LIFE SCIENCES

Rights Title Selection

Spring 2018

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Aeroecology
P. B. Chilson, W. F. Frick, J. F. Kelly, F. Liechti (Eds)

This book consists of a diverse collection of chapters that seeks to broaden our fundamental understanding of the ecological function and biological importance of the Earth’s lower atmosphere, which provides a huge living space for billions of animals moving within and across continents. [...] 

Contents
Prologue/Foreword.- Background.- Chapter 1: A tutorial treatment of the boundary layer and lower free atmosphere.- Chapter 2: A general treatment on how air is habitat to a host of diverse species.- Chapter 3: Coupling of weather and biology, including impacts of weather on biological behavior.- Chapter 4: Flight physiology (insects, birds and bats). [...] 

Fields of Interest
Zoology; Animal Ecology; Meteorology; Computational Biology/Bioinformatics; Geoecology/Natural Processes

Regression Analysis in Medical Research for Starters and 2nd Levelers
T. J. Cleophas, A. H. Zwinderman

This edition is a pretty complete textbook and tutorial for medical and health care students, as well as a recollection/update bench, and help desk for professionals. [...] 

Contents
Preface.- Continuous Outcome Regressions.- Dichotomous Outcome Regressions.- Confirmative Regressions.- Dichotomous Regressions Other than Logistic and Cox.- Polytomous Outcome Regressions.- Time to Event Regressions other than Traditional Cox.- Analysis of Variance (ANOVA).- Repeated Outcome Regressions.- Methodologies for Better Fit of Categorical Predictors. [...] 

Fields of Interest
Biostatistics; Medicine/Public Health, general

Bioinformatics for Evolutionary Biologists
A Problems Approach
B. Haubold, A. Börsch-Haubold

This self-contained textbook covers fundamental aspects of sequence analysis in evolutionary biology, including sequence alignment, phylogeny reconstruction, and coalescent simulation. It addresses these aspects through a series of over 400 computer problems, ranging from elementary to research level to enable learning by doing. [...] 

Contents

Fields of Interest
Bioinformatics; Evolutionary Biology; Computational Biology/Bioinformatics; Computer Appl. in Life Sciences
This book describes the latest advances in systems biology in four plant-based marine ecosystems: seaweeds, seagrasses, microalgae, and corals. Marine organisms that inhabit the oceanic environment experience a diverse range of environmental fluctuations, anthropogenic stress, and threats from invasive species and pathogens. [...]

Contents

Fields of Interest
Freshwater & Marine Ecology; Systems Biology; Ecosystems; Plant Ecology; Evolutionary Biology

Climate Gradients and Biodiversity in Mountains of Italy
F. Pedrotti (Ed)

This volume gathers case studies on plant diversity from selected, representative mountain systems of Italy (Mediterranean and temperate zones), while also addressing the biodiversity of avian fauna. [...]

Contents

Fields of Interest
Biodiversity; Nature Conservation; Plant Ecology; Landscape Ecology

Fields of Interest
Biodiversity; Nature Conservation; Plant Ecology; Landscape Ecology

Concepts in Cell Biology - History and Evolution
V. P. Sahi, F. Baluška (Eds)

This book discusses central concepts and theories in cell biology from the ancient past to the 21st century, based on the premise that understanding the works of scientists like Hooke, Hofmeister, Caspary, Strasburger, Sachs, Schleiden, Schwann, Mendel, Nemec, McClintock, etc. in the context of the latest advances in plant cell biology will help provide valuable new insights. [...]

Contents

Fields of Interest
Cell Biology; Plant Anatomy/Development; Biological Microscopy; History of Biology

Fields of Interest
Cell Biology; Plant Anatomy/Development; Biological Microscopy; History of Biology
Applied Bioinformatics
An Introduction
P. M. Selzer, R. J. Marhöfer, O. Koch

This book introduces readers to the basic principles of bioinformatics and the practical application and utilization of computational tools, without assuming any prior background in programming or informatics. [...] 

Contents
The Biological Foundations of Bioinformatics.- Biological databases.- Sequence Comparisons and Sequence-Based Database Searches.- The decoding of eukaryotic genomes.- Protein Structures and Structure-Based Rational Drug Design.- The Functional Analysis of Genomes.- Comparative genome analyses.

Fields of Interest
Bioinformatics; Computer Appl. in Life Sciences; Computational Biology/Bioinformatics; Computer Applications in Chemistry

April 2018
XIV, 179 p. 72 illus., 66 illus. in color. Softcover.
155 x 235 mm
£ 39.99 | € 49.99 | $ 59.99
ISBN 978-3-319-68299-0

All Languages Rights Available

Behaviour and Ecology of Spiders
Contributions from the Neotropical Region
C. Viera, M. O. Gonzaga (Eds)

Within the last few decades, arachnology in the Neotropical region has experienced a great development filling the knowledge gap in one of the most diverse regions of the world. Nevertheless, large geographical areas remain poorly sampled, especially within the Amazon, and new genera and species have been continuously discovered, even in urban areas. [...] 

Contents

Fields of Interest
Behavioral Sciences; Animal Ecology; Animal Systematics/Taxonomy/ Biogeography; Evolutionary Biology; Entomology

November 2017
XVII, 437 p. 91 illus., 54 illus. in color. Hardcover.
155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-3-319-65716-5

All Languages Rights Available

Gentechnisches Labor - Juristischer Leitfaden für Biowissenschaftler
K. Bender, P. Kauch

Seit mehr als 20 Jahren sind gentechnische Verfahren in der medizinischen und pharmazeutischen Forschung sowie in Studiengängen der Biologie und Biochemie etabliert. Die Kenntnis der rechtlichen Rahmenbedingungen und der Laborsicherheit spielt bei diesen angewandten Methoden die wichtigste Voraussetzung. [...] 

Contents

Fields of Interest
Genetic Engineering; Medical Law

August 2018
Etwa 300 S. 70 Abb. Softcover.
168 x 240 mm
£ 25.99 | € 28.03 | $ 39.95
ISBN 978-3-642-34693-4

All Languages Rights Available
Nachhaltige Bewirtschaftung natürlicher Ressourcen
Erfolgsfaktoren in komplexen sozial-ökologischen Systemen
U. Frey


Contents

Fields of Interest
Ecology; Environment, general

Ökologie mitteleuropäischer Flussauen
T. Meyer

Dieses Buch bietet einen fundierten Überblick über die geomorphologische Formung und vegetationsgeschichtliche Entstehung der mitteleuropäischen Auenlandschaften. Der Schwerpunkt liegt auf der Darstellung der Lebensgemeinschaften, zudem wird die außerordentliche Biodiversität dieser stark bedrohten Lebensräume betont. [...]

Contents

Fields of Interest
Freshwater & Marine Ecology; Ecosystems; Landscape Ecology; Biodiversity

Sertoli Cells
Methods and Protocols
M. G. Alves, P. F. Oliveira (Eds)

This detailed volume explores the use of Sertoli cells as models in male reproductive biology or as supporters for other cell types, and it answers the need for standardized protocols for their in vitro culture. [...]

Contents
Establishment of Primary Culture of Sertoli Cells.- Evaluation of the Purity of Sertoli Cell Primary Cultures.- Preparation of Testicular Samples for Histology and Immunohistochemistry.- Rabbit Sertoli Cells: Immunohistochemical Profile from Neonatal to Adult Age.- Identification of Proliferative and Apoptotic Sertoli Cells Using Fluorescence and Confocal Microscopy. [...]

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology
Bacteriophage Therapy
From Lab to Clinical Practice
J. Azeredo, S. Sillankorva (Eds)

This volume details the experimental approaches suitable for isolating and characterizing bacteriophages to formulating bacteriophage medicinal products and clinical application. Chapters guide readers through regulatory compliance and safety aspects of bacteriophage therapy. [...]

Contents
Isolation of Bacteriophages for Fastidious Bacteria.- Isolation of Bacteriophages of the Anaerobic Bacteria Bacteroides.- Isolation of Bacteriophages for Clinically Relevant Bacteria.- In Vitro Activity against Planktonic and Biofilm Populations Assessed by Flow Cytometry.- Observation of Bacteriophage Ultrastructure by Cryo-electron Microscopy.- Bacteriophage Taxonomy: an Evolving Discipline. [...]

Fields of Interest
Microbiology

Series Title
Methods in Molecular Biology

Cellular Heterogeneity
Methods and Protocols
N. S. Barteneva, I. A. Vorobjev (Eds)

This volume is essential for anyone struggling with the cellular heterogeneity field, and it connects this new area with the latest advances in innovative techniques combined with practical advice from international experts. [...]

Contents
Heterogeneity of Metazoan Cells and Beyond: To Integrative Analysis of Cellular Populations at Single-Cell Level.- Integrating Analysis of Cellular Heterogeneity in High Content Dose-Response Studies.- Image-Based Tracking of Heterogeneous Single Cell Phenotypes.- High-Dimensional Single Cell Analysis with Mass Cytometry.- Spectral and Imaging Flow Cytometry in Phytoplankton Research. [...]

Fields of Interest
Cell Biology

Fields of Interest
Bioinformatics

Series Title
Methods in Molecular Biology

Systems Biology
M. Bizzarri (Ed)

This volume focuses on methodological aspects of systems biology in order to provide a new theoretical approach with a robust and tailored experimental support. Chapters detail mathematical modeling, methodological issues, modulation of the collective behavior, metabolic, dynamic profiling, and quantitative morphological studies. [...]

Contents

Fields of Interest
Bioinformatics

Series Title
Methods in Molecular Biology
The Surfaceome: Methods and Protocols
K. R. Boheler, R. L. Gundry (Eds)

This volume provides readers with the latest techniques and tools to assess modifications and functions of the surfaceome. The chapters in this book are divided into 4 sections: discovery-based approaches to surfaceome content; targeted approaches for surfaceome content; cell-based function analyses related to surfaceome content; and computational approaches in surfaceome studies. [...] Contents

Surfaceome Analysis Protocol for the Identification of Novel Bordetella pertussis Antigens.- Shaving" Live Bacterial Cells with Proteases for Proteomic Analysis of Surface Proteins.- Methods for Mapping the Extracellular and Membrane Proteome in the Avian Embryo, and Identification of Putative Vascular Targets or Endothelial Genes. [...] Fields of Interest

Cell Biology

Series Title

Methods in Molecular Biology

Protein Engineering: Methods and Protocols
U. T. Bornscheuer, M. Höhne (Eds)

This volume details basic and advanced protocols for both stages of protein engineering: the library design phase and the identification of improved variants by screening and selection. Chapters focus on enzyme engineering using rational and semi-rational approaches. [...] Contents

Protein Engineering - Past, Present, and Future.- (Semi)rational Protein Design.- Computational Analysis of Protein Tunnels and Channels.- YASARA - A Tool to Obtain Structural Guidance in Biocatalytic Investigations.- A Computational Library Design Protocol for Rapid Improvement of Protein Stability – FRESCO.- Directed Evolution of Proteins Based on Mutational Scanning. [...] Fields of Interest

Protein Science

Series Title

Methods in Molecular Biology

Domestication of Radiata Pine
R. Burdon, W. Libby, A. Brown

In nature, radiata pine is very localised and an obscure tree species despite the romantic character of much of its natural habitat. That obscure status and the lack of any reputation as a virgin timber slowed its due recognition as a commercial crop. Nevertheless, it has become a major plantation forest crop internationally. [...] Contents


Forestry; Plant Breeding/Biotechnology; Sustainable Development; Economic Geography

Series Title

Forestry Sciences
Chaperones
Methods and Protocols
S. K. Calderwood, T. L. Prince (Eds)

This volume is a compilation of laboratory protocols and methodology required for the study of molecular chaperones and the cellular stress response. [...] 

Contents

Fields of Interest
Biochemistry, general

Series Title
Methods in Molecular Biology

Bacteriophages
Methods and Protocols, Volume 3
M. R.J. Clokie, A. M. Kropinski, R. Lavigne (Eds)

This book expands on the previous volumes with new chapters exploring emerging themes and methodologies in bacterial virus research. [...] 

Contents
Basic Phage Mathematics.- Analysis of Host-Takeover during SPOI Infection of Bacillus subtilis.- Practical Advice on the One-Step Growth Curve.- Iron Chloride Flocculation of Bacteriophages from Seawater.- Purification of Bacteriophages using Anion-Exchange Chromatography.- Encapsulation Strategies of Bacteriophages (Felix O1) for Oral Therapeutic Application. [...] 

Fields of Interest
Microbiology

Series Title
Methods in Molecular Biology

Proteomics in Domestic Animals: from Farm to Systems Biology
A. M. de Almeida, D. Eckersall, I. Miller (Eds)

Proteomics, like other post-genomics tools, has been growing at a rapid pace and has important applications in numerous fields of science. While its use in animal and veterinary sciences is still limited, there have been considerable advances in this field in recent years, in areas as diverse as physiology, nutrition and food of animal origin processing. [...] 

Contents
- Proteomics in Domestic Animals on a Farm to Systems Biology perspective: introductory note.- Considerations for farm animal proteomics experiments: an introductory view gel based versus non-gel based approaches.- Quantitative Gel electrophoresis.- Sample preparation for 2DE using samples of animal-origin.- Gel-free Proteomics.- Proteomic research in farm animal serum and plasma. [...] 

Fields of Interest
Proteomics; Veterinary Medicine/ Veterinary Science; Food Science; Agriculture; Biotechnology;
Plant Programmed Cell Death
Methods and Protocols
L. De Gara, V. Locato (Eds)

This detailed volume explores numerous protocols that can be specifically used for studying plant programmed cell death (PCD), a mechanism involved in a number of physiological and pathological processes that are triggered by developmental requirements as well as changing/adverse environmental conditions. [...]

Contents

Fields of Interest
Plant Sciences

Series Title
Methods in Molecular Biology

The Roles of Remote Sensing in Nature Conservation
A Practical Guide and Case Studies
R. Díaz-Delgado, R. Lucas, C. Hurford (Eds)

The book will provide an overview of the practical application of remote sensing for the purposes of nature conservation as developed by ecologists in collaboration with remote sensing specialists, providing guidance on all phases from the planning of remote sensing projects for conservation to the interpretation and validation of the images.

Contents

Fields of Interest
Conservation Biology/Ecology; Remote Sensing/Photogrammetry; Biodiversity

The Bacterial Nucleoid
Methods and Protocols
O. Espéli (Ed)

This volume presents state-of-the-art protocols for key experiments that have revolutionized our understanding of the bacterial nucleoid. [...]

Contents
Homologous Recombineering to Generate Chromosomal Deletions in Escherichia coli.- Measuring In Vivo Supercoil Dynamics and Transcription Elongation Rates in Bacterial Chromosomes.- Revealing Sister Chromatid Interactions with the loxP/Cre Recombination Assay.- Transposon Insertion Site Sequencing for Synthetic Lethal Screening. [...]

Fields of Interest
Microbiology

Series Title
Methods in Molecular Biology
Metabolic Network Reconstruction and Modeling
Methods and Protocols
M. Fondi (Ed)

This volume looks at the latest methodologies used to study cellular metabolism with in silico approaches. [...] 

Contents
Reconstructing High-Quality Large-Scale Metabolic Models with merlin.- Analyzing and Designing Cell Factories with OptFlux.- The MONGOOSE Rational Arithmetic Toolbox.- The FASTCORE Family: For the Fast Reconstruction of Compact Context-Specific Metabolic Networks Models.- Reconstruction and Analysis of Central Metabolism in Microbes. [...] 

Fields of Interest
Cell Biology 

Series Title
Methods in Molecular Biology 

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Co-creating Sustainable Urban Futures
A Primer on Applying Transition Management in Cities
N. Frantzeskaki, K. Hölscher, M. Bach, F. Avelino (Eds)

This is a unique book that provides rich knowledge on how to understand and actively contribute to urban sustainability transitions. The book combines theoretical frameworks and tools with practical experiences on transition management as a framework that supports urban planning and governance towards sustainability. [...] 

Contents
Forward - My experience with Transition Management.- Transition management in and for cities: introducing a new governance approach to address urban challenges.- Understanding the urban context and its challenges.- Introducing sustainability transitions’ thinking in urban contexts. [...] 

