

CRC PRESS

Life Sciences from Garland Science to CRC Press

Welcome

From 15th December 2017, W.W Norton acquired the following Garland Science titles, along with the Garland Science brand name from Taylor and Francis.

- *Case Studies in Cancer*
- *Case Studies in Immunology*
- *Essential Cell Biology*
- *Janeway's Immunobiology*
- *Living in a Microbial World*
- *Molecular Biology of the Cell*
- *The Biology of Cancer*
- *The Immune System*
- *The Molecules of Life*

All remaining titles not divested will be retained within the Taylor & Francis portfolio. These excellent titles will be absorbed into CRC Press and be re-branded as such.

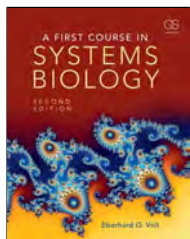
This catalogue highlights those titles published in the period 2010-2018.

Thank you for your continued interest and support for our publishing programme.

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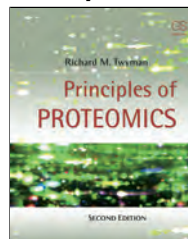
A First Course in Systems Biology



Eberhard Voit, Georgia Institute of Technology, Atlanta, USA
This book is an introduction for advanced undergraduate and graduate students to the growing field of systems biology. The book begins with the fundamentals of modelling, then reviews features of the molecular inventories that bring biological systems to life and discusses case studies that represent some of the frontiers in systems biology and synthetic biology. In this way, it provides the reader with a comprehensive background and access to methods for executing standard systems biology tasks, understanding the modern literature, and launching into specialized courses or projects that address biological questions with theoretical and computational means.

Garland Science
Market: Systems Biology
September 2017: 468pp
Pb: 978-0-815-34568-8: **£63.00**
eBook: 978-0-203-70226-0
Prev. Ed Pb: 978-0-815-34467-4
* For **full contents** and more information, visit:
www.crcpress.com

Principles of Proteomics

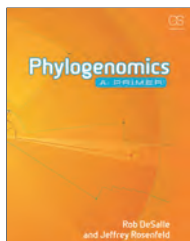


Richard Twyman, WriteScience, UK
Principles of Proteomics, Second Edition, provides a concise and user-friendly introduction to the diverse technologies used for the large-scale analysis of proteins, as well as their applications, and their impact in areas such as drug discovery, agriculture, and the fight against disease.

Garland Science
Market: Bioinformatics
September 2013: 276 x 213: 260pp
Pb: 978-0-815-34472-8: **£61.99**
eBook: 978-1-317-75302-5
* For **full contents** and more information, visit:
www.crcpress.com

Phylogenomics

A Primer



Rob DeSalle, Rob DeSalle, American Museum of Natural History, USA. and **Jeffrey Rosenfeld**, University of Medicine & Dentistry of New Jersey, NJ, USA

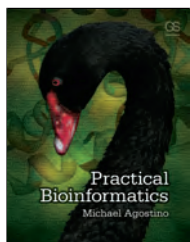
Phylogenomics introduces undergraduate and graduate students to the field of phylogenomics, the discipline that integrates evolutionary biology and genomics. The book presents an overview of the interlinking aspects of molecular biology, systematics, and bioinformatics; describes phylogenomic techniques such as PCR, CLUSTAL, and neighbor joining; and provides guidelines for navigating relevant databases such as GenBank, BLAST, and EDGAR. In a clear and readable style, it

explains the essential concepts underlying homology, sequence alignment, parsimony analysis, maximum likelihood, Bayesian inference, population genetics, genome-wide association studies, tree building, and DNA barcoding.

Garland Science
Market: Computer Science
December 2012: 279 x 216: 352pp
Pb: 978-0-815-34211-3: **£50.99**
eBook: 978-1-135-03871-7
* For **full contents** and more information, visit:
www.crcpress.com



Practical Bioinformatics



Michael Agostino, Merrimack College, USA and Pfizer Inc., USA

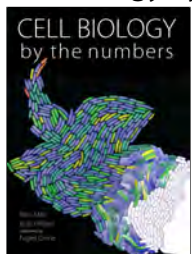
This is a first text on learning how to perform bioinformatics sequence analysis. Basic sequence analysis should be part of everyone's skill set if they are doing any form of study in a biological or medical field. Written specifically for courses that have a practical, hands-on element and contains many exercises to do as you go through the book. Concepts will be introduced and then, using biological examples, sequence analysis problems will be shown and solved. Followed by exercises for the students to attempt. No installation of software, no programming skills

or support from IT is required for the exercises, just connection to the web.

Garland Science
Market: Bioinformatics
September 2012: 372pp
Pb: 978-0-815-34456-8: **£36.99**
eBook: 978-1-134-06391-8
* For **full contents** and more information, visit:
www.crcpress.com



Cell Biology by the Numbers



Ron Milo, Weismann Institute, Israel and Rob Phillips, California Institute of Technology

A full color book written as a pocket guide and handy reference for advanced students and practitioners in molecular and cell biology, chemistry, and biophysics. It is based on the BioNumbers website, a peer-reviewed open-source database of numbers, created and curated by author Ron Milo. Well-illustrated and approximately 350 pages long, the book explores some of the key numbers for cell biology, focusing on quantities that help us to think about the sizes, concentrations, rates, energies, information content, and other numbers that describe the living world.

Garland Science

Market: Cell Biology

December 2015: 7 x 9.5: 358pp

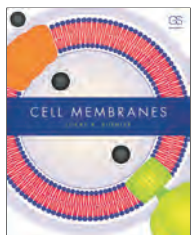
Pb: 978-0-815-34537-4: **£32.99**

eBook: 978-1-317-23069-4

* For full contents and more information, visit:

www.crcpress.com

Cell Membranes



Lukas Buehler

Cell Membranes provides a concise introduction to the structure and function of biological membranes. The book begins by explaining the composition and dynamics of cell membranes—discussing the diversity, structure, and distribution of lipids and membrane proteins and their effect on the shape and transformation of membranes. The text then explores the role of the membrane in transport, signaling, and metabolism. *Cell Membranes* is a valuable resource for advanced undergraduate students, graduate students, and professionals.

Garland Science

Market: Biology

June 2015: 400pp

Pb: 978-0-815-34196-3: **£60.99**

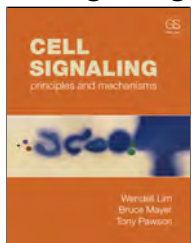
eBook: 978-1-317-33560-3

* For full contents and more information, visit:

www.crcpress.com



Cell Signaling



Wendell Lim, University of California, San Francisco, USA, Bruce Mayer, University of Connecticut Health Center, USA and Tony Pawson

Cell Signaling presents the principles and components that underlie all known signaling mechanisms. The book provides undergraduate and graduate biology students with the tools needed to make sense of the array of specific pathways used by the cell to communicate. It describes basic signaling mechanisms such as protein interactions, changes in enzyme activity, post-translational modifications, subcellular localization of signaling molecules, and small diffusible signaling mediators.

