University Hospital Augsburg, Germany) & Michael Grunkin (Visiopharm, Denmark)

The book deals with the latest topics in biomedical research and clinical cancer diagnostics. This book gives real examples of

the implementation of AI and machine learning in human pathology. Specific topics included introduction to DL as applied to Pathology, Standardized Tissue Sampling for Automated Analysis, integrating Computational Pathology into Histopathology workflows. Readers will also find examples of specific techniques applied to specific diseases that will aid their research and treatments including but not limited to; Tissue Cartography for Colorectal Cancer, Ki-67 Measurements in Breast Cancer, and Light-Sheet Microscopy as applied to Virtual Histology.

Readership: Advanced graduate and undergraduate students in life sciences. Researchers in bioinformatics

336pp Mar 2022 978-1-80061-138-2 US\$118 £95 978-1-80061-139-9(ebook) US\$189 £150

Series on Advances in Bioinformatics and Computational Biology - Vol 12

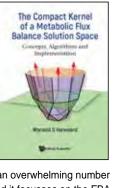
#### **NETWORK-BASED PROTEOMICS**

by Wilson Wen Bin Goh (Tianjin University, China) & Limsoon Wong (National University of Singapore, Singapore)

This book offers insights into the technological developments in proteomics and introduces the reader to the issues in proteomic data and their origins. For each issue, key instances of network-based techniques are described alongside their shortcomings and comparative performance-based analysis. The authors are at the forefront of this rapidly evolving field, and thus present findings from a chronological perspective, allowing the readers to see that, as techniques become more difficult with each iteration.

Readership: Specialists in proteomics and networks.

**aq00**0 May 2024 978-1-78326-901-3 US\$132 £110 978-1-78326-902-0(ebook) US\$211 £170



#### /

#### **BIOMEDICAL SCIENCES**

#### THE FUTURE OF TECHNOLOGY IN MEDICINE

From Cyborgs to Curing Paralysis by Julian Gendreau (Johns Hopkins University, USA), Nolan J Brown (University of California Irvine, USA), Shane Shahrestani (University of Southern California, USA) & Ronald Sahyouni (University of California San Diego, USA)



Engineered

Biomaterials:

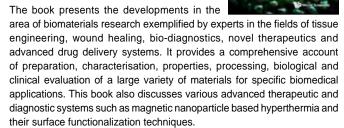
In this book, the authors discuss the technological advancements of healthcare in 14 comprehensive chapters specifically designed to be read and understood by any individual interested in learning more about technology in medicine. From discussing topics such as creating the first human cyborgs, to discussing topics on humankind's first attempt at curing paralysis, this book takes an informative approach to educate interested individuals regardless of their educational background.

I.... 2022

296pp	Jun 2023	
978-981-127-641-5(pbk)	US\$38	£35
978-981-127-432-9	US\$98	£85
978-981-127-433-6(ebook)	US\$157	£140

#### ENGINEERED BIOMATERIALS: PROGRESS AND PROSPECTS

edited by P A Hassan (Bhabha Atomic Research Centre, India), Biji Balakrishnan (Bhabha Atomic Research Centre, India) & A K Tyagi (Bhabha Atomic Research Centre, India)



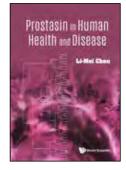
**Readership:** Graduate students & researchers in Bioengineering, Biomedical Engineering.

400pp	Aug 2023		
978-981-127-200-4	US\$138	£120	
978-981-127-201-1(ebook)	US\$221	£195	

## PROSTASIN IN HUMAN HEALTH AND DISEASE

by **Li-Mei Chen** (University of Central Florida, USA)

This book provides readers with an integrated knowledge on serine protease prostas8in, starting with its discovery, protein isolation, cDNA, and gene cloning, to its functions in physiology and pathophysiology, and to its application in the development of therapeutics. The chapters encapsulate all that has been



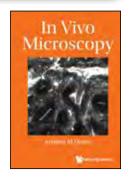
learned about prostasin in the technical sophistication, but more importantly, also highlight a critical analysis on the problems with the current state of research and outline the challenges for the future.

252pp Mar 2023 978-981-126-814-4 US\$98 £85 978-981-126-815-1(ebook) US\$157 £140

#### IN VIVO MICROSCOPY

by **Andrew M Quinn** (University of Texas Southwestern Medical Center, USA)

The new technology — called In Vivo Microscopy or IVM — therefore promises to advance early disease detection considerably and shorten the time to prognostication and treatment. This book will be the first to provide a comprehensive but concise update on the use of IVM technologies across all major organ systems with a logical focus on cancer and inflammation. It will



describe both the science and practical application of IVM & the translational collaboration between the diagnostician and researcher.