Fields of Interest
Applied Ecology; Sustainable Development; Urban Geography / Urbanism (inc. megacities, cities, towns); Cities, Countries, Regions 

Series Title
Future City 

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Food Allergens
Best Practices for Assessing, Managing and Communicating the Risks
T. Fu, L. S. Jackson, K. Krishnamurthy, W. Bedale (Eds)

This volume identifies gaps in the assessment, management, and communication of food allergen risks. Chapters showcase best practices in managing allergen risks at various stages of the food chain, including during food manufacture/processing; during food preparation in food service, retail food establishments, and in the home; and at the point of consumption. [...] 

Contents

Fields of Interest
Food Microbiology; Food Science; Public Health 

Series Title
Food Microbiology and Food Safety
Cell Migration
Methods and Protocols
A. Gautreau (Ed)

This volume covers various assays and techniques that have been developed to study and characterize the cell migration in vitro, ex vivo, and in vivo. The chapters in this book present readers with the latest protocols to observe, quantify, and control cell migration. [...]

Contents
Random Migration Assays of Mammalian Cells and Quantitative Analyses of Single Cell Trajectories.- Directional Collective Migration in Wound Healing Assays.- An In Vitro System to Study the Mesenchymal-to-Amoeboid Transition.- An In Vitro System to Study the Epithelial-Mesenchymal Transition In Vitro.- Detection of Migrasomes.- 3D Endothelial Cell Migration. [...]

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology

Clinical Metabolomics
Methods and Protocols
M. Giera (Ed)

This detailed volume presents a comprehensive compendium of clinical metabolomics protocols covering LC-MS, GC-MS, CE-MS, and NMR-based clinical metabolomics as well as bioinformatics and study design considerations. [...]

Contents
Metabolomics as a Tool to Understand Pathophysiological Processes.- Metabolomics in Immunology Research.- LC-MS-Based Metabolomics of Biofluids Using All Ion Fragmentation (AIF) Acquisition.- Lipid Mediator Metabolomics via LC-MS/MS Profiling and Analysis.- UHPSFC/ESI-MS Analysis of Lipids.- LC-MS/MS Analysis of Lipid Oxidation Products in Blood and Tissue Samples. [...]

Fields of Interest
Biochemistry, general

Series Title
Methods in Molecular Biology

Antibiotic Resistance
Protocols
S. H. Gillespie (Ed)

This third edition provides a wide range of different technologies, ranging from conventional growth basic techniques, application of molecular biology, development of resistance mutations, and diagnosis and monitoring treatment response. New and updated chapters cover techniques from the microscopic scale to whole animal models. [...]

Contents

Fields of Interest
Microbiology

Series Title
Methods in Molecular Biology
Plant Senescence
Methods and Protocols
Y. Guo (Ed)

This detailed volume covers a wide variety of techniques either developed specially for plant senescence studies or optimized for studying senescing plants. [..]

Contents
Concepts and Types of Senescence in Plants.- Initiation, Progression, and Genetic Manipulation of Leaf Senescence.- Phenotypic Analysis and Molecular Markers of Leaf Senescence.- Investigation of Petal Senescence by TRV-Mediated Virus-Induced Gene Silencing in Rose.- Phenotypic Analysis and Molecular Markers of Plant Nodule Senescence. [..]

Fields of Interest
Plant Sciences

Series Title
Methods in Molecular Biology

Food Safety for Farmers Markets: A Guide to Enhancing Safety of Local Foods
J. A. Harrison (Ed)

This book describes practices used on farms and in farmers markets selling foods directly to consumers in U.S. and international markets. It identifies hazards associated with those practices that could put consumers at increased risk for foodborne illness. It also provides tools for identifying hazards on farms and in markets and guidance for establishing food-safe markets. [..]

Contents
Chapter 1: An Introduction to Microorganisms That Can Impact Products Sold at Farmers’ Markets.- Chapter 2: Food Safety Hazards Identified on Small Farms.- Chapter 3: Potential Food Safety Hazards in Farmers’ Markets.- Chapter 4: Food Safety Considerations for Fruit and Vegetable Vendors.- Chapter 5: Food Safety Considerations for Meat and Poultry Vendors. [..]

Fields of Interest
Food Microbiology; Food Science; Public Health; Agriculture

Series Title
Food Microbiology and Food Safety

The Plant Endoplasmic Reticulum
Methods and Protocols
C. Hawes, V. Kriechbaumer (Eds)

This volume presents a range of different techniques that have been used to characterize the structure and function of the endoplasmic reticulum (ER) in higher plants. [..]

Contents
Labelling the ER for Light and Fluorescence Microscopy.- 3D Electron Microscopy of the ER.- Characterization of Proteins Localised to Plant ER-PM Contact Sites.- Preparation and Imaging of Specialised ER using Super-resolution and TEM Techniques.- Quantitation of ER Structure and Function.- Long-term Imaging of Endoplasmic Reticulum Morphology in Embryos during Seed Germination. [..]

Fields of Interest
Plant Sciences

Series Title
Methods in Molecular Biology
Hypoxia
Methods and Protocols
L. E. Huang (Ed)

This volume details widely used and newer lab protocols for studying hypoxic responses in physiology and diseases. Chapters guide the reader through the application of hypoxic conditions, to the techniques of molecular biology, biochemical, cell biology, genomic, bioinformatic, metabolic, and animal studies. [...] 

Contents
Whole Genome Sequencing-based Discovery of Structural Variants in Glioblastoma.- Whole Genome DNA Methylation Analysis of Human Glioblastoma using Illumina Bead Arrays.- Establishing Primary Human Glioblastoma Adherent Cultures from Operative Specimens.- Establishing Primary Human Glioblastoma Tumorsphere Cultures from Operative Specimens.- Isolation of GBM Stem Cells with Flow Cytometry. [...] 

Fields of Interest
Cell Biology 

Series Title
Methods in Molecular Biology

Microorganisms in Foods 7
Microbiological Testing in Food Safety Management
International Commission on Microbiological Specifications for Foods (ICMSF)

The second edition of Microorganisms in Foods 7: Microbiological Testing in Food Safety Management updates and expands on information on the role of microbiological testing in modern food safety management systems. [...] 

Contents

Fields of Interest
Food Microbiology; Food Science 

Series Title
Methods in Molecular Biology

Protein Function Prediction
Methods and Protocols
D. Kihara (Ed)

This volume presents established bioinformatics tools and databases for function prediction of proteins. [...] 

Contents

Fields of Interest
Protein Science 

Series Title
Methods in Molecular Biology
Extracellular Vesicles
Methods and Protocols
W. P. Kuo, S. Jia (Eds)

This volume examines established methods and protocols to isolate and characterize extracellular vesicles (EVs) and their composition, among other techniques including purification, imaging, biofluid-specific and cell-specific isolation and downstream genomic and proteomic profiling. [...]

Contents

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology

November 2017
XVI, 446 p. 112 illus., 72 illus. in color. Hardcover.
178 x 254 mm
£ 100.00 | € 124.99 | $ 159.00
ISBN 978-1-4939-7251-7

All Languages Rights Available

Noncanonical Amino Acids
Methods and Protocols
E. A. Lemke (Ed)

This volume covers some of the most widely used protocols on nanocanonical amino acids, providing details and advice for users to get each method up and running for their chosen application. Chapters have been divided into three parts describing methods for protein production in the test tube, in prokaryotes, and in eukaryotes. [...]

Contents
Leveraging Formylglycine-Generating Enzyme for Production of Site-Specifically Modified Bioconjugates.- Artificial Division of Codon Boxes for Expansion of the Amino Acid Repertoire of Ribosomal Polypeptide Synthesis.- Cell-free Protein Synthesis for Multiple Site-Specific Incorporation of Noncanonical Amino Acids Using Cell Extracts from RF-1 deletion E. coli Strains. [...]

Fields of Interest
Biochemistry, general

Series Title
Methods in Molecular Biology

February 2018
XI, 411 p. 76 illus., 39 illus. in color. Hardcover.
178 x 254 mm
£ 88.00 | € 109.99 | $ 139.00
ISBN 978-1-4939-7573-0

All Languages Rights Available
Quorum Sensing
Methods and Protocols
L. Leoni, G. Rampioni (Eds)

This detailed volume provides scientists interested in quorum sensing with a broad spectrum of methods and protocols useful for studying bacterial communication processes at the chemico-physical, molecular, and physiological level. [...]

Contents
Use of Whole Cell Bioassays for Screening Quorum Signaling, Quorum-Interference, and Biofilm Dispersion.- Detection of 2-Alkyl-4-Quinolones Using Biosensors.- “Hot Stuff”: The Many Uses of a Radiolabel Assay in Detecting Acyl-Homoserine Lactone Quorum Sensing Signals. [...]

Fields of Interest
Microbiology

Series Title
Methods in Molecular Biology

Glucose Transport
Methods and Protocols
K. Lindkvist-Petersson, J. S. Hansen (Eds)

This volume explores methods used to examine the structure-function relationship of glucose transporters both in vitro and ex vivo. [...]

Contents
Expression and Purification of Rat Glucose Transporter 1 in Pichia pastoris.- Crystalization and Structural Determination of the Human Glucose Transporters GLUT1 and GLUT3.- Screening and Scale-Up of GLUT Transporter Constructs Suitable for Biochemical and Structural Studies.- GLUT Characterization using Frog Xenopus laevis Oocytes.- Glucose Uptake in Heterologous Expression Systems. [...]

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology

B Cell Receptor Signaling
Methods and Protocols
C. Liu (Ed)

This volume looks the current advanced protocols used to study aspects of the B cell receptor (BCR). [...]

Contents
Activation-Induced Cytidine Deaminase Aided In Vitro Antibody Evolution.- Analyzing Mouse B-Cell Responses Specific to LCMV Infection.- Expression of Exogenous Genes in Murine Primary B Cells and B Cell Lines Using Retroviral Vectors.- Biophysical Techniques to Study B Cell Activation: Single Molecule Imaging and Force Measurements. [...]

Fields of Interest
Biochemistry, general

Series Title
Methods in Molecular Biology

February 2018
XVI, 375 p. 94 illus., 49 illus. in color. Hardcover. 178 x 254 mm
£ 88.00 | € 109.99 | $ 139.00
ISBN 978-1-4939-7308-8

All Languages Rights Available

December 2017
XI, 274 p. 68 illus., 34 illus. in color. Hardcover. 178 x 254 mm
£ 88.00 | € 109.99 | $ 139.00
ISBN 978-1-4939-7506-8

All Languages Rights Available

February 2018
XI, 262 p. 67 illus., 48 illus. in color. Hardcover. 178 x 254 mm
£ 76.00 | € 94.99 | $ 119.00

All Languages Rights Available
This detailed volume provides thorough protocols describing how to use genetics to study mouse and zebrafish erythropoiesis in whole animal models and for genetically manipulating cultured mouse and human erythroid cells. Protocols include strategies to analyze circulating red blood cell parameters, as well as progenitor cell status, stage of differentiation, and enucleation. [...]

Contents
An Introduction to Erythropoiesis Approaches.- Using the Zebrafish as an Approach to Examine the Mechanisms of Vertebrate Erythropoiesis.- Mouse Models of Erythropoiesis and Associated Diseases.- Dissecting Regulatory Mechanisms Using Mouse Fetal Liver-Derived Erythroid Cells.- Stress Erythropoiesis Model Systems. [...] 

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology

November 2017
XI, 298 p. 62 illus., 55 illus. in color. Hardcover. 178 x 254 mm
£ 88.00 | € 109.99 | $ 139.00
ISBN 978-1-4939-7427-6

All Languages Rights Available
Nitric Oxide
Methods and Protocols
A. Mengel, C. Lindermayr (Eds)

This volume explores three main aspects of nitric oxide (NO) research: NO treatment and detection, NO modifications, and NO detoxification. The book also covers methods used to study human/animal and plant nitric oxide. [...]

Contents
A Simple and Useful Method to Apply Exogenous NO Gas to Plant Systems - Bell Pepper Fruits as a Model.- Measurements of Intra-Oocyte Nitric Oxide Concentration Using Nitric Oxide Selective Electrode.- Real-Time Imaging of Nitric Oxide Signals in Individual Cells Using geNOps.- Detection of Nitric Oxide by Membrane Inlet Mass Spectrometry.- Quantum Cascade Lasers-Based Detection of Nitric Oxide. [...]

Fields of Interest
Biochemistry, general

Series Title
Methods in Molecular Biology

Plant Membrane Proteomics
Methods and Protocols
H. Mock, A. Matros, K. Witzel (Eds)

This volume provides comprehensive and detailed protocols that discuss proteomic techniques, plant endosomes, and isolation of organelles and subcellular fractions. [...]

Contents
Free Flow Zonal Electrophoresis for Fractionation of Plant Membrane Compartments prior to Proteomic Analysis.- Isolation and Purity Assessment of Membranes from Norway Spruce.- Nuclear Proteome: Isolation of Intact Nuclei, Extraction of Nuclear Proteins and 2-DE Analysis.- Identification of Plant Nuclear Proteins Based on a Combination of Flow Sorting, SDS-PAGE, and LC-MS/MS Analysis. [...]

Fields of Interest
Plant Sciences

Series Title
Methods in Molecular Biology

Schwann Cells
Methods and Protocols
P. V. Monje, H. A. Kim (Eds)

This volume presents an assortment of traditional and emerging experimental procedures relevant to Schwann cell research. The chapters are divided into four parts. Part I contains protocols for in vitro culture, purification, and characterization of primary Schwann cells from diverse species and stages of nerve development. [...]

Contents
Isolation of Schwann Cell Precursors from Rodents.- Preparation of Neonatal Rat Schwann cells and Embryonic Dorsal Root Ganglia Neurons for In Vitro Myelination Studies.- Isolation and Expansion of Schwann Cells from Transgenic Mouse Models.- Isolation, Culture, and Cryopreservation of Adult Rodent Schwann Cells Derived from Immediately Dissociated Teased Fibers. [...]

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology
AMPK
Methods and Protocols
D. Neumann, B. Viollet (Eds)

This volume explores the latest methods used to study AMPK by computational, biochemical, biophysical, cellular, and ex vivo and in vivo approaches. [...] 

Contents
Production and Crystallization of Full-Length Human AMP-Activated Protein Kinase (α1β1γ1).- Visualizing AMPK Drug Binding Sites through Crystallization of Full Length Phosphorylated α2β1γ1 Heterotrimer.- Biophysical Interactions of Direct AMPK Activators.- Biochemical Measurement of Glycogen: Method to Investigate the AMPK-Glycogen Relationship. [...] 

Fields of Interest
Protein Science 

Series Title
Methods in Molecular Biology

Viral Metagenomics
Methods and Protocols
V. Pantaleo, M. Chiumenti (Eds)

This volume explores the use of viral metagenomics to diagnose known viruses for plant and food production, human and animal health, and identifying viral vectors like insects. [...] 

Contents
Host-Associated Bacteriophage Isolation and Preparation for Viral Metagenomics.- SmallRNAs Isolation from Tissues of Grapevine and Woody Plants.- Double Stranded RNA-Enriched Preparations to Identify Viroids by Next Generation Sequencing.- Viral Double-Stranded RNAs (dsRNAs) from Plants: Alternative Nucleic Acid Substrates for High-Throughput Sequencing. [...] 

Fields of Interest
Plant Sciences 

Series Title
Methods in Molecular Biology

Sphingosine-1-Phosphate
Methods and Protocols
A. Pébay, K. Turksen (Eds)

This fully updated edition explores methods involving sphingosine-1-phosphate (S1P), a bioactive lysophospholipid which has become the focus of much research interest as it has widespread developmental and physiopathological actions, controlling events within the nervous, reproductive, gastrointestinal, vascular, respiratory, and immune systems, in addition to having a prominent role in cancer. [...] 

Contents
Measuring Sphingosine-1-Phosphate/Protein Interactions with the Kinetic Exclusion Assay.- An Improved Isoform-Selective Assay for Sphingosine Kinase 1 Activity.- Methods for Analyzing Sphingosine-1-Phosphate Signaling in Human and Mouse Primary Mast Cells. [...] 