The book also explores the components of signaling pathways and how they are "wired" into pathways and circuits that can process information.

Garland Science

Market: Cell & Molecular Biology

June 2014: 279 x 216: 412pp

Pb: 978-0-815-34244-1: **£67.99**

eBook: 978-1-317-57362-3

* For full contents and more information, visit:

www.crcpress.com



Cellular Signal Processing

An Introduction to the Molecular Mechanisms of Signal Transduction



Friedrich Marks, University of Heidelberg, Germany, Ursula Klingmüller, University of Heidelberg, Germany and Karin Müller-Decker, University of Heidelberg, Germany

This book offers a unifying view of cell signaling based on the concept that protein interactions act as sophisticated data processing networks that govern intracellular and extracellular communication. It is intended for use in signal transduction courses for undergraduate and graduate students working in biology, biochemistry, bioinformatics, and pharmacology, as well as medical students. The text is organized by three key topics central to signal transduction: the protein network, its

energy supply, and its evolution. The new edition includes expanded coverage of prokaryotes, as well as new developments in systems biology, epigenetics, redox signaling, and small, non-coding RNA signaling.

Garland Science

Market: Cellular Molecular Biology

May 2017: 640pp

Pb: 978-0-815-34534-3: **£57.00**

eBook: 978-1-315-16547-9

Prev. Ed Pb: 978-0-815-34215-1

* For full contents and more information, visit:

www.crcpress.com

Genome Duplication



Melvin DePamphilis, National Institute of Child Health and Human Development, USA and Stephen D. Bell, Oxford University, UK

This comprehensive and readable overview provides an excellent starting point for undergraduate and graduate students.

Using model organisms from the three domains of life (Bacteria, Archaea, and Eukarya), *Genome Duplication* describes the principal molecular mechanisms of DNA replication and shows how the process is linked to cell division. This approach allows the authors to shed insight into how genome duplication has evolved, and how its regulation is relevant to the understanding

and treatment of human disease, especially cancer.

Garland Science

Market: Cell Biology, Biology, Genetics

October 2010: 213 x 276: 450pp

Pb: 978-0-415-44206-0: **£67.99**

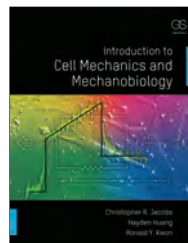
eBook: 978-1-136-73823-4

* For full contents and more information, visit:

www.crcpress.com



Introduction to Cell Mechanics and Mechanobiology



Christopher R. Jacobs, Columbia University, USA, Hayden Huang, Columbia University, USA and Ronald Y. Kwon, University of Washington, USA

Introduction to Cell Mechanics and Mechanobiology teaches a quantitative understanding of the way cells detect, modify, and respond to the physical properties within the cell environment. Coverage includes the mechanics of single molecules, polymers, polymer networks, two-dimensional membranes, whole-cell mechanics, and mechanobiology, as well as primer chapters on solid, fluid, and statistical mechanics, and cell biology.

Garland Science

Market: Cell Biology

November 2012: 279 x 216: 350pp

Pb: 978-0-815-34425-4: **£59.99**

eBook: 978-1-135-04265-3

* For full contents and more information, visit:

www.crcpress.com

Physical Biology of the Cell



Rob Phillips, California Institute of Technology, USA, Jane Kondev, Julie Theriot, Stanford School of Medicine, USA and Hernan Garcia

Physical Biology of the Cell is a textbook for a first course in physical biology or biophysics for undergraduate or graduate students. It maps the huge and complex landscape of cell and molecular biology from the distinct perspective of physical biology. As a key organizing principle, the proximity of topics is based on the physical concepts that unite a given set of biological phenomena. The Second Edition features full-color illustrations throughout, two new chapters, a significantly

expanded set of end-of-chapter problems, and is available in a variety of e-book formats.

Garland Science

Market: Biophysics

October 2012: 1058pp

Pb: 978-0-815-34450-6: £71.99

eBook: 978-1-134-11158-9

Prev. Ed Pb: 978-0-815-34163-5

* For full contents and more information, visit:

www.crcpress.com

Understanding Cancer

McIntosh, J. Richard

A full color undergraduate textbook that explains the biological processes that underlie cancer and inform our treatment of it, all while showing the human face of the disease. It is written for a one-semester course on cancer biology primarily taken by second and third year undergraduates, including, but not limited to, those majoring in the life sciences. This text is born of the author's personal experiences, both in life and behind the microscope. McIntosh presents stories of people touched by cancer, while maintaining precision about what is known and still unknown about cancer's onset and development, its prognosis, and current methods of treatment.

Garland Science

November 2018

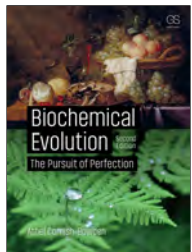
Pb: 978-0-815-34535-0: £55.00

* For full contents and more information, visit:

www.crcpress.com

Biochemical Evolution

The Pursuit of Perfection



Athel Cornish-Bowden

Biochemical Evolution: The Pursuit of Perfection, Second Edition describes the relationship between biochemistry and evolutionary biology, arguing that each depends on the other to be properly understood.

Garland Science

Market: Biochemistry

July 2016: 7 x 9.5: 282pp

Pb: 978-0-815-34552-7: **£33.99**

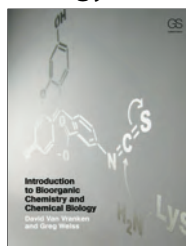
eBook: 978-1-315-45316-3

* For **full contents** and more information, visit:

www.crcpress.com



Introduction to Bioorganic Chemistry and Chemical Biology



David Van Vranken, University of California, Irvine, USA and **Gregory A. Weiss**, University of California, Irvine, USA

This textbook uniquely blends the modern tools of organic chemistry with concepts of biology, physiology, and medicine. With a focus on human cell biology and using a problems-driven approach, the text explains the combinatorial architecture of bioligomers (genes, DNA, RNA, proteins, glycans, lipids, and terpenes) as the molecular engine for life. Accentuated by descriptions of mechanistic arrow pushing and rich illustrations, organic chemistry is used to illuminate the central dogma of molecular biology. The text contains more than 300 problems

to test assimilation or the material.