400pp	Jan 2024	
978-981-3206-97-7	US\$168	£139
978-981-3206-98-4(ebook)	US\$269	£215

# EMERGING TECHNOLOGIES IN BIOPHYSICAL SCIENCES: A WORLD SCIENTIFIC REFERENCE

(In 3 Volumes)

Volume 1: Emerging Technologies for Biofabrication and Biomanufacturing

Volume 2: Emerging Technologies for Fertility
Volume 3: Emerging Technologies for Diagnostics
edited by Utkan Demirci (Stanford University, USA),
Rami El Assal (Stanford University, USA), Pu Chen (Wuhan
University, China), Waseem Asghar (Florida Atlantic University, USA),
Fatih Inci (Bilkent University-UNAM, Turkey & Stanford University,
USA) & Shuqi Wang (Sichuan University, China)

Editor-in-chief: Utkan Demirci (Stanford University, USA)

#### Volume 1:

In this volume, notable experts in the field of biofabrication and biomanufacturing to summarize recent rapid progress in this field from multifaceted aspects covering biofabrication techniques and building materials such as scaffold and living cells. Specifically, a focus is placed on a variety of techniques derived from 3D bioprinting and bioassembly strategies, such as acoustic assembly and electrofabrication.



#### Volume 2:

Advanced reproductive technologies (ARTs) are being developed to treat infertility. This handbook explores significant development

of ARTs for fertility testing, selection of sperm, oocyte and embryo, reproductive monitors, automation in embryology, and fertility preservation. This volume provides a comprehensive overview of the myriad of emerging technologies and systems that are being utilized or will be utilized in near future in reproductive clinics.

#### Volume 3:

The unprecedented and admirable characteristics of biosensing strategies have expanded our knowledge on medicine and biology by harmonizing materials science, chemistry, physics, and engineering. Biosensors applied in disease diagnostics garner attention in clinical research to decipher disease biology and mechanism also, stimulate innovative perspectives in artificial intelligence and internet of things (IoT) synergistically, thereby their more facile adaptation to daily-use.

**Readership:** Life science researchers and bioengineers, physicians, biologists, and students.

1080pp	Jan 2023	
978-981-122-565-9(Set)	US\$1200	£1055
979 991 122 E69 0/Sot\/ohook\	11991920	£1690

## RAMAN SPECTROSCOPY IN HUMAN HEALTH AND BIOMEDICINE

edited by **Hidetoshi Sato** (Kwansei Gakuin University, Japan), **Jürgen Popp** (Friedrich-Schiller University Jena, Germany), **Bayden R Wood** (Monash University, Australia) & **Yukihiro Ozaki** (Kwansei Gakuin University, Japan)

"There is every reason to expect that Raman spectroscopy will revolutionize medical

diagnostics making it universal, accurate, easy, and non-invasive. The Editors of the book are top experts in the field, and the content is well thought and appropriate."

Igor K Lednev FRSC SUNY Distinguished Professor, University at Albany, USA

**Readership:** Academics, researchers, lecturers, and graduate students in spectroscopy and data science.

650pp Sep 2023 978-981-126-460-3 US\$178 £155 978-981-126-461-0(ebook) US\$285 £250

Series on Bioengineering and Biomedical Engineering - Vol 10

# BIOMEDICAL ENGINEERING PRINCIPLES OF THE BIONIC MAN

2nd Edition edited by George K Hung (Rutgers University, USA)

The book covers biomechanics, biochemistry, rehabilitation, tissue engineering, and sports

science, and applications in cardiovascular, visual, auditory, and neurological systems. The useful reference text benefits students, scientists, and laymen keen in understanding the fundamental underlying principles of biomedical devices and procedures, along with recent advances in transplant methodology, gene therapy, stem cell research, and sports science.

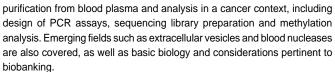
**Readership:** Researchers, professionals, academics, and graduate students in biomedical engineering.

576pp Mar 2023 978-981-125-918-0 US\$138 £110 978-981-125-919-7(ebook) US\$221 £175

## CELL-FREE CIRCULATING DNA

Purification and Analysis Techniques edited by **Kristina Warton** (University of New South Wales, Australia) & **Goli Samimi** (National Cancer Institute, USA)

Development of clinically useful assays hinges on understanding the unique technical aspects of working with cell-free DNA as a substrate. This book provides an in-depth summary of the technical issues impacting cell-free DNA



**Readership:** Graduate students and researchers in Cancer biology, Oncology and Biomedical Sciences.

296pp Aug 2022 978-981-124-467-4 US\$118 £105 978-981-124-468-1(ebook) US\$189 £150