Fields of Interest
Cell Biology 

Series Title
Methods in Molecular Biology
Quantitative Methods for Food Safety and Quality in the Vegetable Industry
F. Pérez-Rodríguez, P. Skandamis, V. Valdramidis (Eds)

This book focuses on the food safety challenges in the vegetable industry from primary production to consumption. It describes existing and innovative quantitative methods that could be applied to the vegetable industry for food safety and quality, and suggests ways in which such methods can be applied for risk assessment. [...] 

Contents

Fields of Interest
Food Microbiology; Food Science; Public Health

Series Title
Food Microbiology and Food Safety

Peptidomics
Methods and Strategies
M. Schrader, L. Fricker (Eds)

This volume describes protocols for basic state-of-the-art approaches in the field of peptidomics. Most of these approaches are independent of the instruments used for analysis and can easily be adapted for equipment that is available in a typical proteomics facility. [...] 

Contents

Fields of Interest
Protein Science

Series Title
Methods in Molecular Biology

Potassium Channels
Methods and Protocols
S. Shyng, F. I. Valiyaveetil, M. Whorton (Eds)

This volume provides readers with the latest techniques and approaches used to study K⁺ channels. [...] 

Contents
Manipulating Potassium Channel Expression and Function in Hippocampal Neurons by In Utero Electroporation.- Studying KCNQ1 Mutation and Drug Response in Type 1 Long QT Syndrome using Patient-Specific Induced Pluripotent Stem Cell-Derived Cardiomyocytes. [...] 

Fields of Interest
Biochemistry, general

Series Title
Methods in Molecular Biology
Sustainable Goat Production in Adverse Environments: Volume II
Local Goat Breeds
J. Simões, C. Gutiérrez (Eds)

This book covers more than 40 indigenous goat breeds and several ecotypes around the globe and describes genotypic and phenotype traits related to species adaptation to harsh environments and climate change. It also addresses sustainable global farming of local goat breeds in different production systems and agro-ecosystems. [...] 

Contents
Preface “Think global, act local”.- Introductory Chapter: Goats in Arid and Mountain Areas.- Section I Asia.- Chapter 2 Adaptation Strategies to Sustain Osmanabadi Goat Production in a Changing Climate Scenario.- Chapter 3 Barbari Goats: Current Status.- Chapter 4 Chinese Indigenous Goat Breeds.- Chapter 5 Rearing and Breeding Damani Goats in Pakistan.- Section II Africa. [...] 

Fields of Interest
Agriculture; Veterinary Medicine/Veterinary Science; Vertebrates; Biodiversity

Sustainability of Organic Farming in Nepal
M. Singh, K. L. Maharjan

This book explores the sustainability aspect of organic and conventional farming systems, which is commonly categorized into three sub-aspects: social, environmental and economic. The social structure of a given area, organic friendly technologies, soil properties, crop diversification and income are the elements chosen for comparison, and are analyzed using descriptive and statistical methods. [...] 

Contents

Fields of Interest
Agriculture; Sustainable Development; Agricultural Economics; Landscape Ecology; Soil Science & Conservation; Climate Change Management and Policy

Schizosaccharomyces pombe Methods and Protocols
T. L. Singleton (Ed)

This volume presents various laboratory protocols, reviews, specific techniques and applications related to Schizosaccharomycetes pombe. [...] 

Contents
Preparation of Solutions and Reagents.- Analysis of Fission Yeast Single DNA Molecules on the Megabase Scale using DNA Combing.- Chromatin Immunoprecipitation - Polymerase Chain Reaction (ChIP-PCR) Detects Methylation, Acetylation, and Ubiquitylation in S. pombe.- Primer Design and Inverse PCR on Yeast Display Antibody Selection Outputs. [...] 

Fields of Interest
Microbiology

Series Title
Methods in Molecular Biology

January 2018
XXII, 273 p. 71 illus., 65 illus. in color. Hardcover.
155 x 235 mm
£ 136.00 | € 169.99 | $ 199.00
ISBN 978-3-319-71293-2

All Languages Rights Available

November 2017
XXIII, 208 p. 40 illus., 28 illus. in color. Hardcover.
155 x 235 mm
£ 108.00 | € 134.99 | $ 169.00

All Languages Rights Available

February 2018
XII, 244 p. 48 illus., 34 illus. in color. Hardcover.
178 x 254 mm
£ 76.00 | € 94.99 | $ 119.00
ISBN 978-1-4939-7545-7

All Languages Rights Available
Metabolic Profiling
Methods and Protocols
G. A. Theodoridis, H. G. Gika, I. D. Wilson (Eds)

This volume explores the different approaches and techniques used by researchers to study the recent challenges and developments in metabolic profiling. This book is divided into IV parts. Part I contains chapters that highlight basic concepts, such as experimental design, data treatment, metabolite identification, and harmonization. [...] 

Contents
Metabolic Profiling: Topic, Challenges, Perspective.- Quality Control and Validation Issues in LC-MS Metabolomics.- Data Treatment for LC-MS Untargeted Analysis.- Bio- and Chemoinformatics Approaches for Metabolomics Data Analysis.- HILIC- MS/ MS Multi-Targeted Method for Metabolomics Applications. [...] 

Fields of Interest
Biochemistry, general

Series Title
Methods in Molecular Biology

March 2018
XI, 281 p. 36 illus., 28 illus. in color. Hardcover. 178 x 254 mm
£ 76.00 | € 94.99 | $ 119.00

All Languages Rights Available

Decellularized Scaffolds and Organogenesis
Methods and Protocols
K. Turksen (Ed)

This practical, hands-on volume examines the use of decellularized tissues and organs as biologically-active scaffolds by providing numerous approaches from experts in the field. [...] 

Contents

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology

February 2018
Approx. 310 p. 77 illus., 67 illus. in color. Hardcover. 178 x 254 mm
£ 88.00 | € 109.99 | $ 139.00

All Languages Rights Available

Organoids
Stem Cells, Structure, and Function
K. Turksen (Ed)

This detailed volume addresses the challenge of how to instruct stem/early progenitor cells to progress through appropriate steps to generate functional 3-dimensional organs, one of the outstanding issues in regenerative medicine. The field of organoids is geared towards defining and demonstrating the in vitro conditions that achieve this goal. [...] 

Contents
A Simple Method of Generating 3D Brain Organoids Using Standard Laboratory Equipment.- Clinically-Amendable Defined and Rapid Induction of Human Brain Organoids from Induced Pluripotent Stem Cells.- Organoid Assay of Human Cancer Stem Cells.- Construction of Thymus Organoids from Decellularized Thymus Scaffolds. [...] 

Fields of Interest
Cell Biology

Series Title
Methods in Molecular Biology

February 2018
Approx. 335 p. 66 illus., 49 illus. in color. With online files/update. Hardcover. 178 x 254 mm
£ 88.00 | € 109.99 | $ 139.00
ISBN 978-1-4939-7616-4

All Languages Rights Available
Systems Biology of Influenza Research
X. F. H. Wan (Ed)

Systems Biology of Influenza Research will integrate the recent advances in influenza systems biology. The goal of this book is to introduce and simplify the systems biology thinking and document the systems biology advances in influenza research.

Fields of Interest
Systems Biology; Virology; Infectious Diseases

Neuronale Modellierung der Sprachverarbeitung und des Sprachlernens
Eine Einführung
B. J. Kröger

Dieses Buch erläutert die Thematik der Produktion und Wahrnehmung gesprochener Sprache aus neurowissenschaftlicher Sicht. Nach der Darstellung der Grundlagen der Sprachverarbeitung und des Spracherwerbs wird dem Leser ein neurobiologisch basiertes und computer-implementiertes neuronales Simulationsmodell vorgestellt. [...] 

Contents

Fields of Interest
Neurobiology; Neuropsychology; Mathematical Models of Cognitive Processes and Neural Networks; Data-driven Science, Modeling and Theory Building; Models and Principles; Simulation and Modeling

P. Škaloud, F. Rindi, C. Boedeker, F. Leliaert

This volume covers the freshwater, aerophytic, and terrestrial green algae of the Ulvophyceae, one of the main classes of green algae. Although most of this diversity is found in the marine environment, a substantial number of species also occurs in brackish, freshwater, and aero-terrestrial habitats. [...] 

Contents

Fields of Interest
Plant Sciences

Series Title
Süßwasserflora von Mitteleuropa

All Languages Rights Available except English
Crop Improvement
Sustainability Through Leading-Edge Technology
S. N. A. Abdullah, H. Chai-Ling, C. Wagstaff (Eds)

The book covers the latest development in the biosciences field covering key topics in crop improvement including ‘omic approaches to improving sustainable crop production, advancement in marker technology, strategies in genetic manipulation, crop quality and sustainability and plant microbe interaction detailing on proven technologies to address critical issue for agricultural sustainability. 

Contents
RNA-seq Analysis in Plant-Fungus Interactions.- Study of Oil Palm Photosynthesis using Omics Technologies.- Molecular Marker Technology for Genetic Improvement of Underutilised Crops.- Transcription Factors Associated with Abiotic Stress and Fruit Development in Oil Palm.- Sensing Crop Diseases.- Development of Genomic Resources and Assessing their Potential for Accelerated Acacia Breeding.

Fields of Interest
Agriculture; Biotechnology;

Advances in Soil Microbiology: Recent Trends and Future Prospects
Volume 1: Soil-Microbe Interaction
T. K. Adhya, B. Lal, B. Mohapatra, D. Paul, S. Das (Eds)

This book presents a comprehensive collection of articles illustrating the importance of microbial community structure and function for ecosystem sustainability and environmental reclamation.

Contents
Chapter 1: Soil Microbiology in the coming decades (Adhya).- Chapter 2: Molecular genomic techniques for identification of soil microbial community structure and dynamics (Dhiraj Paul).- Chapter 3: “Omics” tools in Soil microbiology: The state of the art (Angana Sarkar).- Chapter 4: Diversity of sulfur oxidizing and reducing microbes in diverse ecosystems (Upendra Kumar).

Fields of Interest
Eukaryotic Microbiology; Ecotoxicology

Series Title
Microorganisms for Sustainability

Advances in Soil Microbiology: Recent Trends and Future Prospects
Volume 2: Soil-Microbe-Plant Interaction

This book presents a comprehensive collection of articles illustrating the importance of microbial community structure and function for ecosystem sustainability and environmental reclamation.

Contents
Chapter 1: Soil Microbial Diversity (Baliyarsingh).- Chapter 2: Microbial Diversity and Soil Health in Tropical Agro-ecosystem (Chourasiya).- Chapter 3: Plant Growth Promoting Microbes (PGPM) as Potential microbial bio-agents for eco-friendly Agriculture (Gangwar).- Chapter 4: Plant Growth Promoting Rhizobacteria in abiotic stress alleviation in crops (Paul).

Fields of Interest
Eukaryotic Microbiology; Ecotoxicology

Series Title
Microorganisms for Sustainability

November 2017
XVIII, 388 p. 47 illus., 34 illus. in color. Hardcover. 155 x 235 mm
£ 207.50 | € 259.00 | $ 319.00
ISBN 978-3-319-65078-4
All Languages Rights Available

March 2018
VII, 204 p. 24 illus., 16 illus. in color. Hardcover. 155 x 235 mm
£ 108.00 | € 134.99 | $ 159.00
ISBN 978-981-10-6177-6
All Languages Rights Available

February 2018
VII, 238 p. 11 illus., 10 illus. in color. Hardcover. 155 x 235 mm
£ 108.00 | € 134.99 | $ 159.00
All Languages Rights Available
Electrospun Biomaterials and Related Technologies
J. Almodovar (Ed)

This book provides a compendium of electrospinning strategies and related technologies for the production of biomaterials for tissue engineering and regenerative medicine applications. It gives a broad overview of the field as well as cutting-edge research on electrospinning and how it is applied to engineer biomaterials. [...] 

Contents
Overview of electrospinning biomaterials.- Electrospun collagen scaffolds.- Polysaccharide-based nanofibers.- Electrospinning of biocompatible synthetic polymers.- Biomaterials produced via green electrospinning.- Dynamic electrospun scaffolds.- Electrospinning composite nanofibers.

Fields of Interest
Biochemistry, general; Biomaterials; Biochemical Engineering

Periparturient Diseases of Dairy Cows
A Systems Biology Approach
B. N. Ametaj (Ed)

This book summarizes the results achieved so far by application of various biological systems (including genomics, transcriptomics, proteomics, and metabolomics) involved in the pathomechanisms and early diagnosis of periparturient diseases as specific biomarkers of disease in cattle. [...] 

Contents

Fields of Interest
Systems Biology; Veterinary Medicine/Veterinary Science; Metabolic Diseases

Dendroecology
Tree-Ring Analyses Applied to Ecological Studies
M. M. Amoroso, L. D. Daniels, P. J. Baker, J. J. Camarero (Eds)

Dendroecologists apply the principles and methods of tree-ring science to address ecological questions and resolve problems related to global environmental change. In this fast-growing field, tree rings are used to investigate forest development and succession, disturbance regimes, ecotone and treeline dynamics and forest decline. [...] 

Contents

Fields of Interest
Applied Ecology; Community & Population Ecology; Conservation Biology/Ecology; Plant Ecology; Genetics and Population Dynamics; Forestry

Series Title
Ecological Studies
Physiology and Genetics
Selected Basic and Applied Aspects
T. Anke, A. Schüffler (Eds)

In the last few decades, DNA-based tools for the investigation of fungal taxonomy, signal transduction and regulation, differentiation processes and biosynthetic potential have accelerated advances in our understanding of the Mycota. This completely updated and revised second edition presents a selection of exciting issues involving basic and applied aspects of fungal physiology and genetics. [...] 

Contents

Fields of Interest
Mycology; Applied Microbiology

Series Title
The Mycota

February 2018
XVIII, 464 p. 128 illus., 33 illus. in color. Hardcover.
178 x 254 mm
£ 160.00 | € 199.99 | $ 269.00
ISBN 978-3-319-71739-5

All Languages Rights Available

Landscape Perspectives
The Holistic Nature of Landscape
M. Antrop, V. Van Eetvelde

Climb a mountain and experience the landscape. Try to grasp its holistic nature. Do not climb alone, but with others and share your experience. Be sure the ways of seeing the landscape will be very different. We experience the landscape with all senses as a complex, dynamic and hierarchically structured whole. The landscape is tangible out there and simultaneously a mental reality. [...] 

Contents

Fields of Interest
Landscape Ecology; Landscape/Regional and Urban Planning; Landscape Architecture; Cultural Heritage; Human Geography

Series Title
Landscape Series

January 2018
XV, 436 p. 228 illus. Hardcover.
155 x 235 mm
£ 120.00 | € 149.99 | $ 189.00

All Languages Rights Available

Protein Reviews
Volume 19
M. Z. Atassi (Ed)

The aim of the Protein Reviews is to serve as a publication vehicle for review articles that focus on crucial current vigorous aspects of protein structure, function, evolution and genetics. The volumes will appear online before they are published in a printed book. [...] 

Contents
(1) Introduction to the Special Issue on Purinergic Receptors.- (2) ATP-Gated P2X3 Receptors Are Specialised Sensors of the Extracellular Environment.- (3) The P2X7 receptor.- (4) P2X Receptor Activation.- (5) P2Y1 Receptors – Properties and Functional Activities.- (6)P2Y2 Receptor Functions in Cancer: A Perspective in the Context of Colorectal Cancer. [...] 

Fields of Interest
Protein Structure

Series Title
Advances in Experimental Medicine and Biology

January 2018
VIII, 256 p. 30 illus., 28 illus. in color. Hardcover.
178 x 254 mm
£ 88.00 | € 109.99 | $ 139.00
ISBN 978-981-10-7610-7

All Languages Rights Available
The aim of the Protein Reviews is to serve as a publication vehicle for review articles that focus on crucial current vigorous aspects of protein structure, function, evolution and genetics. The volumes will appear online before they are published in a printed book. [...]
Improving the Profitability, Sustainability and Efficiency of Nutrients Through Site Specific Fertilizer Recommendations in West Africa Agro-Ecosystems

As part of its efforts to improve fertilizer use and efficiency in West Africa, and following the recent adoption of the West African fertilizer recommendation action plan (RAP) by ECOWAS, this volume focuses on IFDC’s technical lead with key partner institutions and experts to build on previous and current fertilizer recommendations for various crops and countries in West Africa for wider uptake.