Garland Science

Market: Biochemistry

November 2012: 504pp

Pb: 978-0-815-34214-4: **£60.99**

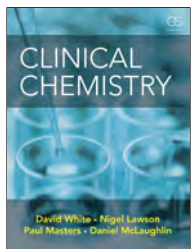
eBook: 978-1-135-05482-3

eBook: 978-0-203-38109-0

* For **full contents** and more information, visit:

www.crcpress.com

Clinical Chemistry



David White, University of Nottingham, UK, **Nigel Lawson**, Derby City General Hospital, UK, **Paul Masters**, Chesterfield Royal Hospital NHS Foundation Trust, UK and **Daniel McLaughlin**, Durham University, UK

Clinical Chemistry is a comprehensive textbook covering the area of medical science variously known as chemical pathology, clinical chemistry, medical biochemistry and clinical biochemistry. The biochemical processes and physiological interrelationships of tissues, organs, and molecules are discussed in the context of disease processes and related to the diagnosis, monitoring, and management of disease. Also included are analytical processes, such as immunoassay, and how these relate to clinical practice. The increasing use of molecular biology and genetics techniques in the investigation of disease is acknowledged also by appropriate inclusion of these disciplines in a number of chapters.

Garland Science

Market: Pathology

September 2016: 592pp

Pb: 978-0-815-36510-5: **£62.99**

eBook: 978-1-315-39234-9

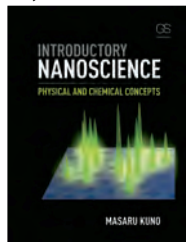
* For **full contents** and more information, visit:

www.crcpress.com



Introductory Nanoscience

Physical and Chemical Concepts



Masaru Kuno

Designed for students at the senior undergraduate and first-year graduate level, *Introductory Nanoscience* takes a quantitative approach to describing the physical and chemical principles behind what makes nanostructures so fascinating. This textbook provides a foundation for understanding how properties of materials change when scaled to nano-size, explaining how we may predict behavior and functionality.

Garland Science

Market: Chemistry

August 2011: 279 x 216: 420pp

Pb: 978-0-815-34424-7: **£55.99**

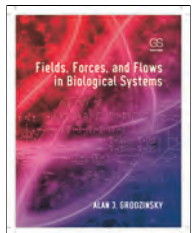
eBook: 978-1-136-66528-8

* For **full contents** and more information, visit:

www.crcpress.com



Fields, Forces, and Flows in Biological Systems



Alan J Grodzinsky, MIT, USA

Fields, Forces, and Flows in Biological Systems describes the fundamental driving forces for mass transport, electric current, and fluid flow as they apply to the biology and biophysics of molecules, cells, tissues, and organs. Basic mathematical and engineering tools are presented in the context of biology and physiology.

This textbook is written for advanced undergraduate and graduate students in biological and biomedical engineering and will be a valuable resource for interdisciplinary researchers.

Garland Science

Market: Biophysics

March 2011: 279 x 216: 308pp

Hb: 978-0-815-34212-0: **£67.99**

eBook: 978-1-136-66556-1

* For **full contents** and more information, visit:

www.crcpress.com



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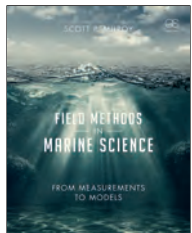
New in Paperback



Companion Website

Field Methods in Marine Science

From Measurements to Models



Scott Milroy, Associate Professor at University of Southern Mississippi, USA

Field Methods in Marine Science: From Measurements to Models is an authoritative guide to the methods most appropriate for field research within the marine sciences, from experimental design to data analysis. Written for upper-level undergraduate and graduate students as well as early-career researchers, this textbook also serves as an accessible introduction to the concepts and practice of modeling marine system dynamics. It trains the next generation of field scientists to move beyond the classic methods of data collection and statistical analysis to

contemporary methods of numerical modeling; to pursue the assimilation and synthesis of information, not the mere recording of data.

Garland Science

Market: Marine Science

October 2015; 276x213; 288pp

Pb: 978-0-815-34476-6: **£50.99**

eBook: 978-1-317-30229-2

* For **full contents** and more information, visit:

www.crcpress.com



Instant Notes in Sport and Exercise Biomechanics

Second Edition

Paul Grimshaw, University of Adelaide, Australia, **Michael Cole**, Australian Catholic University, Australia, **Adrian Burden**, Manchester Metropolitan University, UK and **Neil Fowler**, Manchester Metropolitan University, UK

This is the clearest and most straightforward biomechanics textbook currently available. It breaks down a challenging subject into short thematic chapters, enabling students to grasp each topic quickly and easily, providing a flexible resource that can support any introductory course. Now in a fully revised and updated new edition, it has been significantly expanded with 15 completely new sections covering topics such as new measurement technologies, modelling and simulation, the use of Matlab and Excel in biomechanics, and the best biomechanics apps. A new companion website includes a test bank, downloadable illustrations and suggestions for lab-based sessions for lecturers.

Garland Science

Market: Sport and Exercise Science

December 2018; 448pp

Hb: 978-1-138-64023-8: **£110.00**

Pb: 978-1-138-64024-5: **£32.99**

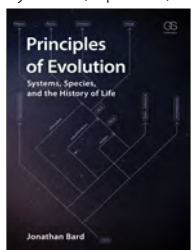
eBook: 978-1-315-63676-4

* For **full contents** and more information, visit:

www.crcpress.com

Principles of Evolution

Systems, Species, and the History of Life



Jonathan Bard, University of Oxford, UK

Principles of Evolution considers evolution in the context of systems biology, a contemporary approach for handling biological complexity.

Understanding evolution means, on the one hand, describing the history of life and, on the other, making sense of the principles that drove that history. The solution adopted here is to make the science of evolution the primary focus of the book and place the various parts of the history of life in the context of the research that unpicks it. *Principles of Evolution* will therefore be an interesting and thought-provoking read for honors-level

undergraduates, and graduates working in the biological sciences.

Garland Science

Market: Evolution

September 2016; 246x174; 376pp

Pb: 978-0-815-34539-8: **£54.99**

eBook: 978-1-315-22798-6

* For **full contents** and more information, visit:

www.crcpress.com



Biology of Aging



Roger B. McDonald, Univ. of CA

This volume presents the biological principles that have led to a new understanding of the human experience of biological aging, longevity, and age-related disease. It describes how the rate of biological aging is measured, explores the mechanisms underlying cellular aging, and discusses the genetic pathways that affect longevity in various organisms. It also outlines the normal age-related changes and the functional decline that occurs in physiological systems over the lifespan and considers the implications of modulating the rate of aging and longevity. The book includes end-of-chapter discussion questions to help

students assess their knowledge of the material.