BIOMEDICAL ENGINEERING

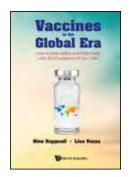
Cell-Free

CIPLES & BIONIC MAN

### VACCINES IN THE GLOBAL FRA

How to Deal Safely and Effectively with the Pandemics of Our Time by Rino Rappuoli (GlaxoSmithKline Vaccines, Italy) & Lisa Vozza (AIRC Foundation for Cancer Research, Italy)

"... One important chapter explores the nowretracted paper suggesting that the MMR (measles, mumps, and rubella) vaccine was "linked" to onset of behavioral problems, and



the epidemiological studies refuting those findings... The book describes the progress of vaccine development along with vaccine challenges. Of particular interest are the chapters on COVID-19 and the development of the COVID vaccine. Strengths of this title include straightforward language, good use of non-scientific metaphors to describe scientific content, and human interest examples of the role of vaccines in protecting human health ... Summing Up: Highly recommended. Lower-division undergraduates. General readers.

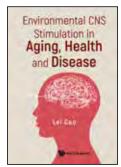
CHOICE

268pp Aug 2022 978-1-80061-204-4(pbk) US\$28 £20 978-1-80061-193-1 US\$68 £60 978-1-80061-194-8(ebook) US\$109 £95

#### ENVIRONMENTAL CNS STIMULATION IN AGING, HEALTH AND DISEASE

by Lei Cao (The Ohio State University, USA)

This book summarizes our work on environmental enrichment, a housing condition for laboratory animals, recapitulating an active lifestyle by providing a complex physical, social, and cognitive stimulations. Environmental enrichment exerts a wide range of benefits on



energy balance, cancer, immunity, stress, behavior, and healthy aging. One underlying mechanism is the activation of a specific neuroendocrine brain-adipocyte axis with brain-derived neurotrophic factor as the key brain mediator. This book integrates recent discoveries regarding mechanisms, mediators, and biomarkers of environmental enrichment, and discusses its translational potential.

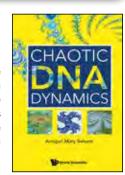
436pp May 2022 978-981-125-033-0 US\$148 £120 978-981-125-034-7(ebook) US\$237 £190

#### **BIOPHYSICS**

#### **CHAOTIC DNA DYNAMICS**

by **Amujuri Mary Selvam** (Indian Institute of Tropical Meteorology, India)

Junk DNA are not redundant. Modification of the DNA base sequence structure at any location may have significant noticeable effects on the function of the DNA molecule as a whole. This book helps us understand the cooperative existence of individual components for optimum performance of the system.



 $\textbf{Readership:} \ \ \textbf{Undergraduates, graduate}$ 

students, academics and researchers in biomathematics, biomedical science, computer science, Nonlinear Dynamics and Chaos.

244pp Jul 2022 978-981-124-285-4 US\$88 £75 978-981-124-286-1(ebook) US\$141 £115

#### **BIOTECHNOLOGY**

#### AUTHENTICATION OF CHINESE MEDICINAL MATERIALS BY DNA TECHNOLOGY

Techniques and Applications (2nd Edition) edited by Pang-Chui Shaw (The Chinese University of Hong Kong, China), Hui Cao (Jinan University, China) & Yat-Tung Lo (The Chinese University of Hong Kong, China)

This book is divided into 5 parts with 18 chapters.



Part I reviews the current status of molecular authentication and introduces a wide range of DNA techniques. Part II lists the experimental procedures for molecular authentication. Part III describes the DNA fingerprinting-based techniques. Part IV describes the DNA sequencing-based techniques. Finally, Part V provides an account on the recent advancement in molecular authentication, including guidelines for setting up a proper DNA laboratory and concluding remarks. The procedures of each DNA technique are provided in detail for 'step-by-step' experiments.

**Readership:** Advanced undergraduate/graduate students, researchers and practitioners in molecular authentication, testing laboratory and DNA biotechnology

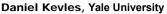
548pp Dec 2022 978-981-126-153-4 US\$168 £150 978-981-126-154-1(ebook) US\$269 £235

#### BIOTECHNOLOGY

Scientific Advancement versus Public Safety

by Conrad B Quintyn (Bloomsburg University of Pennsylvania, USA)

"A lot has happened in molecular biology and genetic engineering since the mid-1980s. I can see from a quick skim of the book that you do a valuable service in recounting those developments and placing them in social, political, and moral context."