Contents

Fields of Interest
Agriculture; Ecosystems; Soil Science & Conservation

March 2018
XI, 339 p. 78 illus. Hardcover. 155 x 235 mm
£ 126.00 | € 156.99 | $ 189.00
ISBN 978-3-319-58788-2

All Languages Rights Available

Biology of Rove Beetles (Staphylinidae)
Life History, Evolution, Ecology and Distribution

Rove beetles (Staphylinidae) are common elements of the soil biota, living in the litter and deeper soil layers. Although they are one of the most diverse and speciose groups of insects, no comprehensive books on their general evolution and ecology are as yet available.

Contents
Introduction.- Phylogeny of the family Staphylinidae.- A review of the fossil history of Staphylinoida.- Biodiversity and geographic patterns of Neotropical Staphylinidae.- Adventive species of rove beetles in Canada.- Effect of environmental conditions on distribution patterns.- A review of Nearctic rove beetles (Staphylinidae) specialized on the burrows and nests of vertebrates.

Fields of Interest
Zoology; Behavioral Sciences; Animal Ecology; Biodiversity

May 2018
X, 295 p. 93 illus., 41 illus. in color. Hardcover. 178 x 254 mm
£ 126.00 | € 156.99 | $ 179.00
ISBN 978-3-319-70255-1

All Languages Rights Available

Stem Cell Microenvironments and Beyond

This book discusses the main stem cell niches under distinct pathophysiological conditions. The role of tissue microenvironments in stem cell regulation, as well as modern methodologies and new techniques for the identification and characterization of stem cell niches, are discussed by leading experts in the field.

Contents

Fields of Interest
Stem Cells; Regenerative Medicine/Tissue Engineering; Cancer Research

Series Title
Advances in Experimental Medicine and Biology

December 2017
XI, 270 p. 445 illus., 432 illus. in color. Hardcover. 155 x 235 mm
£ 124.00 | € 154.99 | $ 189.00
ISBN 978-3-319-69193-0

All Languages Rights Available
Epigenetic Regulation of Skin Development and Regeneration
V. A. Botchkarev, S. E. Millar (Eds)

This indispensable volume highlights recent studies identifying epigenetic mechanisms as essential regulators of skin development, stem cell activity and regeneration. Chapters are contributed by leading experts and promote the skin as an accessible model system for studying mechanisms that control organ development and regeneration. [...] 

Contents
Preface.- Chapter 1 All Roads Go to the Nucleus.- Chapter 2 DNA methylation as an epigenetic memory keeper during skin development and regeneration.- Chapter 3 Polycomb genes and their roles in skin development and regeneration.- Chapter 4 Trithorax genes in the control of keratinocyte differentiation. [...] 

Fields of Interest
Stem Cells; Regenerative Medicine/Tissue Engineering; Dermatology

Series Title
Stem Cell Biology and Regenerative Medicine

Genetic Improvement of Tropical Crops
H. Campos, P. D.S. Caligari

This book provides a fresh, updated perspective of the current status and perspectives in genetic improvement of a diverse array of tropical crops. The first part covers aspects which are relevant across crops, namely how to maximize the use of genetic information through modern bioinformatic approaches and how to use statistics as a tool to sustain increased genetic gains and breeding efficiency. [...] 

Contents
Part 1 Enabling Technologies.- Chapter 1 Statistical Approaches in Plant Breeding: Maximizing the Use of the Genetic Information.- Chapter 2 Genomic Selection – State of the Art.- Part 2 Crops.- Chapter 3 Tropical Maize (Zea mays L.).- Chapter 4 Rice (Oryza sativa L.).- Chapter 5 Cassava (Manihot esculenta Crantz).- Chapter 6 Sweetpotato, (Ipomoea batatas L.). [...] 

Fields of Interest
Plant Breeding/Biotechnology; Tree Biology

Series Title
Progress in Botany

Progress in Botany Vol. 79
F. M. Cánovas, U. Lüttge, R. Matyssek (Eds)

With one volume each year, this series keeps scientists and advanced students informed of the latest developments and results in all areas of the plant sciences. The present volume includes reviews on plant physiology, biochemistry, genetics, ecology, and ecosystems.

Contents
Plant Water Relations: A Whirlwind of Change.- Molecular markers for genetic diversity.- Advances in asparagine metabolism.- Redox control of autophagy in photosynthetic organisms.- Senescence-associated genes in response to abiotic/biotic stresses.- Interactions between copper homeostasis and metabolism in plants. [...] 

Fields of Interest
Plant Sciences; Biodiversity; Plant Ecology; Plant Biochemistry; Ecosystems

Series Title
Progress in Botany
While sponges represent a very simple group of organisms, which are represented by over 8000 species, there is considerable interest in the increasing role they may play in future marine ecosystems. [...] 

**Contents**

**Fields of Interest**
Freshwater & Marine Ecology; Climate Change/Climate Change Impacts; Marine & Freshwater Sciences; Invertebrates

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This volume brings together information on membrane organization and dynamics from a variety of spectroscopic, microscopic and simulation approaches, spanning a broad range of time scales. The implication of such dynamic information on membrane function in health and disease is a topic of contemporary interest. [...] 

**Contents**
What is so Unique About Biomembrane Organization and Dynamics.- Dynamics and Organization of Archaeal TetraetherLipid Membranes.- Effects of Oxidative Stress, Hyperglycemia, and Hypercholesterolemia on Membrane Structural Organization and the Interactions of Omega-3 Fatty Acids.- Interaction of Amphiphilic Molecules with LipidBilayers: Kinetics of Insertion, Desorption and Translocation. [...] 

**Fields of Interest**
Membrane Biology; Biological and Medical Physics; Biophysics; Lipidology; Protein Science

**Series Title**
Springer Series in Biophysics

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This book provides a clear, comprehensible and up-to-date description of how Small Angle Scattering (SAS) can help structural biology researchers. SAS is an efficient technique that offers structural information on how biological macromolecules behave in solution. [...] 

**Contents**
Sample and Buffer preparation for SAXS.- Considerations for sample preparation using size-exclusion chromatography.- How to analyze and present SAS data for publication.- Designing and Performing Biological Solution Small-Angle Neutron Scattering Contrast Variation Experiments on Multi-component Assemblies.- SAS-based structural modeling and model validation. [...] 

**Fields of Interest**
Protein Structure; Molecular Medicine; Biotechnology

**Series Title**
Advances in Experimental Medicine and Biology

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November 2017
VIII, 452 p. 42 illus., 25 illus. in color. Hardcover.
155 x 235 mm
£ 126.00 | € 156.99 | $ 189.00
ISBN 978-3-319-59007-3

All Languages Rights Available

December 2017
IX, 387 p. 89 illus., 67 illus. in color. Hardcover.
155 x 235 mm
£ 126.00 | € 156.99 | $ 189.00
ISBN 978-3-319-66600-6

All Languages Rights Available

December 2017
X, 268 p. 87 illus., 77 illus. in color. Hardcover.
178 x 254 mm
£ 108.00 | € 134,99 | $ 169.00

All Languages Rights Available
Volatiles and Food Security
Role of Volatiles in Agro-ecosystems
D. K. Choudhary, A. K. Sharma, P. Agarwal, A. Varma, N. Tuteja (Eds)

This book presents research on volatiles produced by microbes and plants along with their biotechnological implications for sustainable agriculture. A greater understanding of how plants and microbes live together and benefit each other can provide new strategies to improve plant productivity, while at the same time helping to protect the environment and maintain global biodiversity. [...] 

Contents

Fields of Interest
Plant Biochemistry; Microbiology; Microbial Ecology; Agriculture

November 2017
XVI, 373 p. 49 illus., 25 illus. in color. Hardcover.
155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00

All Languages Rights Available

Flora and Vegetation of the Czech Republic
M. Chytrý, J. Danihelka, Z. Kaplan, P. Pyšek (Eds)

This book provides basic information on the botanical diversity in the Czech Republic and relates the patterns in flora and vegetation to environmental factors, biogeographical history and human impact. [...] 

Contents

Fields of Interest
Plant Ecology; Plant Systematics/Taxonomy; Biogeography; Biodiversity; Terrestrial Ecology; Conservation Biology/Ecology

Series Title
Plant and Vegetation

November 2017
XII, 466 p. 142 illus., 113 illus. in color. Hardcover.
155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-3-319-63180-6

All Languages Rights Available

RNA Metabolism and Gene Expression in Archaea
B. Clouet-d'Orval (Ed)

This book focuses on the regulation of transcription and translation in Archaea and arising insights into the evolution of RNA processing pathways. From synthesis to degradation and the implications of gene expression, it presents the current state of knowledge on archaeal RNA biology in 13 chapters. [...] 

Contents

Fields of Interest
Nucleic Acid Chemistry; Microbiology; Protein Science; Enzymology

Series Title
Nucleic Acids and Molecular Biology

November 2017
VIII, 269 p. 49 illus., 37 illus. in color. Hardcover.
155 x 235 mm
£ 108.00 | € 134.99 | $ 169.00
ISBN 978-3-319-65794-3

All Languages Rights Available
Ecological Responses at Mount St. Helens: Revisited 35 years after the 1980 Eruption
C. M. Crisafulli, V. H. Dale (Eds)

This book builds on existing work exploring succession, disturbance ecology, and the interface between geophysical and biological systems in the aftermath of the 1980 eruptions of Mount St. Helens. The eruption was dramatic both in the spatial extent of impacts and the range of volcanic disturbance types and intensities. [...] 

Contents

Fields of Interest
Terrestrial Ecology; Ecosystems; Geoecology/Natural Processes; Natural Hazards; Forestry

Polyploidy: Recent Trends and Future Perspectives
T. . Dar, R. Rehman

This is the first book to present consolidated, up-to-date information regarding recent trends and future perspectives of polyploidy – a phenomenon that has played a pivotal role in the evolution of domesticated plants and a research area that has been given new impetus thanks to advances in plant biology techniques integrated with bioinformatics tools. [...] 

Contents

Fields of Interest
Plant Anatomy/Development; Plant Breeding/Biotechnology; 

An Introduction to Food Grade Nanoemulsions
N. Dasgupta, S. Ranjan

This book provides authentic and comprehensive information on the concepts, methods, functional details and applications of nano-emulsions. [...] 

Contents
Nanotechnology in Food Sector.- Food Nanoemulsions: Stability, Benefits And Applications.- Fabrication of nanoemulsion: a brief review.- Ingredients and Components of Nanoemulsions.- Food engineering for developing food-grade nanoemulsions.- Research updates on different vitamins based nanoemulsions and characterization of nanoemulsions.- Food-grade Nanoemulsions: review on the possible market. [...] 

Fields of Interest
Bioinformatics; Biological Techniques; Food Microbiology; Plant Biochemistry 

Series Title
Environmental Chemistry for a Sustainable World
Ecological Networks in the Tropics
An Integrative Overview of Species Interactions from Some of the Most Species-Rich Habitats on Earth
W. Dáttilo, V. Rico-Gray (Eds)

Based on graph theory studies this book seeks to understand how tropical species interact with each other and how these interactions are affected by perturbations in some of the most species-rich habitats on earth. [..]

Contents

Fields of Interest
Community & Population Ecology; Conservation Biology/Ecology; Biodiversity; Ecosystems

The Darwinian Tradition in Context
Research Programs in Evolutionary Biology
R. G. Delisle (Ed)

It is the main goal of this volume to put in context the Darwinian tradition by raising questions such as: How should it be defined? Did it interact with other research programs? Where there any research programs whose developments were largely conducted independently of the Darwinian tradition? [..]

Contents

Fields of Interest
Evolutionary Biology; History of Science; Philosophy of Biology; Developmental Biology; History of Philosophy

Haploidentical Stem Cell Transplantation
An Emerging Treatment Modality
T. Demirer (Ed)

This book discusses the aspects of haploidentical transplants and will shed light on the debates and questions on this burgeoning field and timely topic. Donor selection, graft failure, minimal CD34+ cell requirement, and conditioning regimens used for haploidentical transplants will be written by expert authors dealing with this type of transplants. [..]

Contents

Fields of Interest
Stem Cells; Hematology; Oncology; Cancer Research

Series Title
Stem Cell Biology and Regenerative Medicine
Life Sciences

Sustainable Agriculture towards Food Security
A. Dhanarajan (Ed)

World’s population is projected to reach 9.7 billion in 2050 and 11.2 billion in 2100. To meet the food demands of the exponentially increasing population, a massive food production is necessary. Agricultural production on land and aquatic systems pose negative impacts on the earth’s ecosystems. […]

Contents

Fields of Interest
Agriculture; Sustainable Development; Plant Sciences; Climate Change; Ecosystems

£ 136.00 | € 169.99 | $ 209.00
ISBN 978-981-10-6646-7

All Languages Rights Available

Multi-Parametric Live Cell Microscopy of 3D Tissue Models
R. I. Dmitriev (Ed)

This book provides an essential overview of existing state-of-the-art quantitative imaging methodologies and protocols (intensity-based ratiometric and FLIM/PLIM). […]

Contents
Current state-of-the-art 3D tissue models and their compatibility with live cell imaging.- Simultaneous Phosphorescence and Fluorescence Lifetime Imaging by Multi-Dimensional TCSPC and Multi-Pulse Excitation.- Quantitative live cell FLIM imaging in three dimensions.- Three-dimensional tissue models and available probes for multi-parametric live cell microscopy: a brief overview. […]

Fields of Interest
Regenerative Medicine/Tissue Engineering; Biological Microscopy; Biomedical Engineering/Biotechnology; Biomedical Engineering; Spectroscopy and Microscopy

£ 108.00 | € 134.99 | $ 169.00
ISBN 978-3-319-67357-8

All Languages Rights Available

Light Emitting Diodes for Agriculture
Smart Lighting
S. Dutta Gupta (Ed)

This book presents a comprehensive treatise on the advances in the use of light-emitting diodes (LEDs) for sustainable crop production and describes the latest photomorphogenesis research findings. […]

Contents
Artificial lighting system for plant growth and development: Chronological advancement, working principles and comparative assessment.- LED supplementary lighting.- Influence of light emitting diodes (LEDs) on light sensing and signaling networks in plants.- Optimizing LED lighting in controlled environment agriculture.- Economics of LED lighting. […]

Fields of Interest
Plant Breeding/Biotechnology; Circuits and Systems; Agriculture; Optics, Lasers, Photonics, Optical Devices

£ 171.50 | € 214.00 | $ 259.00
ISBN 978-981-10-5806-6

All Languages Rights Available
Biology and Ecology of Earthworms
C. A. Edwards, P. F. Hendrix, N. Q. Arancon

This is the 4th Edition of this popular text which reviews all aspects of earthworm biology and ecology. The book has been fully revised and updated throughout. [...] 

Contents
Ch. 1. Earthworm Morphology.- Ch. 2. Earthworm Physiology.- Ch. 3. Earthworm Diversity, Dispersal, and Geographical Distribution.- Ch. 4. Earthworm Life Histories and Biology.- Ch. 5. Earthworm Ecology: Populations.- Ch. 6. Earthworm Ecology: Communities.- Ch. 7. The Influence of Environmental Factors on Earthworms.- Ch. 8. The Role of Earthworms in Organic Material and Nutrient Cycles.- Ch. 9. [...] 

Fields of Interest
Ecology; Animal Ecology; Environmental Management; Waste Management/Waste Technology; Invertebrates

Plant Microbiome: Stress Response
D. Egamberdieva, P. Ahmad (Eds)

This book presents state-of-the-art research on the many facets of the plant microbiome, including diversity, ecology, physiology and genomics, as well as molecular mechanisms of plant-microbe interactions. [...] 