Garland Science

Market: Developmental Biology

July 2013: 279 x 216: 360pp

Pb: 978-0-815-34213-7: **£51.99**

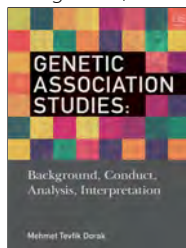
eBook: 978-1-317-97082-8

* For full contents and more information, visit:

www.crcpress.com

Genetic Association Studies

Background, Conduct, Analysis, Interpretation



Mehmet Tevfik Dorak, Liverpool Hope University, UK

Genetic Association Studies is designed for students of public health, epidemiology, and the health sciences who need a non-mathematical introduction to genetic epidemiology. It provides a multi-faceted approach to genetic association studies covering molecular genetics, epidemiology, and statistics as a foundation for genetic associations. Both candidate gene and genome-wide studies are included as well as bioinformatics approaches to the interpretation of results.

Garland Science

Market: Epidemiology

September 2016: 246 x 174: 230pp

Pb: 978-0-815-34463-6: **£54.99**

eBook: 978-1-315-20936-4

* For full contents and more information, visit:

www.crcpress.com

BIOS Instant Notes in Genetics



Hugh Fletcher, Queen's University Belfast, UK and Ivor Hickey, St. Mary's University College, UK

Series: *Instant Notes*

BIOS Instant Notes in Genetics, 4th edition, is the perfect text for undergraduates looking for a concise introduction to the subject, or a study guide to use before examinations. Each topic begins with a summary of essential facts—an ideal revision checklist—followed by a description of the subject that focuses on core information, with clear, simple diagrams that are easy for students to understand and recall in essays and exams.

Garland Science

Market: Genetics

May 2012: 246x174: 392pp

Pb: 978-0-415-69314-1: **£25.99**

eBook: 978-0-203-07949-2

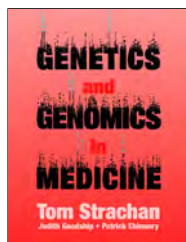
eBook: 978-1-136-16034-9

Prev. Ed Pb: 978-0-415-37619-8

* For full contents and more information, visit:

www.crcpress.com

Genetics and Genomics in Medicine



Tom Strachan, Newcastle University, UK, Judith Goodship, Newcastle University, UK and Patrick Chinnery, Newcastle University, UK

This new textbook explains the science behind the uses of genetics and genomics in medicine today. It is not just about rare inherited and chromosomal disorders, but how genetics affects the whole spectrum of human health and disease. DNA technologies are explained, with emphasis on the modern techniques that have revolutionized the use of genetic information in medicine and are indicating the role of genetics in common diseases. Other new advances, such as the role of

epigenetics and non-coding RNA are given in-depth coverage. The discussion on genetic approaches to treatment includes pharmacogenomics and the prospects for personalized medicine. Cancers are essentially genetic diseases and are given a dedicated chapter that includes new insights from cancer genome sequencing. The final chapter on genetic testing and ethics also covers important developments in clinical and public health genomics.

Garland Science

Market: Genetics

June 2014: 526pp

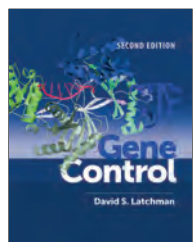
Pb: 978-0-815-34480-3: **£65.99**

eBook: 978-1-317-59430-7

* For full contents and more information, visit:

www.crcpress.com

Gene Control



David Latchman, Birkbeck, University of London, UK

The new edition of *Gene Control* has been updated to include significant advances in the roles of the epigenome and regulatory RNAs in gene regulation. The chapter structure remains the same: the first part consists of pairs of chapters that explain the mechanisms involved and how they regulate gene expression, and the second part deals with specific biological processes (including diseases) and how they are controlled by genes. Coverage of methodology has been strengthened by the inclusion more explanation and diagrams.

Garland Science

Market: Cell Biology, Genetics

February 2015: 276 x 213: 500pp

Pb: 978-0-815-34503-9: **£68.99**

eBook: 978-1-317-40775-1

Prev. Ed Pb: 978-0-815-36513-6

* For full contents and more information, visit:

www.crcpress.com

Genetics of Complex Disease



Peter Donaldson, Ann Daly, Luca Ermini, University of Copenhagen and Debra Bevitt

Genetics of Complex Disease is a concise text for final year undergraduate and first year graduate students. Healthcare professionals and other biomedical scientists trying to come to grips with the impact of new genetics research will also find the book useful. After explaining genetic variation and defining complex diseases, the text shows how and why complex diseases are investigated. The focus then changes to areas where there is strong evidence for the genes/alleles involved. Important ethical consequences are also covered, as are the methods used to generate new genetic data.

Garland Science

Market: Genetics

August 2015: 246 x 174: 450pp

Pb: 978-0-815-34491-9: **£55.99**

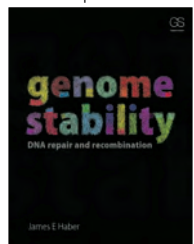
eBook: 978-1-317-33425-5

* For full contents and more information, visit:

www.crcpress.com

Genome Stability

DNA Repair and Recombination



James Haber

Genome Stability: DNA Repair and Recombination describes the various mechanisms of repairing DNA damage by recombination, most notably the repair of chromosomal breaks. The text presents a definitive history of the evolution of molecular models of DNA repair, emphasizing current research. The book introduces the central players in recombination. An overview of the four major pathways of homologous recombinational repair is followed by a description of the several mechanisms of nonhomologous end-joining. Designed as a textbook for advanced undergraduate and graduate students with a

molecular biology and genetics background, researchers and practitioners, especially in cancer biology, will also appreciate the book as a reference.

Garland Science

December 2013: 279 x 216

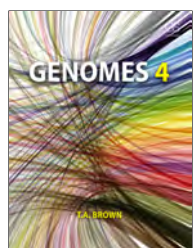
Pb: 978-0-815-34485-8: **£64.99**

eBook: 978-1-317-68231-8

* For full contents and more information, visit:

www.crcpress.com

Genomes 4



T. A. Brown, University of Manchester, UK

The 4th edition of *Genomes* has been completely revised and updated to make it a thoroughly modern textbook about genomes and how they are investigated. As with the 3rd edition, techniques come first, then genome anatomies, followed by genome function, and finally genome evolution. The genomes of all types of organism are covered making *Genomes 4* is the ideal text for upper level courses focused on genomes and genomics.