392pp Nov 2022 978-981-125-925-8 US\$128 £115 978-981-125-926-5(ebook) US\$205 £180

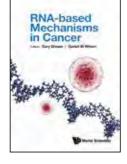


## CANCER RESEARCH

## RNA-BASED MECHANISMS IN CANCER

edited by **Gary Brewer** (Rutgers University, USA) & **Gerald M Wilson** (University of Maryland, USA)

This book presents current understanding of selected posttranscriptional control mechanisms and the RNAs that they regulate. Each chapter provides an overview of a specific RNA-directed regulatory system and the RNA/protein factors involved, then discusses major findings in the



field and their relationships to the development and/or treatment of cancer and associated diseases. Future questions serve to address "where do we go from here".

**Readership:** Graduate students, researchers, and clinical scientists in the fields of RNA biology, non-coding RNAs, and cancer research/oncology.

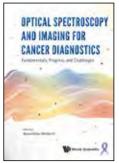
300pp Oct 2023 978-981-124-865-8 US\$108 £95 978-981-124-866-5(ebook) US\$173 £140

#### OPTICAL SPECTROSCOPY AND IMAGING FOR CANCER DIAGNOSTICS

Fundamentals, Progress, and Challenges

edited by **Noureddine Melikechi** (University of Massachusetts Lowell, USA)

This book presents the applications of novel laser spectroscopy and imaging techniques for the detection of cancers recently developed by



some of the world's most renown researchers. Part I presents fundamentals on optics, atoms and molecules, biophysics, cancer and machine learning. Part II presents key applications of various laser spectroscopic methods in cancer diagnosis. Part III discusses key developments in the applications of various laser imaging techniques for cancer detection.

**Readership:** Graduate students and researchers in cancer screening and diagnostics, laser spectroscopy, laser imaging, biophotonics and biomedical sciences.

560pp Feb 2023 978-981-125-895-4 US\$168 £135 978-981-125-896-1(ebook) US\$269 £215

#### **TOBACCO AND CANCER**

The Science and the Story edited by **Stephen S Hecht** (University of Minnesota, Twin Cities, USA) & **Dorothy K Hatsukami** (University of Minnesota, Twin Cities, USA)

This book tells the relationship of tobacco products to cancer, from the first discoveries to the present day cancer pandemic and regulatory activities. In this book, the editors bring together 24 renowned experts on the subject of tobacco



and cancer to summarize specific aspects of this critical topic in relatively non-technical terms while also incorporating some personal insights related to the story of the discovery process. This highly authoritative book is also expected to be an excellent teaching tool and basis for a course for graduate and medical students on this topic.

452pp Feb 2022 978-981-123-952-6 US\$148 £120 978-981-123-953-3(ebook) US\$237 £190

#### NON-CODING RNA TRANSCRIPTS IN CANCER THERAPY

Pre-clinical and Clinical Implications edited by **Gautam Sethi** (National University of Singapore, Singapore) & **Milad Ashrafizadeh** (Sabanci University, Turkey)

The book provides a new insight towards role of non-coding RNAs molecules including microRNAs, long non-coding RNAs and circular



RNAs in cancer. The basic information and knowledge about ncRNAs, their biogenesis and their biological functions are covered. The impact of regulation of molecular pathways by ncRNAs on important molecular mechanisms such as proliferation, metastasis, epithelial-to-mesenchymal transition, apoptosis and autophagy are described. These subjects are discussed based on pre-clinical studies and in order to make the book more comprehensive and broaden its scope, the function of exosomal ncRNAs in diagnosis and prognosis of cancer patients is described.

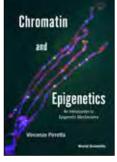
376pp Apr 2023 978-981-126-738-3 US\$128 £115 978-981-126-739-0(ebook) US\$205 £180

#### CELL / MOLECULAR / STRUCTURAL BIOLOGY

#### **CHROMATIN AND EPIGENETICS**

An Introduction to Epigenetic Mechanisms by Vincenzo Pirrotta (Rutgers University, USA)

This book is an introduction to epigenetics, a controversial term that denotes the mechanisms that instruct the genome on how to express the purely genetic information that encodes proteins. Starting with the discovery of repressor proteins in the 1960s, epigenetics evolved into a kind of user manual for the genetic information,



telling the genome if, when, how much and in what cells to read genes. Advances in epigenetics in the past 15 years have revealed how it lies at the heart of virtually every branch of biological and medical sciences and an understanding of its basic principles.