Contents

Fields of Interest
Agriculture; Microbial Ecology; Microbiology; Applied Microbiology

Series Title
Microorganisms for Sustainability

Socio-Metabolic Perspectives on the Sustainability of Local Food Systems
E. Fraňková, W. Haas, S. J. Singh (Eds)

This book delves into diverse local food systems and critically assesses their ecological and societal benefits and trade-offs, their limits and opportunities for improving sustainability of food production, and framework conditions which either hinder or promote their development. [...] 

Contents
Foreword.- Introduction.-PART I Social Metabolism and Local Food Systems: Key Concepts.- Chapter 1.1 In Search of Local Sustainable Agro-food Systems.- Chapter 1.2 Towards an Energy–Landscape Integrated Analysis (ELIA) in agroecosystems.- Chapter 1.3 Integrating indicators of energy efficiency, power and social metabolism for sustainability assessment of farming and food systems. [...] 

Fields of Interest
Applied Ecology; Sustainable Development; Agriculture; Natural Resources; Landscape/Regional and Urban Planning

Series Title
Human-Environment Interactions
Strain Variation in the Mycobacterium tuberculosis Complex: Its Role in Biology, Epidemiology and Control
S. Gagneux (Ed)

Until about 10 years ago, the general view in the field was that Mycobacterium tuberculosis, the causative agent of human tuberculosis was a “clone” with insufficient natural sequence variation between clinical strains to be considered biologically and epidemiologically “relevant”. [..]

Contents

Fields of Interest
Bacteriology; Drug Resistance

Series Title
Advances in Experimental Medicine and Biology

November 2017
XI, 314 p. 33 illus., 31 illus. in color. Hardcover. 178 x 254 mm
£ 126.00 | € 156.99 | $ 179.00
ISBN 978-3-319-64369-4

All Languages Rights Available

Advances in GAPDH Protein Analysis: A Functional and Biochemical Approach
S. Ganapathy-Kanniappan

This book presents modern and classic analytical approaches that are crucial for the biochemical and functional characterization of the archetypal protein, glyceraldehyde-3-phosphate dehydrogenase (GAPDH). The distinguishing feature of the book is that it covers, in addition to other methods, some of the uncommon but valuable techniques as well. [..]

Contents
Introduction.- Analysis of GAPDH enzyme activity: A quantitative and qualitative approach.- Analysis of GAPDH - Native protein.- Analysis of GAPDH under Denaturing Conditions.- Analysis of GAPDH and Protein Interaction.- Analysis of GAPDH and Nucleic acid Interaction.- Analysis of Subcellular and Extracellular GAPDH.- Analysis of GAPDH posttranslational modifications. [..]

Fields of Interest
Protein Science

February 2018
XIV, 115 p. 35 illus., 12 illus. in color. Hardcover. 155 x 235 mm
£ 88.00 | € 109.99 | $ 129.00

All Languages Rights Available

A Systems Biology Approach to Advancing Adverse Outcome Pathways for Risk Assessment
N. Garcia-Reyero, C. A. Murphy (Eds)

Social pressure to minimize the use of animal testing, the ever-increasing concern on animal welfare, and the need for more human-relevant and more predictive toxicity tests are some of the drivers for new approaches to chemical screening. [..]

Contents

Fields of Interest
Systems Biology; Pharmacology/Toxicology

March 2018
XIV, 422 p. 77 illus., 64 illus. in color. Hardcover. 155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-3-319-66082-0

All Languages Rights Available
Harmful algal blooms (HABs) - blooms that cause fish kills, contaminate seafood with toxins, or cause human or ecological health impacts and harm to local economies - are occurring more often, in more places and lasting longer than in past decades. This expansion is primarily the result of human activities, through increased nutrient inputs and various aspects of climate change. [...] 

Contents
Preface to Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB) Program.- Changing Land, Sea- and Airscapes: Sources of Nutrient Pollution Affecting Habitat Suitability for Harmful Algae. [...] 

Fields of Interest
Freshwater & Marine Ecology; Marine & Freshwater Sciences; Biogeosciences 

Series Title
Ecological Studies

Harmful algal blooms (HABs) - blooms that cause fish kills, contaminate seafood with toxins, or cause human or ecological health impacts and harm to local economies - are occurring more often, in more places and lasting longer than in past decades. This expansion is primarily the result of human activities, through increased nutrient inputs and various aspects of climate change. [...] 

Contents
Preface.- Paleobotanical origins and diversification of angiosperm trees.- Diversification of angiosperm trees.- Secondary woodiness.- Salient features and variation in angiosperm wood anatomy and physiology.- Populous.- Eucalyptus.- Emerging genomics of angiosperm trees.- Structural genomics, genome duplications/ ploidy, repeat sequences.- Evolutionary histories of gene families. [...] 

Fields of Interest
Tree Biology; Plant Systematics/Taxonomy/ Biogeography; Plant Anatomy/ Development; Plant Breeding/ Biotechnology 

Series Title
Plant Genetics and Genomics: Crops and Models

This book highlights the latest advances in rotifer studies in various fields including aquaculture, ecology, gerontology and ecotoxicology. The genus Brachionus are an indispensable type of zooplankton, having served as an initial live food for marine larval rearing since the 1960s. [...] 

Contents

Fields of Interest
Fish & Wildlife Biology & Management; Ecology; Zoology; Marine & Freshwater Sciences 

Series Title
Fisheries Science Series
Plant Bioinformatics
Decoding the Phyta
K. R. Hakeem, A. Malik, F. Vardar-Sukan, M. Ozturk (Eds)

This book: (i) introduces fundamental and applied bioinformatics research in the field of plant life sciences; (ii) enlightens the potential users towards the recent advances in the development and application of novel computational methods available for the analysis and integration of plant -omics data; (iii) highlights relevant databases, softwares, tools and web resources developed till date to [...]

Contents
1. Introduction to fundamental and applied bioinformatics research in plant life sciences.- Concept, development and application of novel computational methods for the analysis and integration of -omics data.- 3. Impact of high-throughput techniques on plant translational research.- 4. Functional genomics approaches in plant research. [...] 

Fields of Interest
Plant Sciences; Bioinformatics; Agriculture

Antibiotics and Antibiotics Resistance Genes in Soils
Monitoring, Toxicity, Risk Assessment and Management
M. Z. Hashmi, V. Strezov, A. Varma (Eds)

This book summarizes the current state of knowledge regarding antibiotics and antibiotics resistance genes (ARGs) in the soil environment. It covers a wide range of topics to help readers understand antibiotics and ARGs in soils, the risks they pose for the environment, and options for effective control. [...] 

Contents

Fields of Interest
Monitoring/Environmental Analysis; Soil Science & Conservation; Ecotoxicology; Applied Microbiology; Food Microbiology

Chlamydomonas: Biotechnology and Biomedicine
M. Hippler (Ed)

This Microbiology Monographs volume covers the current and most recent advances in genomics and genetics, biochemistry, physiology, and molecular biology of C. reinhardtii. [...]

Contents

Fields of Interest
Eukaryotic Microbiology; Medical Microbiology; Biochemistry, general

Series Title
Microbiology Monographs

February 2018
XIV, 459 p. 50 illus., 49 illus. in color. Hardcover. 155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-3-319-67155-0

All Languages Rights Available

February 2018
XVIII, 419 p. 85 illus., 44 illus. in color. Hardcover. 155 x 235 mm
£ 136.00 | € 169.99 | $ 199.00
ISBN 978-3-319-66259-6

All Languages Rights Available

January 2018
V, 217 p. 1 illus. Hardcover. 155 x 235 mm
£ 108.00 | € 134.99 | $ 169.00
ISBN 978-3-319-66359-3

All Languages Rights Available
Chlamydomonas: Molecular Genetics and Physiology
M. Hippler (Ed)

This Microbiology Monographs volume covers the current and most recent advances in genomics and genetics, biochemistry, physiology, and molecular biology of *C. reinhardtii*. [...]

Contents

Fields of Interest
Eukaryotic Microbiology; Medical Microbiology; Biochemistry, general

Series Title
Microbiology Monographs

Glutathione in Plant Growth, Development, and Stress Tolerance
M. A. Hossain, M. G. Mostofa, P. Diaz-Vivancos, D. J. Burritt, M. Fujita, L. P. Tran (Eds)

Glutathione (γ-glutamyl-cysteinyl-glycine) is a ubiquitously distributed sulfur-containing antioxidant molecule that plays key roles in the regulation of plant growth, development, and abiotic and biotic stress tolerance. It is one of the most powerful low-molecular-weight thiols, which rapidly accumulates in plant cells under stress. [...]

Contents
Chemistry, biosynthesis and antioxidative function of glutathione in plants.- The roles of glutathione in the control of plant growth, development and abiotic stress tolerance.- Involvement of thiol-based mechanisms in plant growth and development.- Plant glutathione peroxidases: Emerging role of the antioxidant enzymes in plant development and stress responses. [...]

Fields of Interest
Agriculture; Gene Expression; Oxidative Stress

Tropical Seaweed Farming Trends, Problems and Opportunities
Focus on *Kappaphycus* and *Eucheuma* of Commerce
A. Q. Hurtado, A. T. Critchley, I. C. Neish (Eds)

This book collates the latest information on *Kappaphycus* and *Eucheuma* seaweeds. The edited volume provides an important companion to anyone studying or working with what is the world’s largest cultivated marine plant biomass. The contributing authors have excelled in providing information on production and present and future uses of these carrageenan-bearing seaweeds. [...]

Contents
1. Reflections on the commercial development of eucheumatoid seaweed farming.- 2. Biodiversity, biogeography and molecular genetics of the commercially important genera *Kappaphycus* and *Eucheuma*.- 3. Reproductive biology and eco-physiology of farmed *Kappaphycus* and *Eucheuma*. [...]

Fields of Interest
Freshwater & Marine Ecology; Applied Ecology;

Series Title
Developments in Applied Phycology

January 2018
V, 281 p. 26 illus., 17 illus. in color. Hardcover.
155 x 235 mm
£ 126.00 | € 156.99 | $ 189.00
ISBN 978-3-319-66363-0

All Languages Rights Available

December 2017
XII, 421 p. 46 illus., 39 illus. in color. Hardcover.
155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-3-319-66681-5

All Languages Rights Available

November 2017
XVI, 216 p. 106 illus., 3 illus. in color. Hardcover.
210 x 279 mm
£ 108.00 | € 134.99 | $ 169.00
ISBN 978-3-319-63497-5

All Languages Rights Available
Urban Transformations
Sustainable Urban Development Through Resource Efficiency, Quality of Life and Resilience

The book addresses urban transformations towards sustainability in light of challenges of global urbanization processes and the consequences of global environmental change. The aim is to show that urban transformations only succeed if both innovative scientific solutions and practice-oriented governance approaches are developed. [...] 

Contents

Fields of Interest
Applied Ecology; Urban Studies/Sociology; Environmental Management; Environmental Sociology; Environmental Economics; Climate Change/Climate Change Impacts

Series Title
Future City

Methods For Monitoring Tiger And Prey Populations
K. U. Karanth, J. D. Nichols (Eds)

This book addresses issues of monitoring populations of tigers, ungulate prey species and habitat occupancy, with relevance to similar assessments of large mammal species and general biodiversity. [...] 

Contents

Fields of Interest
Ecology; Nature Conservation

Termites and Sustainable Management
Volume 1 - Biology, Social Behaviour and Economic Importance
Md. A. Khan, W. Ahmad (Eds)

This Volume comprises 12 chapters in an attempt to bring available information on biology, social behaviour and economic importance of termites. Chapters in this book dealing with termites identification provide a review on most updated information of their systematics. Ecologically, termites interact with living and non-living surroundings and deliver a wide range of behaviors. [...] 

Contents

Fields of Interest
Entomology; Agriculture

Series Title
Sustainability in Plant and Crop Protection
Termites and Sustainable Management
Volume 2 - Economic Losses and Management
Md. A. Khan, W. Ahmad (Eds)

This termite Volume 2 comprises 13 chapters in an attempt to bring all available information on sustainable and eco-friendly termite management. The previous Volume considered the biology, social behaviour and economic importance of these insects. [...] 

Contents

Fields of Interest
Entomology; Agriculture 

Series Title
Sustainability in Plant and Crop Protection

Membrane Dynamics and Calcium Signaling
J. Krebs (Ed)

This book describes the newest discoveries on calcium signaling happening at the cellular and intracellular membranes, often exerted in so called microdomains. Calcium entry and release, its interaction with proteins and resulting events on proteins and organelles are comprehensively depicted by leading experts in the field. [...] 

Contents

Fields of Interest
Membrane Biology; Protein-Ligand Interactions; Biological and Medical Physics, Biophysics 

Series Title
Advances in Experimental Medicine and Biology

The Potato Genome
S. Kumar Chakrabarti, C. Xie, J. Kumar Tiwari (Eds)

This book describes the historical importance of potato (Solanum tuberosum L.), potato genetic resources and stocks (including S. tuberosum group Phureja DM1-3 516 R44, a unique doubled monoploid homozygous line) used for potato genome sequencing. [...] 

Contents
The Historical, Social and Economic Importance of the Potato Crop. - Potato Genetic Resources. - History of potato breeding: Improvement, diversification, and diversity. - Genetic Stocks Used for Potato Genome Sequencing. - Strategies and Tools for Sequencing and Assembly of Plant Genomes. - High-throughput Sequencing of the Potato Genome. [...] 

Fields of Interest
Plant Breeding/Biotechnology; Agriculture 

Series Title
Compendium of Plant Genomes
Trends in Insect Molecular Biology and Biotechnology
D. Kumar, C. Gong (Eds)

This book provides an overview on the basics in insect molecular biology and presents the most recent developments in several fields such as insect genomics and proteomics, insect pathology and applications of insect derived compounds in modern research. [...] 

Contents

Fields of Interest
Entomology; Biotechnology;

Cyanidoschyzon merolae
A New Model Eukaryote for Cell and Organelle Biology
T. Kuroiwa, S. Miyagishima, S. Matsunaga, N. Sato, H. Nozaki, K. Tanaka, O. Misumi (Eds)

This comprehensive book highlights the importance of Cyanidoschyzon merolae (C. merolae), an ultrasmall unicellular red alga, as a model eukaryote organism. [...] 

Contents

Fields of Interest
Eukaryotic Microbiology; Applied Microbiology; Cell Cycle Analysis 

Seagrasses of Australia
Structure, Ecology and Conservation
A. Larkum, G. Kendrick, P. Ralph (Eds)

This book will take the place of “Biology of Seagrasses: a treatise on the biology of seagrasses with special reference to the Australasian region", which was published by Elsevier in 1989 and was co-edited by AWD Larkum AJ MacComb and SA Shepherd. [...] 