Garland Science

Market: Genetics

May 2017: 524pp

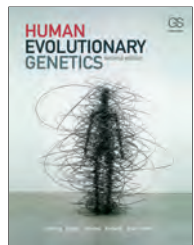
Pb: 978-0-815-34508-4: **£57.00**

eBook: 978-1-315-22682-8

* For full contents and more information, visit:

www.crcpress.com

Human Evolutionary Genetics



Mark Jobling, University of Leicester, UK, **Edward Hollox**, University of Leicester, UK, **Toomas Kivisild**, University of Cambridge, UK and **Chris Tyler-Smith**, The Wellcome Trust Sanger Institute, UK

Now in full color, this new edition of *Human Evolutionary Genetics* has been brought up-to-date with the many advances and discoveries made since the publication of the highly regarded first edition. The focus of the book is human genetic diversity: the mechanisms that generate it, how we study it, its implications in evolution, and its implications today. It will be an invaluable resource for anyone studying human evolution, genetic variation,

population genetics, and biological anthropology.

Garland Science

Market: Undergraduates studying human genetics, anthropology, human evolution and population genetics.

June 2013: 650pp

Pb: 978-0-815-34148-2: **£66.99**

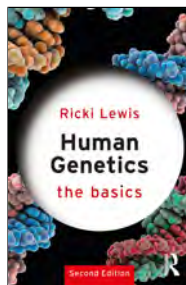
eBook: 978-1-317-95226-8

Prev. Ed Pb: 978-0-815-34185-7

* For full contents and more information, visit:

www.crcpress.com

Human Genetics: The Basics



Ricki Lewis

Series: The Basics

Human genetics has blossomed from an obscure biological science and explanation for rare disorders to a field that is profoundly altering health care for everyone. This thoroughly updated new edition of *Human Genetics: The Basics* provides a concise background of gene structure and function through the lens of real examples, from families living with inherited diseases to population-wide efforts in which millions of average people are learning about their genetic selves. Written in an engaging, narrative manner, this concise introduction is an ideal starting point for anyone who wants to know more about genes, DNA, genomes, and the genetic ties that bind us all.

Garland Science

Market: Human Genetics

December 2016: 198x129: 192pp

Hb: 978-1-138-66800-3: **£83.99**

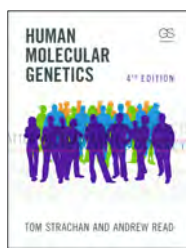
Pb: 978-1-138-66801-0: **£17.99**

eBook: 978-1-315-40698-5

* For full contents and more information, visit:

www.crcpress.com

Human Molecular Genetics



Tom Strachan, Newcastle University, UK and **Andrew Read**, University of Manchester, UK

The Fourth Edition of *Human Molecular Genetics* maintains the rigour and depth of previous editions and has added key concepts at the start of each chapter and annotated further reading at the end of each chapter to help readers navigate the mass of information available. The text has been restructured so genomic technologies are integrated into the text. A new section that concentrates on genetic testing, screening, and disease models has been added, and information on stem cells, cell senescence/immortalization, cell signalling, epigenetics,

studying gene function, and model organisms expanded. It remains an invaluable resource to upper level undergraduates, graduates, instructors, and researchers.

Garland Science

Market: Genetics

April 2010: 782pp

Pb: 978-0-815-34149-9: **£72.99**

eBook: 978-1-136-84407-2

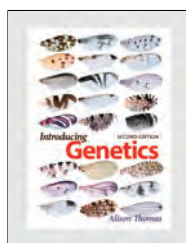
Prev. Ed Pb: 978-0-815-34184-0

* For full contents and more information, visit:

www.crcpress.com

Introducing Genetics

From Mendel to Molecules



Alison Thomas, Anglia Ruskin University, UK

Like its predecessor, the new edition of *Introducing Genetics* is an accessible introduction to genetics from first principles to recent developments. It covers the three key areas of genetics: Mendelian, molecular and population and will be easily understood by first and foundation year students in the biological sciences.

Garland Science

Market: Genetics

December 2014: 246x174: 262pp

Pb: 978-0-815-34509-1: **£25.99**

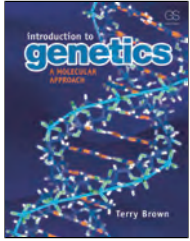
eBook: 978-1-317-41726-2

Prev. Ed Pb: 978-0-748-76440-2

* For full contents and more information, visit:

www.crcpress.com

Introduction to Genetics: A Molecular Approach



T A Brown

Introduction to Genetics: A Molecular Approach is a new textbook for first and second year undergraduates. It first presents molecular structures and mechanisms before introducing the more challenging concepts and terminology associated with transmission genetics.

Garland Science

Market: Genetics

August 2011: 212 x 276: 554pp

Pb: 978-0-815-36509-9: **£61.99**

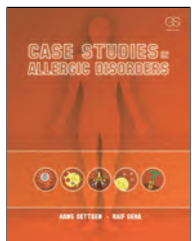
eBook: 978-1-136-66535-6

* For full contents and more information, visit:

www.crcpress.com



Case Studies in Allergic Disorders



Hans Oettgen and Raif Geha, Harvard Medical School, Children's Hospital Boston

Case Studies in Allergic Disorders describes the basic cellular and molecular mechanisms involved in the pathogenesis of commonly occurring allergic diseases and introduces the rationale for targeted intervention in these mechanisms in the treatment of allergy. Replicating the successful approach of *Case Studies in Immunology*, the book presents mechanisms of hypersensitivity through a selection of clinical cases that reinforce and extend the basic science. The cases are largely drawn from the records of Children's Hospital Boston. Linking the discussion

of pathogenesis to actual clinical presentation establishes important connections between the bench and bedside.

Garland Science

Market: Immunology

December 2012: 279 x 216: 176pp

Pb: 978-0-815-34436-0: **£36.99**

eBook: 978-1-135-01285-4

* For full contents and more information, visit:

www.crcpress.com



Principles of Mucosal Immunology



Society for Mucosal Immunology, Phillip D. Smith, University of Alabama at Birmingham, USA, Thomas T.

MacDonald, Barts and the London School of Medicine & Dentistry, UK and Richard S. Blumberg, Brigham & Women's Hospital, Harvard Medical School, USA

Mucosal Immunology presents the basic and clinical aspects of the mucosal immune system, focusing on the major components of the mucosal barrier—the gastrointestinal, upper and lower respiratory, ocular, and genitourinary mucosal immune systems. Topics include the development and structure of the mucosal immune system and its cellular constituents, host-microbe

relationships, mucosal diseases, and vaccines. The book is intended for advanced undergraduate and graduate students in immunology and microbiology, medical students, and dental students.