300pp	Jul 2023	
978-981-125-890-9(pbk)	US\$88	£75
978-981-125-762-9	US\$158	£140
978-981-125-763-6(ebook)	US\$253	£220

#### THERAPEUTIC PROTEIN **TARGETS FOR DRUG DISCOVERY AND CLINICAL EVALUATION**

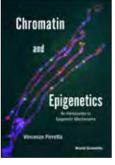
Bio-Crystallography and Drug Design edited by D Velmurugan (AMET University, India), Atanu Bhattacharjee (North Eastern Hill University, India) & D Gayathri (University of Madras, India)

The book reviews the recent research advances

and their outcomes in the areas of structural biology, bioinformatics, phytochemistry and drug discovery. Chapters in the book cover multidisciplinary research to understand the molecular mechanisms involved in protein-protein/ligand interactions. It employs an integrative approach to identify the therapeutic targets for HIV, and cancer, pathogen and viral infection pathways and the identification of their potential drug candidates. The book also provides examples of computational molecular dynamics simulations to understand the conformational changes in the molecules.

Readership: Scientists, Researchers, Students in the field of Structural Biology and Bioinformatics.

404pp	Oct 2022	
978-981-125-478-9	US\$148	£130
978-981-125-479-6(ebook)	US\$237	£210

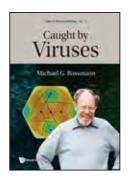


Series in Structural Biology - Vol 13

#### CAUGHT BY VIRUSES

by Michael G Rossmann

"This is the autobiography of a truly inspiring scientist, Michael G Rossmann, who I worked with as a beamline scientist at the UK Synchrotron Radiation Source in the early 1980s and who I was glad to meet and discuss with ever since.... His lectures were full of energy, animation and achievements, even well into his eighties. This book captures all these features but also so much more."



John R Helliwell **Emeritus Professor of Chemistry**, University of Manchester, UK & DSc in Physics, University of York, UK

Readership: Structural/molecular biologists, virologists.

304pp Feb 2022 978-981-124-619-7 US\$98 £80 978-981-124-620-3(ebook) £130 US\$157

#### **EVOLUTION BIOLOGY**

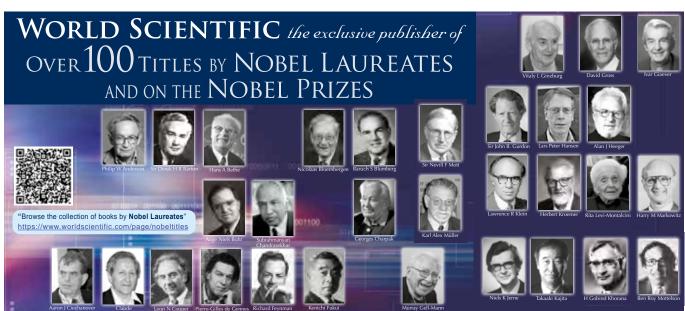
#### **HUMAN CONSCIOUSNESS**

The Evolution of Our Sensor of Society by Irving C Statler (NASA Ames Research Center, USA)

This book is about the evolution of human consciousness, but the evolutionary path that the author describes is not precisely in accordance with Darwin's theory of evolution by natural selection of biological adaptation mechanisms. A biological adaptation entails the accumulation of a progression of genetic changes in multiple systems before the next step in an evolution of life forms. The author describes a broadened version of Darwin's concept of evolution supported by recent research, that says, 'learning' brought intelligent design to the evolution of both biological and behavioral adaptations. The book provides a consistent rationale for the evolutionary progression from the simple, primitive, isolated organism to the complex, intelligent, and social

Readership: Researchers and students in consciousness; suitable for university courses.

260pp Apr 2024 978-981-121-832-3 US\$88 £75 978-981-121-833-0(ebook) US\$141 £115

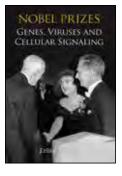


#### **GENERAL LIFE SCIENCES**

#### **NOBEL PRIZES**

Genes, Viruses and Cellular Signaling by **Erling Norrby** (*The Royal Swedish Academy of Sciences, Sweden*)

"The fifth installment of Erling Norrby's history of the Nobel prizes is yet another fascinating look back in science history. Exploiting written records that become available 50 years after the committee's deliberations, Norrby brings to life the science and times, and the personal histories, of not only the laureates but also those who were nominated but never received the prize. A masterful job, once again."



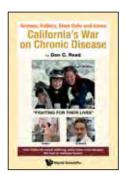
Charles M Rice Nobel laureate in Physiology or Medicine, 2020

460pp	Nov 2022	
978-981-126-213-5(pbk)	US\$68	£60
978-981-126-132-9	US\$158	£140
978-981-126-133-6(ebook)	US\$253	£220

### SCIENCE, POLITICS, STEM CELLS AND GENES

California's War on Chronic Disease by **Don C Reed** (Americans for Cures Foundation, USA)

"... takes on weighty issues in an accessible and engaging fashion. Reed's personal history and the included explanations of scientists' attempts to tackle chronic and currently incurable conditions such as Alzheimer's disease, obesity, schizophrenia,



kidney failure, and even aging add a human face to staggering branches of medical and scientific research and the advancements therein. Readers will come away considerably enlightened as to the merits, controversies, and potentials of stem cell research, and those with chronic illnesses will likely also feel a renewed sense of hope regarding future developments."