Contents

Fields of Interest
Evolutionary Biology; Plant Ecology; Plant Systematics/Taxonomy/ Biogeography
**Mycotoxins**  
*A Global Challenge for Food Safety & Security*  
Y. Liu (Ed)

This volume covers significant and latest global research on mycotoxins and their prevalence in a wide variety of food and feed commodities. It provides deep insight for professionals to address the issue of mycotoxins at different levels in framing the policies and the health aspects of the population with respect to mycotoxin contamination in food and feed. […]

**Contents**

SECTION 1: Mycotoxins and Mycotoxicology.- SECTION 2: Mycotoxin prevalence & challenges in North Asia.- SECTION 3: Mycotoxin prevalence & challenges in South Asia.- SECTION 4: Mycotoxin prevalence & challenges in South East Asia & Oceania.- SECTION 5: Mycotoxin prevalence & challenges in Middle East. […]

**Fields of Interest**

Food Microbiology; Food Science

**Series Title**

Mycotoxins

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**The Brassica napus Genome**  
*S. Liu, R. Snowdon, B. Chalhoub* (Eds)

This book describes how the genome sequence contributes to our understanding of allopolyploidisation and the genome evolution, genetic diversity, complex trait regulation and knowledge-based breeding of this important crop. Numerous examples demonstrate how widespread homoeologous genome rearrangements and exchanges have moulded structural genome diversity following a severe polyploidy bottleneck. […]

**Contents**

Economic/Academic importance.- Cytology.- Background of the sequencing initiatives and genome sequence delivery.- Genetic map, QTLs, association study and genes cloning.- Deciphering genome organization of the B. napus polyploid (including genome assembling and annotation).- TE.- Syntenic genes from alpha to triplication and sextuplication. […]

**Fields of Interest**

Plant Breeding/Biotechnology; Agriculture

**Series Title**

Compendium of Plant Genomes

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**Avian Ecology in Latin American Cityscapes**  
*I. MacGregor-Fors, J. F. Escobar-Ibáñez* (Eds)

This book gathers a representative sample of the relevant knowledge related to the ecology, behavior, and conservation of birds in urban Latin America. Latin America is one of the most biodiverse regions of the world, yet it is still understudied. […]

**Contents**

1. Birds from urban Latin America, where economic inequality and urbanization meet biodiversity. - 2 What’s new? An updated review of avian ecology in urban Latin America. - 3 Who’s in the city? Bird species richness and composition in urban Latin America. - 4 Flocking the city: Demography and population dynamics in urban Latin America. […]

**Fields of Interest**

Urban Ecology; Animal Ecology; Conservation Biology/Ecology

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**July 2018**

Approx. 300 p. Hardcover.  
155 x 235 mm  
£ 120.00 | € 149.99 | $ 189.00  
ISBN 978-981-10-6534-7

All Languages Rights Available

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**August 2018**

Approx. 300 p. Hardcover.  
178 x 254 mm  
£ 108.00 | € 134.99 | $ 169.00  
ISBN 978-3-319-43692-0

All Languages Rights Available

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**November 2017**

XII, 173 p. 24 illus., 16 illus. in color. Hardcover.  
155 x 235 mm  
£ 126.00 | € 156.99 | $ 189.00  
ISBN 978-3-319-63473-9

All Languages Rights Available
Endophytes: Biology and Biotechnology
Volume 1
D. K. Maheshwari (Ed)

This book discusses the latest developments in our understanding of microbial endophytes, their ecology, diversity and potential biotechnological applications. It covers all the latest advances concerning the endophytic interaction of microorganisms in a wide array of plants, reported on by experts from the entire globe. [...] 

Contents
1. Introduction to Endophytes.- PART I: Biology of Endophytes.- 2. Bacterial Endophytes: Genera, Tissue Colonization in Their Host Plants, and Functions.- 3. Quorum Quenching Enzymes From Endophytes of Medicinally Important plants.- 4. Endophytic Bacterial Communities of Biodiesel Plants and Their Plant Growth Promoting and Antagonistic Abilities. [...] 

Fields of Interest
Plant Biochemistry; Microbial Ecology; Agriculture; Biotechnology 

Series Title
Sustainable Development and Biodiversity 

November 2017
XI, 341 p. 44 illus., 31 illus. in color. Hardcover. 155 x 235 mm
€ 171,50 | € 214,00 | $ 259.00
ISBN 978-3-319-66540-5

All Languages Rights Available

Endophytes: Crop Productivity and Protection
Volume 2
D. K. Maheshwari, K. Annapurna (Eds)

This book reviews the latest developments in our understanding of microbial endophytes and their potential applications in enhancing productivity and disease protection. It covers all the latest discoveries regarding endophytes, their interactions with plants and application in agricultural productivity and protection. [...] 

Contents

Fields of Interest
Plant Biochemistry; Microbial Ecology; Agriculture; Biotechnology 

Series Title
Sustainable Development and Biodiversity 

November 2017
XI, 291 p. 70 illus., 19 illus. in color. Hardcover. 155 x 235 mm
£ 136,00 | € 169,99 | $ 209.00
ISBN 978-3-319-66543-6

All Languages Rights Available

Production of Plant Derived Natural Compounds through Hairy Root Culture
S. Malik (Ed)

This book provides the latest information about hairy root culture and its several applications, with special emphasis on potential of hairy roots for the production of bioactive compounds. Due to high growth rate as well as biochemical and genetic stability, it is possible to study the metabolic pathways related to production of bioactive compounds using hairy root culture. [...] 

Contents
The Agrobacterium rhizogenes GALLS Gene Provides an Alternative Method to Transform Plants.- Hairy Root Composite Plant Systems in Root-Microbe Interaction Research.- Production and Biosynthesis of Bioactive Stilbenoids in Hairy Root Cultures.- Hairy Root Cultures of Rhodiola rosea to Increase Valuable Bioactive Compounds. [...] 

Fields of Interest
Plant Breeding/Biotechnology; Plant Biochemistry; Biomedical Engineering/Biotechnology; Medical Microbiology 

December 2017
XVII, 216 p. 33 illus., 19 illus. in color. Hardcover. 155 x 235 mm
£ 108,00 | € 134,99 | $ 169.00
ISBN 978-3-319-69768-0

All Languages Rights Available
Oxidative Stress: Diagnostic Methods and Applications in Medical Science
P. K. Maurya, P. Chandra (Eds)

This book discusses the importance of oxidative stress, related biomarkers, and its diagnostic methods including bio-analytical and advanced detection systems. Oxidative stress is associated with diminished capacity of a biological system to overcome the overproduction of reactive oxygen species. [...]

Contents

Fields of Interest
Oxidative Stress; Human Physiology; Biomedical Engineering/Biotechnology; Biological Techniques; Nanotechnology and Microengineering

Handbook of Florists’ Crops Diseases
R. J. McGovern, W. H. Elmer (Eds)

Chapters outline up-to-date strategies regarding breeding, chemical and biological control, cultural and environmental manipulation, diagnosis, nutrition, and sanitation and how these approaches directly influence ornamental plant health. This book is a presentation of the latest techniques for disease management by a global team of experts. [...]

Contents

Fields of Interest
Plant Pathology; Agriculture; Entomology

Series Title
Handbook of Plant Disease Management

Natural Antimicrobial Agents
J. Méridon, C. Riviere (Eds)

Documenting the latest research in the field of different pathogenic organisms, this book presents the current scenario about promising antimicrobials in the following areas: Part I. Plants as source of antibacterials, Part II. Naturally occurring antifungal natural products, Part III. Antiparasitic natural products, Part IV. Antiviral natural products. [...]

Contents

Fields of Interest
Plant Sciences; Biodiversity; Bacteriology; Medicinal Chemistry

Series Title
Sustainable Development and Biodiversity
Lake Victoria Fisheries Resources
Research and Management in Tanzania
Y. D. Mgaya, S. B. Mahongo (Eds)

This book synthesises the historical trends of the lake fisheries, the lake ecology, biology and biodiversity, socio-economics, stock assessment, aquaculture, fish quality assurance, environmental quality and management of the fisheries resources. [...] Content
Freshwater & Marine Ecology; Fish & Wildlife Biology & Management; Biodiversity; Ecosystems

Mathematica for Bioinformatics
A Wolfram Language Approach to Omics
G. Mias

This book offers a comprehensive introduction to using Mathematica and the Wolfram Language for Bioinformatics. The chapters build gradually from basic concepts and the introduction of the Wolfram Language and coding paradigms in Mathematica, to detailed worked examples derived from typical research applications using Wolfram Language code. [...] Content

The Wild Oryza Genomes
T. K. Mondal, R. J. Henry (Eds)

This book focuses on the latest genome sequencing of the 25 wild Oryza species, public and private genomic resources, and their impact on genetic improvement research. It also addresses the untapped reservoir of agronomically important traits in wild Oryza species. [...] Content
Wild relatives of rice: A valuable genetic resource for genomics and breeding research.- Informatics of wild relatives of rice.- Evolutionary relationships among the Oryza species.- Oryza alta Swollen.- Oryza australiensis Domin.- Oryza barthii A. Chev.- Oryza brachyantha A. Chev. et Roehr.- Oryza coarctata Tateoka.- Oryza glaberrima Steud.- Oryza glumaepatula Steud. [...] Fields of Interest
Plant Breeding/Biotechnology; Agriculture

Series Title
Compendium of Plant Genomes

December 2017
XII, 287 p. 77 Illus., 46 Illus. in color. Hardcover.
155 x 235 mm
£ 108.00 | € 134.99 | $ 169.00
ISBN 978-3-319-69655-3
All Languages Rights Available

April 2018
XV, 386 p. 175 Illus., 156 Illus. in color. Hardcover.
155 x 235 mm
£ 129.99 | € 159.99 | $ 199.99
ISBN 978-3-319-72376-1
All Languages Rights Available

March 2018
XXI, 300 p. 66 Illus., 54 Illus. in color. Hardcover.
178 x 254 mm
£ 136.00 | € 169.99 | $ 199.00
ISBN 978-3-319-71996-2
All Languages Rights Available
Infections caused by fungi have recently attracted the attention of both clinicians and basic researchers given the heavy burden they represent for any health system. [...] 

Contents

Fields of Interest
Mycology; Medical Microbiology; Microbiology; Immunology

Vegetation Survey and Classification of Subtropical Forests of Southern Africa
L. Mucina
This book highlights classification patterns and underlying ecological drivers structuring the vegetation of selected indigenous subtropical forests in South Africa. It uses original field sampling and advanced numerical data analysis to examine three major types of forest – Albany Coastal Forests, Pondoland Coastal Scarp and Eastern Scarp – all of which are of high conservation value. [...] 

Contents

Fields of Interest
Plant Ecology; Community & Population Ecology; Biodiversity; Plant Systematics/ Taxonomy/ Biogeography; Nature Conservation; Forestry Management

Biodiversity Conservation Using Umbrella Species
Blakiston’s Fish Owl and the Red-crowned Crane
F. Nakamura (Ed)
This book focuses on Blakiston’s fish owl and the red-crowned crane as umbrella species. Healthy river, riparian and wetland ecosystems are necessary to maintain the populations of the two species. Both species have been revered by people since ancient times, but both are currently listed as endangered because of their small population sizes. [...] 

Contents
INTRODUCTION.- Part 1 ECOLOGY OF BLAKISTON’S FISH OWL.- Distribution of Blakiston’s fish owl in the world.- Ecology and conservation of Blakiston’s fish owl in Japan.- Ecology and conservation of Blakiston’s fish owl in Russia and Northern Territories.- Part 2 ECOLOGY OF RED-CROWNED CRANE.- Distribution of red-crowned crane in the world. [...] 

Fields of Interest
Biodiversity; Fish & Wildlife Biology & Management; Conservation Biology/ Ecology; Animal Ecology; Landscape Ecology

Series Title
Ecological Research Monographs

November 2017
XII, 425 p. 59 illus., 49 illus. in color. Hardcover. 155 x 235 mm £ 171,50 | € 214,00 | $ 259.00 ISBN 978-3-319-64112-6

All Languages Rights Available

January 2018
XVIII, 238 p. 35 illus. in color. Hardcover. 155 x 235 mm £ 108,00 | € 134,99 | $ 169.00 ISBN 978-3-319-67830-6

All Languages Rights Available

February 2018
X, 280 p. 115 illus., 70 illus. in color. Hardcover. 155 x 235 mm £ 108,00 | € 134,99 | $ 169.00 ISBN 978-981-10-7202-4

All Languages Rights Available
Urban Horticulture
Sustainability for the Future
D. Nandwani (Ed)

This book provides comprehensive information on the rapidly developing field of urban horticulture for sustainable use of land resources and creating a better environment. It presents peer-reviewed chapters from leading international researchers in the field of horticulture technologies, environmental issues, urban horticulture, and landscaping and its role in society. [...] 

Contents

Fields of Interest
Urban Ecology; Urbanism; Agriculture; Biodiversity; Environment, general

Series Title
Sustainable Development and Biodiversity

Choosing Sexes
Mechanisms and Adaptive Patterns of Sex Allocation in Vertebrates
K. J. Navara

There is extensive evidence that vertebrates of all classes have the ability to control the sexes of the offspring they produce. Despite dramatic differences in the mechanisms by which different taxa determine the initial sex of offspring, each group has found its own way of adjusting offspring sex ratios in response to social and environmental cues. [...] 

Contents
Introduction to Vertebrate Sex Ratio Adjustment.- It’s a boy! Evidence for sex ratio adjustment in humans.- Facultative sex ratio adjustment in non-human mammals.- Potential mechanisms of sex ratio adjustment in humans and non-human mammals.- The bees do it, but what about the birds?- Evidence for sex ratio adjustment in birds.- Potential mechanisms of sex ratio adjustment in birds. [...] 

Fields of Interest
Developmental Biology; Behavioral Sciences

Series Title
Fascinating Life Sciences

Mental Health and Illness in the City
N. Okkels, C. B. Kristiansen, P. . Munk-Jørgensen (Eds)

This book highlights a broad range of issues on mental health and illness in large cities. It presents the epidemiology of mental disorders in cities, cultural issues of urban mental health care, and community care in large cities and urban slums. It also includes chapters on homelessness, crime and racism - problems that are increasingly prevalent in many cities world wide. [...] 

Contents
Tentative Table of Contents- Prevalence of mental disorders in cities worldwide.- Positive factors for mental health promotion, prevention and treatment in city settings.- City planning, neighborhoods and mental health.- Green environment and mental health in the city. (Author: Kua Ee Heok). - Ghettoes, cultural groupings and mental disorders.- Slums and economic disparities in mental health. [...] 

Fields of Interest
Behavioral Sciences; Psychiatry; Neurosciences; Psychotherapy and Counseling; Public Health

Series Title
Mental Health and Illness Worldwide

August 2018
Approx. 300 p. 50 illus. in color. Hardcover. 155 x 235 mm
£ 126.00 | € 156.99 | $ 189.00
ISBN 978-3-319-67016-4

All Languages Rights Available

February 2018
XII, 240 p. 71 illus., 61 illus. in color. Hardcover. 155 x 235 mm
£ 61.99 | € 76.99 | $ 99.00
ISBN 978-3-319-71269-7

All Languages Rights Available

November 2017
XXI, 489 p. 15 illus., 10 illus. in color. Print + eReference. Hardcover. 155 x 235 mm
£ 311.50 | € 389.00 | $ 449.00

All Languages Rights Available
Mental Health and Illness in the City

N. Okkels, C. B. Kristiansen, P. Munk-Jørgensen (Eds)

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- Prevalence of mental disorders in cities worldwide.
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- City planning, neighborhoods and mental health.
- Green environment and mental health in the city. (Author: Kua Ee Heok).
- Ghettoes, cultural groupings and mental disorders.
- Slums and economic disparities in mental health. [..]

Fields of Interest
Behavioral Sciences; Psychiatry; Neurosciences; Psychotherapy and Counseling; Public Health

Series Title
Mental Health and Illness Worldwide

Rooftop Urban Agriculture

F. Orsini, M. Dubbeling, H. de Zeeuw, G. Gianquinto (Eds)

This book guides architects, landscape designers, urban planners, agronomists and society on the implementation of sustainable rooftop farming projects. The interdisciplinary team of authors involved stresses the different approaches and the multi-faceted forms that rooftop farming may assume in any context. [..]

Contents

Fields of Interest
Agriculture; Landscape/Regional and Urban Planning; Urban Ecology; Climatology; Urban Economics

Series Title
Urban Agriculture
Microorganisms for Green Revolution

Volume 2: Microbes for Sustainable Agro-ecosystem

D. G. Panpatte, Y. K. Jhala, H. N. Shelat, R. V. Vyas (Eds)

This book explores basic and applied aspects of microorganisms, which have a unique ability to cope with abiotic stresses such as drought, salinity and changing climate, as well as biodegrader microorganisms and their functional roles. [...] 

Contents
Chapter 1 Effect of Agrichemicals on Biocontrol Agents of Plant Disease Control.- Chapter 2 Azotobacter salinestris - A Novel Pesticide Degrading and Prominent Biocontrol PGPR Bacteria.- Chapter 3 Microbial management of organic waste in agro-ecosystem.- Chapter 4 Fungal Cellulases Production for Biodegradation of Agriculture Waste. [...] 