Garland Science

Market: Immunology

April 2012: 279 x 216: 512pp

Pb: 978-0-815-34443-8: **£59.99**

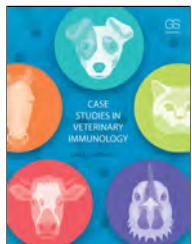
eBook: 978-1-136-66514-1

* For full contents and more information, visit:

www.crcpress.com



Case Studies in Veterinary Immunology



Laurel Gershwin

Case Studies in Veterinary Immunology introduces basic immunological concepts in the context of actual cases seen in clinics. Thirty-one case studies featuring a variety of species (canine, feline, equine, bovine, and avian) are used to explore the key aspects of innate and adaptive immunity, the regulation of the immune response, and the mechanisms underlying various immunological disease processes. The book is intended for veterinary medicine students, interns, residents, and veterinarians and also serves as a valuable supplement to core immunology textbooks.

Garland Science

Market: Veterinary Medicine

May 2017: 198pp

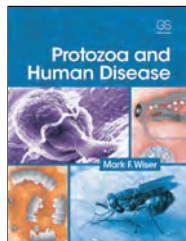
Pb: 978-0-815-34447-6: **£37.00**

eBook: 978-1-315-16546-2

* For full contents and more information, visit:

www.crcpress.com

Protozoa and Human Disease



Mark F. Wiser, Tulane University, USA

Protozoa and Human Disease is a textbook on medically important protozoa and the diseases they cause for advanced undergraduate students, graduate students, and professionals. It combines a taxonomic and medical approach and is therefore suitable for a parasitology, microbiology, medical, and public health readership. In addition to the basics such as morphological features, life cycles, and the clinical manifestations of the diseases, topics like the molecular and immunological basis of pathogenesis, metabolic pathways, specialized subcellular structures, ecology of disease transmission, antigenic variation, and molecular epidemiology are discussed for many of the protozoan pathogens. At the end of the book is an extensive glossary of molecular biology, immunology, and medical terms.

Garland Science

Market: Microbiology

November 2010: 210 x 275: 300pp

Pb: 978-0-815-36500-6: **£50.99**

eBook: 978-1-136-73816-6

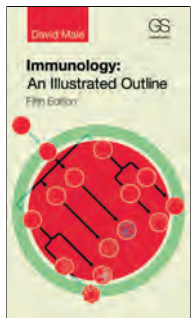
* For full contents and more information, visit:

www.crcpress.com



Immunology

An Illustrated Outline



David Male, Department of Life, Health & Chemical Sciences, The Open University, Milton Keynes, UK

This volume is both a review guide to the essential principles of immunology and a concise dictionary of immunological terms. It can be used to prepare for course exams and medical licensing exams or as a refresher when this content is encountered in related life science areas, such as microbiology and virology. The book enables readers to look up specific terms in the index and locate the definitions, making it a powerful reference for interns, residents, and physicians in clinical practice. Full color illustrations visually reinforce the succinct text.

Garland Science

Market: Immunology

July 2013: 108 x 191: 146pp

Pb: 978-0-815-34501-5: **£18.99**

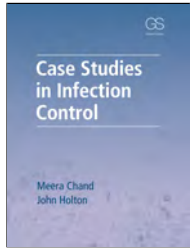
eBook: 978-1-134-58921-0

* For full contents and more information, visit:

www.crcpress.com



Case Studies in Infection Control



Meera Chand, Health Protection Agency, London, UK and **John Holton**, Public Health England, UK

Case Studies in Infection Control has 25 cases, each focusing on an infectious disease, which illustrate the critical aspects of infection control and prevention. Although brief comments are included in relation to the organism, diagnosis, and treatment the main emphasis is on the case, its epidemiology, and how the situation should be managed from the perspective of infection control and prevention. Each case also has multiple choice questions and answers as well as listing guidelines and references.

Garland Science

Market: Infection control

January 2018: 246x174: 300pp

Pb: 978-0-815-34517-6: **£41.00**

eBook: 978-0-203-73331-8

* For full contents and more information, visit:

www.crcpress.com

Marine Microbiology

Ecology & Applications



Colin Munn, University of Plymouth, UK

Marine Microbiology is divided into three sections: the first reviews the main features of the marine environment and key aspects of marine microbial life; the second looks at the role of marine microorganisms in ecology, and the final section considers some of the applications of this knowledge, looking into areas such as disease and biodegradation.

Garland Science

Market: Undergraduate, postgraduate and research students studying marine biology or microbiology.

April 2011: 374pp

Pb: 978-0-815-36517-4: **£59.99**

eBook: 978-1-136-66752-7

* For full contents and more information, visit:

www.crcpress.com

Microbiology

A Clinical Approach



Anthony Strelkauskas, Trident Technical College, South Carolina, USA, **Angela Edwards**, Trident Technical college, US, **Beatrix Fahnert**, Cardiff University, UK, **Greg Pryor**, Francis Marion University, US and **Jennifer Strelkauskas**, Practicing Veterinarian, Oregon and Washington, USA

As with the successful first edition, the new edition of *Microbiology: A Clinical Approach* is written specifically for pre-nursing and allied health students. It is clinically-relevant throughout and uses the theme of infection as its foundation. In addition to the robust ancillary package for instructors which easily allows them to incorporate the book's unique approach

into their lectures, a new online homework platform will be made available separately.

Garland Science

Market: Microbiology

July 2015

Pb: 978-0-815-34513-8: **£64.99**

Pb: 978-0-815-34575-6: **£72.99**

eBook: 978-1-317-33419-4

Prev. Ed Pb: 978-0-815-36514-3

* For full contents and more information, visit:

www.crcpress.com

Molecular and Cellular Biology of Viruses

Phoebe Lostroh, Colorado College, USA

Cellular and Molecular Biology of Viruses is a new undergraduate textbook focusing on how viruses interact with host cells at a molecular level. Coverage of molecular mechanisms is rigorous but not overwhelming, making the text suitable for students to read before class.

Garland Science

Market: Microbiology

February 2018: 279 x 216: 500pp

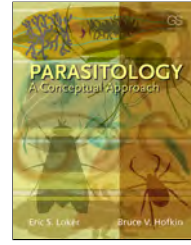
Pb: 978-0-815-34523-7: **£46.99**

* For full contents and more information, visit:

www.crcpress.com

Parasitology

A Conceptual Approach



Eric S Loker, University of New Mexico and **Bruce Hofkin**, University of New Mexico, USA

Parasitology: A Conceptual Approach is a new textbook for upper-level undergraduate and graduate students which focuses on concepts and principles without neglecting important aspects of a traditional, taxonomically based approach to parasitology. Concentrating on concepts enables readers to gain a broader perspective that will increase their ability to think critically about various parasitic associations. The interfaces between the study of parasitism and prominent biological disciplines such as biodiversity, immunology, ecology, evolution,

conservation biology, and disease control are highlighted. End-of-chapter questions are provided, as is an Instructor Manual.