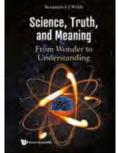
#### Erin Britton, San Diego Book Review

336pp	Apr 2023	
978-981-126-214-2(pbk)	US\$58	£50
978-981-126-141-1	US\$118	£105
978-981-126-142-8(ebook)	US\$189	£165

## SCIENCE, TRUTH, AND MEANING

From Wonder to Understanding by **Benjamin L J Webb** (Genome Institute of Singapore, A\*STAR, Singapore)

"Benjamin Webb has written a remarkable and unusual book that delves into fundamental questions about science, and meaning. The book has an astoundingly broad scope and starts with a detailed review of philosophy and science... Webb then focuses on the status of



modern scientific theories of physics, biology and evolution... Webb's book covers an amazing range of topics and provides the reader with a fascinating overview of deep questions about the limits to our scientific understanding."

Professor Tony Hey Chief Data Scientist, Rutherford Appleton Laboratory STFC, Didcot, OX11 0QX, UK

Senior Data Science Fellow, eScience Institute, University of Washington, Seattle, USA

720pp	May 2022	
978-981-123-307-4(pbk)	US\$68	£60
978-981-123-189-6	US\$148	£130
978-981-123-190-2(ebook)	US\$237	£210

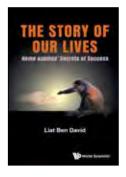
#### 2023 Nautilus Book Awards winner

#### THE STORY OF OUR LIVES

Homo sapiens' Secrets of Success by Liat Ben David (The Davidson Institute - the Educational Arm of the Weizmann

- the Educational Arm of the Weizmann Institute of Science, Israel)

"...offers an unusual popular science book consisting of an overview of the characteristics that distinguish the species Homo sapiens from previous hominid species and other organisms... develops two claims: that the traits of many nonhuman species are 'previews' of our own more highly developed



traits; and that the 'secrets' to the success of Homo sapiens have to do with the 'big five' characteristics: story-making, creation, communication, change, and intergenerational transfer...

Ben David bemoans the almost universally antiquated schooling in science that is offered all over the world."

CHOICE

TIME AND

SCIENCE

244pp	May 2022	
978-981-124-852-8(pbk)	US\$28	£25
978-981-124-734-7	US\$48	£40
978-981-124-735-4(ebook)	US\$98	£80

#### TIME AND SCIENCE

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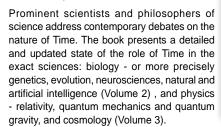
Volume 1: The Metaphysics of Time and Its Evolution

Volume 2: Life Sciences

Volume 3: Physical Sciences and Cosmology

edited by Rémy Lestienne (Centre National de la Recherche

Scientifique, France) & Paul A Harris (Loyola Marymount University, USA) Foreword by: Carlo Rovelli



950pp	Jul 2023	
978-1-80061-997-5(Set)	US\$348	£305
978-1-80061-998-2(Set)(ebook)	US\$557	£490

#### **FEATURED BACKLIST**

#### THE RAINBOW AND THE WORM

The Physics of Organisms (3rd Edition) by Mae-Wan Ho (Institute of Science in Society, UK)

408pp	Aug 2008	3
978-981-283-260-3(pbk)	US\$34	£28
978-981-283-259-7	US\$58	£48
978-981-283-261-0(ebook)	US\$98	£80



# ADVANCED TEXTBOOK ON GENE TRANSFER, GENE THERAPY AND GENETIC PHARMACOLOGY

Principles, Delivery and Pharmacological and Biomedical Applications of Nucleotide-Based Therapies (2nd Edition)

edited by **Daniel Scherman** (National Scientific Research Center (CNRS), France)

336pp Sep 2019		
978-1-78634-705-3(pbk)	US\$88	£75
978-1-78634-687-2	US\$188	£165
978-1-78634-688-9(ebook)	US\$301	£265



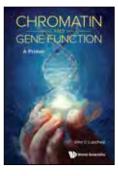
### **GENETICS AND GENOMICS**

## CHROMATIN AND GENE FUNCTION

A Primer

by John C Lucchesi (Emory University, USA)

The purpose of this primer is to provide students, teachers as well as academic and industry researchers with a succinct account of the chemical and structural features of chromatin and the role that these features play in the maintenance and function of the genetic material. The book provides an easily opened window into



the role that the complex of proteins and nucleic acids that are associated with the DNA play in mediating gene expression and in responding to environmental circumstances.

Readership: Undergraduate/graduate students.