Fields of Interest
Agriculture; Microbial Ecology; Sustainable Development; Soil Science & Conservation; Oxidative Stress

Series Title
Microorganisms for Sustainability

February 2018
XIV, 252 p. 33 illus., 27 illus. in color. Hardcover.
155 x 235 mm
£ 108.00 | € 134.99 | $ 169.00
ISBN 978-981-10-7145-4

All Languages Rights Available

Microorganisms for Green Revolution

Volume 1: Microbes for Sustainable Crop Production

D. G. Panpatte, Y. K. Jhala, R. V. Vyas, H. N. Shelat (Eds)

This book addresses basic and applied aspects of two nexus points of microorganisms in agro-ecosystems, namely their functional role as bio-fertilizers and bio-pesticides. [...] 

Contents

Fields of Interest
Agriculture; Microbial Ecology; Sustainable Development; Soil Science & Conservation; Oxidative Stress

Series Title
Microorganisms for Sustainability

December 2017
XIV, 443 p. 90 illus., 38 illus. in color. Hardcover.
155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-981-10-6240-7

All Languages Rights Available

Disease Ecology

Galapagos Birds and their Parasites

P. G. Parker (Ed)

This book provides the first collection of chapters written by scientists who have contributed to the understanding of disease ecology in the Galapagos Islands, an iconic and historic natural site. [...] 

Contents
1. Introduction and Overview, Patricia Parker.- Part I Colonization of Islands by Hosts and Parasites.- 2 Colonization of Galápagos birds - identifying the closest relative and estimating colonization, Eloisa H.R. Sari and Jennifer Bollmer.- 3 Colonization of Parasites and Vectors, Arnaud Bataille, Iris I. Levin and Eloisa H.R. Sari.- Part II Island Syndromes. [...] 

Fields of Interest
Biodiversity; Conservation Biology/Ecology; Ecosystems; Evolutionary Biology

Series Title
Social and Ecological Interactions in the Galapagos Islands

November 2017
XII, 330 p. 56 illus., 43 illus. in color. Hardcover.
155 x 235 mm
£ 108.00 | € 134.99 | $ 169.00
ISBN 978-3-319-65908-4

All Languages Rights Available
Precision Agriculture:
Technology and Economic Perspectives
S. M. Pedersen, K. M. Lind (Eds)

This book presents cases from different countries with a main focus on the perspectives of using precision farming in Europe. Divided into 12 chapters it addresses some of the most recent developments and aspects of precision farming. The intention of this book is to provide an overview of some of the most promising technologies with precision agriculture from an economic point of view. [...]  

Contents
Chapter 1 Precision Agriculture – from Mapping to Site-specific Application.- 1.1. Introduction.- 1.2 Current PF technologies.- 1.3 Variable rate application.- 1.4 Adoption of precision farming systems.- 1.5 The aim and organisation of this book.- 1.6 Summary and main findings.- Chapter 2 Smart Farming Technologies – Description, Taxonomy, Economic Impact. [...]  

Fields of Interest
Agriculture; Agricultural Economics; Plant Sciences; Soil Science & Conservation  

Series Title
Progress in Precision Agriculture

The Common Bean Genome
M. Pérez de la Vega, M. Santalla, F. Marsolais (Eds)

This book provides insights into the genetics and the latest advances in genomics research on the common bean, offering a timely overview of topics that are pertinent for future developments in legume genomics. [...]  

Contents
Common Bean: Economic Importance and Relevance to Biological Science Research.- Botany of the Phaseolus bean crops.- Domestication and Crop History.- Cytogenetics and Comparative Analysis of Phaseolus species.- Genetic mapping and QTL analysis in common bean.- Requirement of Whole-Genome Sequencing.- Common Bean Genomes: Mining New Knowledge of a Major Societal Crop. [...]  

Fields of Interest
Plant Breeding/Biotechnology; Agriculture; Bioinformatics  

Series Title
Compendium of Plant Genomes

Fungal Nanotechnology
Applications in Agriculture, Industry, and Medicine
R. Prasad (Ed)

Fungal nanotechnology has great prospects for developing new products with industrial, agricultural, medicinal, and consumer applications in a wide range of sectors. [...]  

Contents
Fungal Nanotechnology: A Pandora to Agricultural Science and Engineering.- Agriculture Applications of Entomopathogenic Fungi using Nanotechnology.- Fungi as Ecosynthesizers for Nanoparticles and Their Application in Agriculture.- Myconanotechnology in Agriculture.- Fungus-mediated Bioleaching of Metallic Nanoparticles from Agro Industrial By-products. [...]  

Fields of Interest
Mycology; Plant Breeding/Biotechnology; Microbiology; Agriculture; Microbial Ecology  

Series Title
Fungal Biology
Bioremediation is the use of microorganisms' metabolism to degrade waste contaminants (sewage, domestic, and industrial effluents) into non-toxic or less toxic materials by natural biological processes. Remediation through fungi—or mycoremediation—has multifarious possibilities in applied remediation engineering and the future of environmental sustainability.

Contents

Fields of Interest
Mycology; Soil Science & Conservation; Plant Biochemistry; Pollution, general; Plant Breeding/Biotechnology

Series Title
Fungal Biology

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The Foxtail Millet Genome
M. Prasad (Ed)

This book presents up-to-date information on foxtail millet genomics, with a particular focus on its agronomic importance, genome architecture, marker development, evolutionary and diversity studies, comparative genomics and stress biology. The topics discussed have the potential to open up a new era of crop improvement in foxtail millet and other related grass species.

Contents
Foxtail millet: an introduction.- Foxtail millet genome sequencing, assembly, annotation and application.- Transposable elements in Setaria genomes.- Exploiting genome sequence information to develop genomic resources for foxtail millet improvement.- Breeding strategies in foxtail millet.- Genome wide association studies for improving agronomic traits in foxtail millet.

Fields of Interest
Plant Breeding/Biotechnology; Agriculture

Series Title
Compendium of Plant Genomes

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Soft Computing for Biological Systems
H. J. Purohit, V. C. Kalia, R. P. More (Eds)

This book explains how the biological systems and their functions are driven by genetic information stored in the DNA, and their expression driven by different factors.

Contents

Fields of Interest
Bioinformatics; Gene Expression; Biomedical Engineering/Biotechnology; Computational Biology/Bioinformatics; Gene Function

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Mycoremediation and Environmental Sustainability
Volume 1
R. Prasad (Ed)

Bioremediation is the use of microorganisms' metabolism to degrade waste contaminants (sewage, domestic, and industrial effluents) into non-toxic or less toxic materials by natural biological processes. Remediation through fungi—or mycoremediation—has multifarious possibilities in applied remediation engineering and the future of environmental sustainability.

Contents

Fields of Interest
Mycology; Soil Science & Conservation; Plant Biochemistry; Pollution, general; Plant Breeding/Biotechnology

Series Title
Fungal Biology

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Springer Research

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The Foxtail Millet Genome
M. Prasad (Ed)

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Soft Computing for Biological Systems
H. J. Purohit, V. C. Kalia, R. P. More (Eds)

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Mycoremediation and Environmental Sustainability
Volume 1
R. Prasad (Ed)

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Springer Research

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The Foxtail Millet Genome
M. Prasad (Ed)

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Soft Computing for Biological Systems
H. J. Purohit, V. C. Kalia, R. P. More (Eds)

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One of the most profound paradigms that have transformed our understanding about life over the last decades was the acknowledgement that microorganisms play a central role in shaping the past and present environments on Earth and the nature of all life forms. Each organism is the product of its history and all extant life traces back to common ancestors, which were microorganisms. […]

Fields of Interest
Evolutionary Biology; Applied Microbiology

Series Title
Grand Challenges in Biology and Biotechnology

Molecular Mechanisms of Microbial Evolution
P. H. Rampelotto (Ed)

One of the most profound paradigms that have transformed our understanding about life over the last decades was the acknowledgement that microorganisms play a central role in shaping the past and present environments on Earth and the nature of all life forms. Each organism is the product of its history and all extant life traces back to common ancestors, which were microorganisms. […]

Fields of Interest
Evolutionary Biology; Applied Microbiology

Series Title
Grand Challenges in Biology and Biotechnology

Grand Challenges in Marine Biotechnology
P. H. Rampelotto, A. Trincone (Eds)

This book serves as essential reading for research scientists and biotechnologists from both academia and industry working in marine biotechnology and related disciplines. […]

Contents

Fields of Interest
Applied Microbiology; Environmental Engineering/Biotechnology

Series Title
Grand Challenges in Biology and Biotechnology

Mangrove Ecosystems: A Global Biogeographic Perspective
Structure, Function, and Services

This book presents a comprehensive overview and analysis of mangrove ecological processes, structure, and function at the local, biogeographic, and global scales and how these properties interact to provide key ecosystem services to society. […]

Contents

Fields of Interest
Ecosystems; Freshwater & Marine Ecology; Forestry; Conservation Biology/Ecology; Environmental Management

July 2018
Approx. 350 p. 80 illus. in color. Hardcover.
155 x 235 mm
£ 120.00 | € 149.99 | $ 189.00
ISBN 978-3-319-69077-3

All Languages Rights Available

April 2018
XX, 658 p. 96 illus., 57 illus. in color. Hardcover.
155 x 235 mm
£ 99.99 | € 129.99 | $ 159.99
ISBN 978-3-319-69074-2

All Languages Rights Available

November 2017
XVI, 399 p. 74 illus., 46 illus. in color. Hardcover.
155 x 235 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-3-319-62204-0

All Languages Rights Available
The Calabar Bean and its Alkaloids
From Magic, via Miracle, to Memory
B. Robinson

Investigations into Calabar beans (the dried ripe seeds of Physostigma venenosum) and their alkaloidal components compose a classical scientific journey throughout some one-and-a-half centuries and not only represent a fascinating aspect of the history of medicine but which is, moreover, still ongoing at the forefront of chemical and medical discovery. […]

Contents

Fields of Interest
Plant Biochemistry; Organic Chemistry; Pharmaceutical Sciences/Technology

Downy Mildew Disease of Crucifers: Biology, Ecology and Disease Management
G. S. Saharan, N. Mehta, P. D. Meena

The book reviews key developments in downy mildew research, including the disease, its distribution, symptomatology, host range, yield losses, and disease assessment; the pathogen, its taxonomy, morphology, phylogeny, variability, sporulation, survival and perpetuation, spore germination, infection, pathogenesis, seed infection, disease cycle, epidemiology, forecasting, and fine structures. […]

Contents
- Introduction.- The Disease- Downy Mildew.- The Pathogen- Hyaloperonospora parasitica(Gaum.) Goker [H. brassicae (Gaum.) Goker].- Electron Microscopy, and Ultra Structures.- Physiologic Special- ization (Pathogenic variability).- Perpetuation, and Survival.- Infection, and Pathogenesis.- Disease Cycle.- Epidemiology, and Forecasting. […]

Fields of Interest
Agriculture; Plant Pathology; Mycology; Entomology; Plant Breeding/Biotechnology

Evolution of the Human Genome I
The Genome and Genes
N. Saitou (Ed)

This book reviews the human genome from an evolutionary perspective. No such book has ever been published before, although there are many books on human genomes. There are two parts in this book: Overview of the Human Genome (Part I) and The Human Genome Viewed through Genes (Part II). […]

Contents

Fields of Interest
Evolutionary Biology; Human Genetics; Anthropology

Series Title
Evolutionary Studies
Cellular and Molecular Toxicology of Nanoparticles
Q. Saquib, M. Faisal, A. A. Al-Khedhairy, A. A. Alatar (Eds)

This edited book is a compilation of findings on the molecular and cellular toxicity of nanoparticles (NPs) in animal cell, human cells, invertebrates. The varied selection of test models will provide better understanding about the horizon of NPs toxicity. [...]

Contents
Toxicity Assessment in The Nanoparticle Era.- Mechanisms of Uptake and Translocation of Nanomaterials in the Lung.- Transmucosal Nanoparticles: Toxicological Overview.- The Toxicity of Nanoparticles to Human Endothelial Cells.- The Role of Autophagy in Nanoparticles-Induced Toxicity and its Related Cellular and Molecular Mechanisms.- Nanoparticles-Caused Oxidative Imbalance. [...]

Fields of Interest
Cell Biology; Nanotechnology; Biological Techniques

Series Title
Advances in Experimental Medicine and Biology

March 2018
XVI, 346 p. 85 illus., 74 illus. in color. Hardcover.
178 x 254 mm
£ 136.00 | € 169.99 | $ 209.00
ISBN 978-3-319-72040-1

All Languages Rights Available

Transgenic Ascidians
Y. Sasakura (Ed)

This book comprehensively describes the transgenesis techniques and applied experimental methods in ascidians including enthusiastically developed original devices in addition to concrete examples of developmental biology studies. [...]

Contents

Fields of Interest
Developmental Biology; Transgenics; Cell Biology; Biological Techniques; Evolutionary Biology

Series Title
Advances in Experimental Medicine and Biology

March 2018
X, 201 p. 51 illus., 45 illus. in color. Hardcover.
178 x 254 mm
£ 124.00 | € 154,99 | $ 189.00

All Languages Rights Available

Developments in Fungal Biology and Applied Mycology
T. Satyanarayana, S. K. Deshmukh, B.N. Johri (Eds)

This book explores the developments in important aspects of fungi related to the environment, industrial mycology, microbiology, biotechnology, and agriculture. It discusses at length both basic and applied aspects of fungi and provides up-to-date laboratory-based data. [...]

Contents

Fields of Interest
Mycology; Biomedical Engineering/Biotechnology; Eukaryotic Microbiology; Applied Microbiology

January 2018
XVII, 605 p. 33 illus., 21 illus. in color. Hardcover.
155 x 235 mm
£ 207,50 | € 259,00 | $ 319.00
ISBN 978-981-10-4767-1

All Languages Rights Available
Cellular Therapies for Retinal Disease
A Strategic Approach
S. D. Schwartz, A. Nagiel, R. Lanza (Eds)

This book familiarizes the reader with the current landscape of cell-based therapies for the treatment of retinal disease, including diseases that affect the choriocapillaris, retinal pigment epithelium, photoreceptors, and retinal ganglion cells. [..]

Contents

Fields of Interest
Stem Cells; Ophthalmology

Eco-friendly Agro-biological Techniques for Enhancing Crop Productivity
R. S. Sengar, A. Singh (Eds)

As the world population is exploding and alongside fluctuations in climate is also prevalent, there is an increasing stress on the food requirements of the population. We have an urgent necessity to produce more food in the limited agricultural land. [..]

Contents
Organic Agriculture: Techniques to Improve Crop Production.- Recent Biotechnological Approaches to Produce Climate-ready-crops and Enhancing Crop Productivity.- Bioformulation and Fluid Bed Drying: A new approach towards an improved biofertilizer formulation.- Analysis of chlorophyll fluorescence: a reliable technique in determination of stress on plants. [..]

Fields of Interest
Agriculture; Soil Science & Conservation; Climate Change; Plant Breeding/ Biotechnology

Healthcare and Big Data Management
B. Shen (Ed)

The book addresses the interplay of healthcare and big data management. Thanks to major advances in big data technologies and precision medicine, healthcare is now becoming the new frontier for both scientific research and economic development. [..]

Contents
Chapter 1 How to become a smart patient in the era of precision medicine?.- Chapter 2 Physiological Informatics: Collection and Analyses of Data from Wearable Sensors and Smartphone for Healthcare.- Chapter 3 Entropy for the Complexity of Physiological Signal Dynamics.- Chapter 4 Data Platform for the Research and Prevention of Alzheimer's disease. [..]

Fields of Interest
Bioinformatics; Molecular Medicine; Computational Biology/Bioinformatics

Series Title
Advances in Experimental Medicine and Biology
Plant Adaptation Strategies in Changing Environment
V. Shukla, S. Kumar, N. Kumar (Eds)

This book addresses the crucial aspects of plant adaptation strategies in higher as well as lower plant groups. Stress induced by changing environmental conditions disrupts or alters various physiological and metabolic processes in organisms, however, plants have evolved various defense strategies to cope with external perturbations. [...] 