Garland Science

Market: Parasitology / Microbiology

March 2015: 276 x 213: 550pp

Pb: 978-0-815-34473-5: **£68.99**

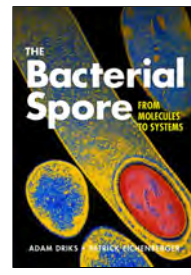
eBook: 978-1-317-40772-0

* For full contents and more information, visit:

www.crcpress.com



The Bacterial Spore



Edited by **Adam Driks**, Loyola University Medical Center and **Patrick Eichenberger**, New York University, USA

Presents a broad-based overview of spore biology, providing in-depth coverage of basic and applied areas of spore research. Chapters focus on important general topics as well as specialized research areas, including broad reviews of especially important topics, such as spore molecular biology, bioremediation, issues in biodefense, and food safety.

Garland Science

Market: Microbiology

July 2016: 279 x 216: 397pp

Hb: 978-1-555-81675-9: **£80.99**

* For full contents and more information, visit:

www.crcpress.com

The Human Microbiota in Health and Disease

An Ecological and Community-based Approach

Mike Wilson, UCL Eastman Dental Institute, UK

This book describes the various microbial communities (microbiota) inhabiting humans as well as their important roles in human health and disease. It is aimed at senior undergraduates and graduates whose courses include a module on the indigenous microbiota of humans. It will also be useful to professional scientists, clinicians, and others who are keen to know more about the human microbiota and its role in health and disease.

Garland Science

Market: Microbiology

November 2018: 213 x 276: 420pp

Pb: 978-0-815-34585-5: **£49.99**

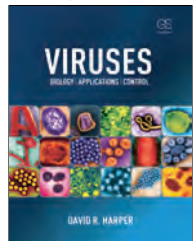
* For full contents and more information, visit:

www.crcpress.com



Viruses

Biology, Applications, and Control



David R Harper, Biocontrol Limited, UK

Viruses: Biology, Application, and Control is a concise advanced undergraduate and graduate textbook covering the essential aspects of virology included in biomedical science courses. It is an updated and expanded version of David Harper's Molecular Virology 2e from the Medical Perspectives series.

Garland Science

Market: Virology or Microbiology

June 2011: 276 x 213: 346pp

Pb: 978-0-815-34150-5: **£59.99**

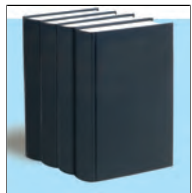
eBook: 978-1-136-66542-4

* For full contents and more information, visit:

www.crcpress.com



Epigenetics



Lyle Armstrong, University of Newcastle-upon-Tyne, UK
Epigenetics is a new textbook that brings together the structure and machinery of epigenetic modification, how epigenetic modification controls cellular functions, and the evidence for the relationship between epigenetics and disease. It is a valuable source of information about all aspects of the subject for undergraduate students, graduate students, and professionals.

Garland Science

Market: Genetics

November 2013: 212x276: 300pp

Pb: 978-0-815-36511-2: **£59.99**

eBook: 978-1-317-68315-5

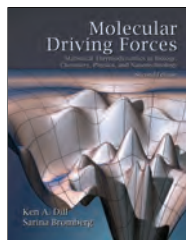
* For full contents and more information, visit:

www.crcpress.com



Molecular Driving Forces

Statistical Thermodynamics in Biology, Chemistry, Physics, and Nanoscience



Ken Dill, University of California, San Francisco, USA and
Sarina Bromberg, Pescadero, California, USA

Molecular Driving Forces, Second Edition is an introductory statistical thermodynamics text that describes the principles and forces that drive chemical and biological processes. The second edition includes an additional chapter on thermodynamics and two new chapters: (1) "Microscopic Dynamics" which explores single molecule experiments; and (2) "Bio and Nano Machines" which describes the workings of biological molecules including proteins and DNA.

Garland Science

Market: Chemistry, Chemical Engineering, Materials Science, and Biophysics

October 2010: 784pp

Pb: 978-0-815-34430-8: **£67.99**

eBook: 978-0-203-80907-5

eBook: 978-1-136-67299-6

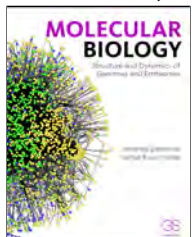
Prev. Ed Pb: 978-0-815-32051-7

* For full contents and more information, visit:

www.crcpress.com

Molecular Biology

Structure and Dynamics of Genomes and Proteomes



Jordanka Zlatanova, Department of Molecular Biology, University of Wyoming and **Kensal E. van Holde**, Department of Biochemistry and Biophysics, Oregon State University

Molecular Biology: Structure and Dynamics of Genomes and Proteomes illustrates the essential principles behind the transmission and expression of genetic information at the level of DNA, RNA, and proteins. This textbook emphasizes the experimental basis of discovery and the most recent advances in the field in presenting a structural, mechanistic understanding of molecular biology that is rigorous, yet concise. The text is

written for a one- or two-term advanced undergraduate/graduate-level course in molecular biology.

Garland Science

Market: Biology

November 2015: 279 x 216: 648pp

Pb: 978-0-815-34504-6: **£65.99**

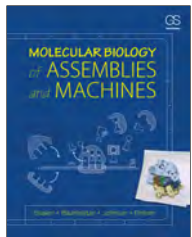
eBook: 978-1-317-63322-8

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Molecular Biology of Assemblies and Machines



Alasdair Steven, **Wolfgang Baumeister**, **Louise N. Johnson**, University of Oxford and **Richard N. Perham**, University of Cambridge, United Kingdom Univ. of Cambridge

Molecular Biology of Assemblies and Machines provides a comprehensive narrative of the ways in which macromolecular structures assemble and how they interact with other complexes and organelles in the cell. Richly illustrated in full color, the text is written for advanced undergraduates, graduate students, and researchers in biochemistry, molecular biology, biophysics, cell biology, chemistry, structural biology, immunology, microbiology, and medicine.