164pp Jun 2023 978-981-125-893-0(pbk) US\$48 £40 978-981-125-843-5 US\$88 £70 978-981-125-844-2(ebook) US\$141 £115

## INTRODUCTION TO COMPUTATIONAL METAGENOMICS

by **Zhong Wang** (DOE Joint Genome Institute, USA & Lawrence Berkeley National Lab, USA)

"This book combines the fundamental knowledge of data science and microbiology. It clearly shows the research goals and obstacles of microbiomics, and accurately introduces the practical knowledge and tools of



computational science. This book is the perfect "primer" for beginners in metagenomics. It is friendly for computer science background readers. You can understand and gain a lot from it even with minimal prior biologic knowledge."

Li Deng Associate Professor Shanghai University

**Readership:** Graduate and advanced undergraduates from genomics science or computer science fields.

212pp May 2022 978-981-124-246-5 US\$88 £70 978-981-124-247-2(ebook) US\$141 £115

#### PRACTICAL POPULATION GENETICS

Genetic Data Analysis for the Evolutionary Biologist by **Mark Beaumont** (*University of Bristol, UK*)

There is substantial interest in the application of different This book aims to fill the vacant niche in books dealing with the application of methods imported from computational statistics that have become very popular in the last ten years in population genetic analysis. An introductory background on evolutionary theory is provided, complete with examples and thought-provoking questions that will enable the readers to explore the current data in this field. This text also guides the reader to understand the type of questions that can be answered by particular data sets, urging readers to discover the power that resides in this very data that can answer their questions, and warning them of the potential pitfalls.

**Readership:** Advanced undergraduates, postgraduates, academics and researchers.

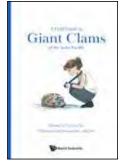
300pp Jun 2024 978-1-84816-867-1 US\$126 £105 978-1-84816-868-8(ebook) US\$202 £160

#### **MARINE BIOLOGY**

## A FIELD GUIDE TO GIANT CLAMS OF THE INDO-PACIFIC

by **Mei Lin Neo** (National University of Singapore, Singapore)

This book introduces readers to the giant clam's biology, taxonomy and systematics, ecological and cultural significance, threats and challenges, and conservation solutions. The highlight of this book is the species identification guide containing descriptions of 12 known giant clam species



accompanied by accurate hand-drawn shell illustrations and live photographs of specimens for comparison. Detailed information is summarised in a visual key on the distinctive features of the individual species, with notes on their ecology, geographic distribution, taxonomy and morphology. This book also includes other useful natural history information to spur the reader's interest in these magnificent animals.

216pp Jun 2023 978-981-127-417-6 US\$88 £75 978-981-127-418-3(ebook) US\$141 £125

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Engineering



#### NANO LIFE (NL)

https://worldscientific.com/nl

**Impact Factor: 0.8** 

Nano LIFE is a quarterly international journal publishing peer-reviewed research in the broad fields of nanoscience, biomedicine, and environmental health. Nano LIFE was first launched in 2010 by World Scientific Publishing. The journal has been listed in the ISI category of Multidisciplinary Science.



# JOURNAL OF PORPHYRINS AND PHTHALOCYANINES (JPP)

https://worldscientific.com/jpp

**Impact Factor: 1.5** 

This journal covers research in the chemistry, physics, biology and technology of porphyrins, phthalocyanines and related macrocycles. Research papers, review articles and short

Research papers, review articles and short communications deal with the synthesis, spectroscopy, processing, and applications of these compounds.

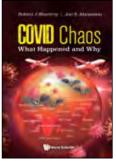


#### **MICROBIOLOGY**

#### **COVID CHAOS**

What Happened and Why by Robert J Sherertz (Wake Forest School of Medicine, USA) & Jon S Abramson (Wake Forest School of Medicine, USA)

The aim of the book is to give the reader some insight into the global impact of the SARS-CoV-2 outbreak during the first two years, from multiple perspectives (patient, healthcare provider, global citizen, public health, economic, geopolitical). An attempt was also made to understand how



SARS-CoV-2 caused disease, both its pathogenesis at the individual patient level, and globally, as to how it was so successful at causing a pandemic and how it compares with other organisms capable of causing outbreaks, epidemics and pandemics.

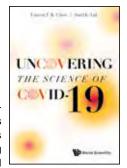
**Readership:** Microbiologists, virologists, epidemiologists, public health, general public.