Garland Science

Market: Biochemistry

February 2016: 852pp

Hb: 978-0-815-34166-6: **£76.99**

eBook: 978-1-134-98282-0

* For full contents and more information, visit:

www.crcpress.com



Developmental Neurobiology



Lynne Bianchi, Author of forthcoming Introduction to Developmental Neurobiology

Developmental Neurobiology tells the extraordinary process of neural development by showing how the scientific discoveries were made and how the hypotheses evolved over time. Each chapter explores the specific mechanisms of development while highlighting the key experiments and methods used to make those discoveries. This distinctive approach provides the essential facts while strengthening the reader's appreciation of the scientific method. Discussions of neurodevelopmental disorders and therapeutic approaches to them will captivate those

interested in the more clinical aspects of the field.

Garland Science

Market: Neuroscience

October 2017: 346pp

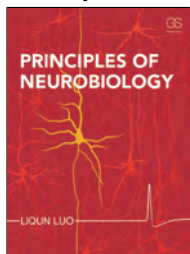
Pb: 978-0-815-34482-7: £48.00

eBook: 978-1-351-18947-7

* For full contents and more information, visit:

www.crcpress.com

Principles of Neurobiology



Liqun Luo, Professor of Biology and Professor of Neurobiology, Department of Biology, at Stanford University

Principles of Neurobiology presents the major concepts of neuroscience with an emphasis on how we know what we know. The text is organized around a series of key experiments to illustrate how scientific progress is made and helps upper-level undergraduate and graduate students discover the relevant primary literature. Written by a single author in a clear and consistent writing style, each topic builds in complexity from electrophysiology to molecular genetics to systems level in a highly integrative approach. Students can fully engage with the content via thematically linked chapters and will be able to read

the book in its entirety in a semester-long course.

Garland Science

July 2015: 672pp

Hb: 978-0-815-34492-6: £110.00

Pb: 978-0-815-34494-0: £64.99

Pb: 978-0-815-34580-0: £72.99

eBook: 978-1-317-55383-0

* For full contents and more information, visit:

www.crcpress.com



Environmental Plant Physiology



Neil Willey

Environmental Plant Physiology focuses on the physiology of plant-environment interactions, revealing plants as the key terrestrial intersection of the biosphere, atmosphere, hydrosphere and geosphere. It provides a contemporary understanding of the topic by focusing on some of humankind's fundamental biological, agricultural and environmental challenges. Its chapters identify thirteen key environmental variables, grouping them into resources, stressors and pollutants, and leading the reader through how they challenge plants and how plants respond at molecular, physiological, whole plant

and ecological levels.

Garland Science

Market: Plant Biology

January 2016: 276 x 213: 320pp

Pb: 978-0-815-34469-8: **£47.99**

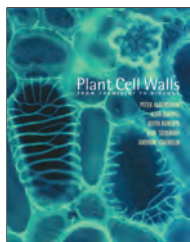
eBook: 978-1-317-20623-1

* For **full contents** and more information, visit:

www.crcpress.com



Plant Cell Walls



Peter Albersheim, Complex Carbohydrate Research Center, University of Georgia, USA, **Alan Darvill**, CCRC, University of Georgia, USA, **Keith Roberts**, Emeritus Professor, University of East Anglia, **Ron Sederoff**, North Carolina State University, USA and **Andrew Staehelin**, University of Colorado, USA

Plant cell walls are complex, dynamic cellular structures essential for plant growth, development, physiology and adaptation. *Plant Cell Walls* provides an in depth and diverse view of the microanatomy, biosynthesis and molecular physiology of these cellular structures, both in the life of the plant and in their use for bioproducts and biofuels. ; ; *Plant Cell Walls* is a textbook for

upper-level undergraduates and graduate students, as well as a professional-level reference book. Over 350 drawings, micrographs, and photographs provide visual insight into the latest research, as well as the uses of plant cell walls in everyday life, and their applications in biotechnology. Illustrated panels concisely review research methods and tools; a list of key terms is given at the end of each chapter; and extensive references organized by concept heading provide readers with guidance for entry into plant cell wall literature.

Garland Science

Market: Plant Biology

April 2010: 279 x 216: 430pp

Hb: 978-0-815-31996-2: **£80.99**

eBook: 978-1-136-84358-7

* For **full contents** and more information, visit:

www.crcpress.com



Plant Pathology



Stephen Burchett, University of Plymouth, UK and **Sarah Burchett**, University of Plymouth, UK

Plant Pathology explores the topic of plant pathology and aligns classic studies and knowledge in the topic with the current state of research. The text is supported by schematic diagrams to reinforce difficult concepts such as the process of disease infection, cell-to-cell recognition, and plant breeding mechanisms used to develop resistant cultivars.

The compendium of diseases focuses on important economic disease organisms from different crops and includes a dedicated section on fruit crops. The compendium is supported by original

photos and micrographs of key pathogens, the development of pathogen structures, and the processes of cellular degradation.

Garland Science

Market: Plant Science

January 2018: 234pp

Pb: 978-0-815-34483-4: **£44.00**

eBook: 978-1-315-14492-4

* For **full contents** and more information, visit:

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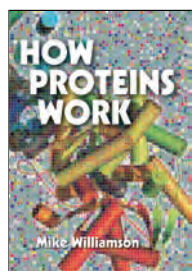


New in Paperback



Companion Website

How Proteins Work



Mike Williamson

How Proteins Work explains protein function in living systems within the governing parameters of physics, chemistry, and evolution. Written for advanced undergraduates, early graduate students, and practitioners, this textbook provides an integrated view of proteins at both a cellular and systemic level. Numerous examples from biology and end-of-chapter problems are presented.

Garland Science

Market: Structural Biology

July 2011: 279 x 216: 464pp

Pb: 978-0-815-34446-9: **£61.99**

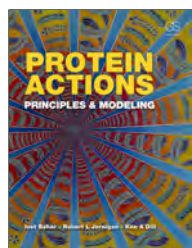
eBook: 978-1-136-66549-3

* For full contents and more information, visit:

www.crcpress.com

Protein Actions

Principles and Modeling



Ivet Bahar, Robert L. Jernigan and Ken A. Dill

Protein Actions: Principles and Modeling describes the basic principles of protein molecules—their structures; their folding, binding and aggregation; their dynamics and mechanisms; and their evolution—as well as the methods of modeling them, including bioinformatics, physics-based computer simulations, and the tools of drug discovery. It is intended for a one-semester course for biological scientists learning quantitative foundations and for physical scientists learning the biology and chemistry. This text is ideal for graduates, advanced undergraduates, and any professional who seeks an introduction to the biological,

chemical, and physical properties of proteins.

Garland Science

Market: Protein science

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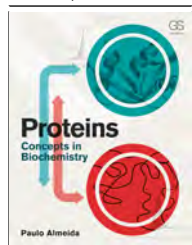
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