548pp	May 2023	
978-981-126-560-0(pbk)	US\$58	£50
978-981-126-457-3	US\$148	£130
978-981-126-458-0(ebook)	US\$237	£210

## UNCOVERING THE SCIENCE OF COVID-19

edited by Vincent T K Chow (National University of Singapore, Singapore) & Sunil K Lal (Monash University Malaysia, Malaysia)

This book by an international and multidisciplinary team of virologists, infectious diseases and public health physicians aims to uncover the scientific basis underpinning the virus characteristics, as well as the clinical



and public health management of COVID-19. The ten chapters address and discuss a broad range of key topics including viral evolution, clinical management, diagnostic methodologies, aerosol transmission, public health containment measures, vaccination, pathophysiology, and omics analyses.

**Readership:** Microbiologists, infectious disease physicians, immunologists, disease epidemiologists, academics and students of biology, medicine and health sciences.

308pp	Oct 2022	
978-981-125-432-1	US\$98	£85
978-981-125-433-8(ebook)	US\$157	£140

#### **HUMAN PARASITES**

From Organisms to Molecular Biology by **Dunne Fong** (Rutgers, The State University of New Jersey, USA) & **Marion M Chan** (Temple University, USA)

The aim of this textbook is to introduce a modern synthesis on human parasites of medical importance. Species of parasitic protozoa and helminths are presented in detail, from history and discovery to aspects of genomes and molecular biology, together with life cycle, therapy, drug resistance, and case studies of parasitic diseases useful to the clinicians.



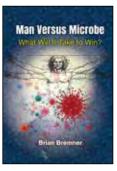
**Readership:** Undergraduates and graduate students for courses in human parasitology/medical parasitology

668pp	Jul 2022	
978-981-123-626-6	US\$148	£120
978-981-123-627-3(ebook)	US\$237	£190

#### MAN VERSUS MICROBE

What Will It Take to Win? by **Brian Bremner** (Bloomberg LP, UK)

"... Journalist Bremner recounts ways microbes have impacted human evolution and behavior from tens of thousands of years ago until today, explaining how in recent times, humans tried various strategies to control and constrain microbes in a struggle for a bearable coexistence. He provides many examples of how human societies coexist in harmful and



beneficial interrelationships with microbes... The author also cautions readers about potential encounters with new microbial life forms that may occur during interplanetary space exploration. This book is readable and highly accessible for a general audience, and each chapter includes ample references. Summing Up: Recommended. All readers."

CHOICE

**Readership:** General readership interested in infectious diseases, microbiology.

324pp	May 2022	
978-1-80061-120-7(pbk)	US\$28	£25
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#### **INFLUENZA VIRUS**

The Inevitable Enemy

by **Fu Gao** (Chinese Center for Disease Control and Prevention, China) & **Huan Liu** (University of Science and Technology of China, China)

influenza virus in a light-hearted way, leading the reader to review the past from the history of the flu, the development of the flu, human immunity and health, society and the country. Through touching stories, illustrations and diagrams, it tells the great discoveries and related advances in science and technology, introduces medical knowledge related to influenza, and reviews the medical effectiveness in preventing influenza, thus displaying the ongoing battle between humans and the flu virus.

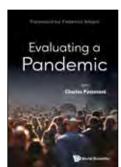
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edited by **Charles Pasternak** (Oxford International Biomedical Centre, UK)

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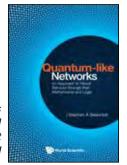
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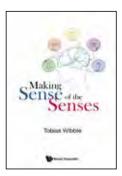
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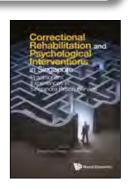
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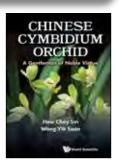
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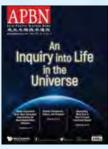
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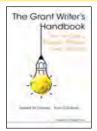


















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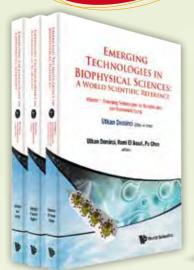
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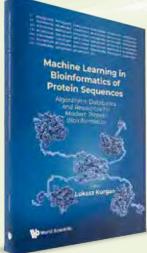
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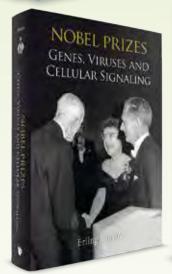
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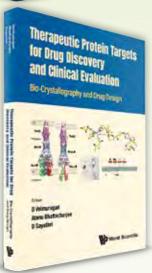
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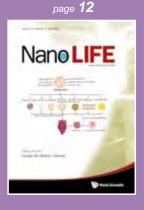


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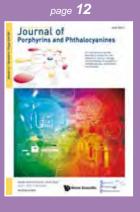
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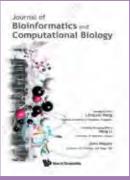
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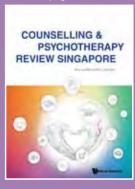
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