Contents
Chapter 1 Adaptation of Lichens to Extreme Conditions.- Chapter 2 Adaptive mechanisms of Desiccation Tolerance in Resurrection Plants.- Chapter 3 Dehydration- and Freezing Resistance of Lichenized Fungi.- Chapter 4 Adaptation in Algae to Environmental Stress and Ecological Conditions.- Chapter 5 Biochemical and Molecular Responses in Higher Plants Under Salt Stress. [...] 

Fields of Interest
Plant Sciences; Environmental Management; Oxidative Stress; Plant Ecology; Climate Change

Wild Relatives of Cultivated Plants in India
A Reservoir of Alternative Genetic Resources and More
A. K. Singh

This book provides a comprehensive overview of the wild relatives of crops and cultivated species found in India, covering their distribution, phylogenetic relationships with cultivated species, traits that are of economic and breeding value, and the perceived threats. [...] 

Contents

Fields of Interest
Agriculture; Conservation Biology/Ecology; Plant Breeding/Biotechnology

Tropical Dry Deciduous Forest: Research Trends and Emerging Features
J. Singh, R. K. Chaturvedi

Tropical dry deciduous forests (TDFs) can be found in severe and extremely variable climates characterized by low annual rainfall, 5-6 dry months within the annual cycle, and nutrient-poor soil. Several terms have been used for this vegetation type such as seasonally dry tropical forest (SDTF), tropical dry deciduous forest, monsoon forest, caatinga, cuabal, etc. [...] 

Contents
Introduction.- Global coverage, climate and soil.- Vegetation attributes.- Plant traits and regeneration.- Productivity and nutrient cycling.- Influence of biotic pressure and land-use changes.- Research perspectives. 

Fields of Interest
Forestry Management; Climate Change; Soil Science & Conservation; Ecology; Agriculture
**Molecular Aspects of Plant-Pathogen Interaction**  
A. Singh, I. K. Singh (Eds)

The book offers an integrated overview of plant-pathogen interactions. It discusses all the steps in the pathway, from the microbe-host-cell interface and the plant’s recognition of the microbe to the plant’s defense response and biochemical alterations to achieve tolerance / resistance. [..]

**Contents**

**Fields of Interest**
Plant Pathology; Soil Science & Conservation; Proteomics

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**Indian Hotspots**  
Vertebrate Faunal Diversity, Conservation and Management Volume 1  
C. Sivaperuman, K. Venkataraman (Eds)

This book offers a comprehensive account of India’s four biodiversity hotspots: the Himalaya, Indo-Burma, Western Ghats and Sri Lanka and Andaman and Nicobar Islands. With a focus on tropical rainforests, it includes more than 30 chapters covering different vertebrate fauna e.g. fishes, amphibians, reptiles, birds, and mammals, as well as topics such as conservation and management aspects. [..]

**Contents**
Chapter 1. Biodiversity hotspots in India.- Chapter 2. Endemic, endangered and threatened vertebrates in the Indian hotspots.- Chapter 3. Diversity and Conservation of Chiropteran Fauna.- Chapter 4. An overview of the vertebrate diversity of Sriharikota (India’s spaceport), Southern India: conservation perspectives. [..]

**Fields of Interest**
Ecology; Nature Conservation; Environmental Management; Zoology

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**Toward Sustainable Relations Between Agriculture and the City**  
C. Soulard, C. Perrin, E. Valette (Eds)

This book gives an overview of frameworks, methods, and case studies useful for the analysis of the relations between agriculture and the city, in Europe and the Mediterranean. Its originality lies in the analysis of urban food systems sustainability from an actors’ perspective. [..]

**Contents**

**Fields of Interest**
Agriculture; Urban Geography / Urbanism (incl. megacities, cities, towns); Urbanism; Agricultural Economics

**Series Title**
Urban Agriculture
Brewing and Distilling Yeasts
G. G. Stewart

This book is an overview considering yeast and fermentation. The similarities and differences between yeasts employed in brewing and distilling are reviewed. The implications of the differences during the production of beer and distilled products (potable and industrial) are discussed. [..]

Contents

Fields of Interest
Eukaryotic Microbiology; Biodiversity; Food Science

Series Title
The Yeast Handbook

Mitochondrial DNA and Diseases
H. Sun, X. Wang (Eds)

The book describes molecular principles and mechanisms by which mitochondrial DNA (mtDNA) can drive the occurrence of diseases and the latest understanding of mtDNA biology. The book explores roles of mtDNA mutation and genetic changes in cancer, with a special focus on lung cancer, and the significance of approach, application, and bioethics of mtDNA sequencing. [..]

Contents
How far can mitochondrial DNA drive the disease?- mitochondrial DNA in lung cancer.- Approach, application and bioethics of mtDNA sequencing in cancer.- Roles of mitochondrial DNA signaling in immune responses.- Mitochondrial DNA in Telocytes.- Roles of mitochondrial DNA in energy metabolism.- The role of base excision repair in maintaining mitochondrial DNA stability. [..]

Fields of Interest
Cell Biology; Human Genetics

Series Title
Advances in Experimental Medicine and Biology

Application of Recirculating Aquaculture Systems in Japan
T. Takeuchi (Ed)

This is the first English book to address the current development of closed recirculating aquaculture systems (cRASs) in Japan, and its implications for industry in the near future. It offers an introduction to the topic and discusses the industrial application of cRASs. [..]

Contents

Fields of Interest
Fish & Wildlife Biology & Management; Marine & Freshwater Sciences; Freshwater & Marine Ecology

Series Title
Fisheries Science Series
Plant Respiration: Metabolic Fluxes and Carbon Balance
G. Tcherkez, J. Ghashghaie (Eds)

There are currently intense efforts devoted to understand plant respiration (from genes to ecosystems) and its regulatory mechanisms; this is because respiratory CO₂ production represents a substantial carbon loss in crops and in natural ecosystems. [...]

Contents
From the Series Editors.- Series Editors.- Preface.- The Editors.- Contributors.- Author Index.- 1. Interactions Between Day Respiration, Photorespiration, and N and S Assimilation in Leaves; Cyril Abadie et al.- 2. Regulation of Respiration by Cellular Key Parameters: Energy Demand, ADP, and Mg²⁺; Richard Bligny, Elisabeth Gout. [...]

Series Title
Advances in Photosynthesis and Respiration

Prospects and Challenges in Algal Biotechnology
B. N. Tripathi, D. Kumar (Eds)

This contributed volume presents the latest research and state-of-the-art approaches in the study of microalgae. It describes in detail technologies for the cultivation of marine, freshwater and extremophilic algae, as well as phototrophic biofilms, cyanobacterial mats and periphytons, including the media requirements and growth rates of different types of algae. [...]

Contents
Section I: Algal Culture Technology.- 1. General Introduction.- 2. The culture technology for freshwater microalgae and cyanobacteria.- 3. The culture technology for marine algae and cyanobacteria.- 4. The culture technology for Periphytons and Cyanobacterial mats.- 5. The culture technology for extremophilic algae including cyanobacteria.- Section II Algal Biofuel and CO₂ sequestration. [...]

Fields of Interest
Microbiology; Applied Microbiology; Environmental Engineering/Biotechnology

Precision Medicine, CRISPR, and Genome Engineering
Moving from Association to Biology and Therapeutics
S. H. Tsang (Ed)

This book presents descriptive overviews of gene editing strategies across multiple species while also offering in-depth insight on complex cases of application in the field of tissue engineering and regenerative medicine. [...]

Contents

Fields of Interest
Regenerative Medicine/Tissue Engineering; Stem Cells; Ophthalmology; Human Genetics; Agriculture

Series Title
Advances in Experimental Medicine and Biology
The Jatropha Genome
S. Tsuchimoto (Ed)

This book presents the genetics and genomics of Jatropha, which is used for biofuel, and shows how plant genomics can be used to improve plant breeding. The utilization of plant biofuels is a promising solution to global issues such as the depletion of fossil fuels and resources and climate change. Jatropha curcas L. (jatropha) is a species of shrub belonging to the Euphorbiaceae family. [...] 

Contents 
Outline, Kiichi Fukui (Osaka University).- Part I Genome and Molecular Analyses: Genome and chromosomes, Naoki Wada (Osaka University).- Genome Analysis, Hideki Hirakawa (Kazusa DNA Institute) and Shusei Sato (Tohoku University).- Transcription factors, Keiichi Mochida (RIKEN plant Science Center).- Molecular marker, Atefeh Alipour (Osaka University). [...] 

Fields of Interest 
Plant Breeding/Biotechnology; Agriculture 

Series Title 
Compendium of Plant Genomes 

December 2017 
XVI, 288 p. 74 illus., 59 illus. in color. Hardcover. 178 x 254 mm 
£ 126.00 | € 156.99 | $ 189.00 
ISBN 978-3-319-49651-1 

All Languages Rights Available 

The Peanut Genome
R. K. Varshney, M. K. Pandey, N. Puppala (Eds)

This book presents the current state of the art in peanut genomics, focusing particularly on the latest genomic findings, tools and strategies employed in genome sequencing, transcriptomes and analysis, availability of public and private genomic resources, and ways to maximize the use of this information in peanut breeding programs. [...] 

Contents 
The Peanut Genome: An Introduction.- Economic and Academic Importance of Peanut.- Cytological Features of Peanut Genome.- Germplasm Characterization and Trait Discovery in Peanut.- Genomics Resources for Peanut Improvement.- Classical and Molecular Approaches for Mapping of Genes and Quantitative Trait Loci in Groundnut. [...] 

Fields of Interest 
Plant Breeding/Biotechnology; Agriculture 

Series Title 
Compendium of Plant Genomes 

January 2018 
XIX, 169 p. 5 illus., 2 illus. in color. Hardcover. 178 x 254 mm 
£ 108.00 | € 134.99 | $ 169.00 
ISBN 978-3-319-63933-8 

All Languages Rights Available 

Genomic Selection for Crop Improvement
New Molecular Breeding Strategies for Crop Improvement
R. K. Varshney, M. Roorkiwal, M. E. Sorrells (Eds)

Genomic Selection for Crop Improvement serves as handbook for users by providing basic as well as advanced understandings of genomic selection. This useful review explains germplasm use, phenotyping evaluation, marker genotyping methods, and statistical models involved in genomic selection. [...] 

Contents 
Forward.- Preface.- Genomic Selection for Crop Improvement: An Introduction.- Training population design and resource allocation for genomic selection in plant breeding.- Derivation of Linear Models for Quantitative Traits by Bayesian Estimation with Gibbs Sampling.- Bayesian genomic-enabled prediction models for ordinal and count data.- Genomic Selection for Small Grains Improvement. [...] 

Fields of Interest 
Agriculture; Plant Breeding/Biotechnology; Plant Systematics/Taxonomy/ Biogeography; Plant Anatomy/ Development; 

December 2017 
XII, 258 p. 14 illus., 8 illus. in color. Hardcover. 155 x 235 mm 
£ 126.00 | € 156.99 | $ 189.00 
ISBN 978-3-319-63168-4 

All Languages Rights Available
Pigeonpea (Cajanus cajan) is a crop of small land holding farmers in arid and semi-arid regions of the world. It has a number of usages starting from protein rich food to vegetarian families; fuel wood; nitrogen supplier to soil; recycling minerals in soil to animal feed etc. [...]
Current trends in Bioinformatics: An Insight
G. Wadhwa, P. Shanmughavel, A. K. Singh, J. R. Bellare (Eds)

This book highlights the latest breakthrough developments in bioinformatics. It presents a series of timely, in-depth reviews, drug clinical trial studies, biodiversity informatics and thematic issues. [...] Contents

Part 1. Overview.- Chapter 1. An Insight of Biological Databases used in Bioinformatics.- Chapter 2. Bioinformatics in Next-Generation Genome Sequencing.- Chapter 3. The Role of Bioinformatics in Epigenetics.- Chapter 4. Three dimensional structures of carbohydrates and glycoinformatics – An Overview.- Chapter 5. Epigenome: The guide to Genomic Expression, i.e. [...] Fields of Interest
Bioinformatics; Computer Appl. in Life Sciences; Proteomics; Microarrays; Appl. Mathematics/Computational Methods of Engineering

The Siberian Sturgeon (Acipenser baerii, Brandt, 1869) Volume 1 - Biology
P. Williot, G. Nonnotte, D. Vizziano-Cantonnet, M. Chebanov (Eds)

The biology of the Siberian sturgeon, Acipenser baerii Brandt 1869, has become a very attractive subject of investigation for biologists since the 1980s. This volume 1 is part of a two-volume set devoted to the species, the second of which focuses on farming. The present volume is divided into three parts: Biology and ecology, Biology and physiology of reproduction, and Ecophysiology, i.e. [...] Contents

Fish & Wildlife Biology & Management; Agriculture; Freshwater & Marine Ecology; Marine & Freshwater Sciences; Food Science

Biology and Biotechnology of Actinobacteria
J. Wink, F. Mohammadi Panah, J. Hamedi (Eds)

This book provides in-depth insights into the biology, taxonomy, genetics, physiology and biotechnological applications of Actinobacteria. It especially focuses on the latter, reviewing the wide variety of actinobacterial bioactive molecules and their benefits for diverse industrial applications such as agriculture, aquaculture, biofuel production and food technology. [...] Contents

Introduction.- Cellular structure of actinobacteria.- Growth and life Cycle of actinobacteria.- Classification and taxonomy of actinobacteria.- Genetic of actinobacteria.- Ecology and habitat distribution of actinobacteria.- Physiology of actinobacteria.- Regulation of secondary metabolites of actinobacteria.- Symbiosis and pathogenesis of actinobacteria. [...] Fields of Interest
Bacteriology; Applied Microbiology;
Identification and Control of Common Weeds: Volume 1
Z. Xu, G. Zhou

This book introduces readers to nearly 600 common weeds. In addition to essential information, each chapter includes photos for a specific type of weed to show its morphology in different growth periods, such as seedling, root, flower, fruit, and mature plant. The book also discusses control measures, including agricultural, chemical, physical, biological, and comprehensive methods. [...] Contents
Grass Weed.- Sedge Weed.

Fields of Interest
Agriculture; Plant Systematics/Taxonomy/Biogeography; Forestry Management

In Vivo Reprogramming in Regenerative Medicine
A. Yilmazer (Ed)

This new volume reviews current progress on different approaches of in vivo reprogramming technology. Leaders in the field discuss how in vivo cell lineage reprogramming can be used for tissue repair and regeneration in different organs, including brain, spinal cord, pancreas, liver and heart. [...] Contents
Regenerative Medicine/Tissue Engineering; Stem Cells; Cell Culture; Transplant Surgery

Series Title
Stem Cell Biology and Regenerative Medicine

Microbes for Legume Improvement
A. Zaidi, M. S. Khan, J. Musarrat (Eds)

This book presents in-depth insights into strategies involving plant growth-promoting rhizobacteria (PGPR), including symbiotic/asymbiotic nitrogen fixers and associative/endophyte bacteria, phosphate-solubilizing microbes, as well as arbuscular mycorrhizal fungi and their active biomolecules in legume production. [...] Contents
Current status of the taxonomy of bacteria able to establish nitrogen-fixing legume symbiosis.- Recent advances in the active biomolecules involved in rhizobia-legume symbiosis.- Flavonoids and Nod Factors: Importance in legume-microbe interactions and legume improvement.- Role of Ethylene and Bacterial ACC-deaminase in Nodulation of Legumes. [...] Fields of Interest
Microbiology; Plant Breeding/Biotechnology; Applied Microbiology

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S. M. Zargar, M. Y. Zargar (Eds)

The natural environment for plants is composed of a complex set of abiotic and biotic stresses; plant responses to these stresses are equally complex. Systems biology allows us to identify regulatory hubs in complex networks. [..]

Contents

Fields of Interest
Plant Anatomy/Development; Plant Breeding/Biotechnology

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Briefe und Tagebuchaufzeichnungen Willy Kükenthals von seiner Reise in den Malaiischen Archipel 1893–1894
S. Bauer

In diesem Buch finden Sie die von Willy Kükenthal, dem berühmten deutschen Zoologen und Forschungsreisenden, erhaltenen Briefe, die er während seiner Reise in den Malaiischen Archipel Ende des 19. Jahrhunderts an seine Frau geschrieben hat und ein auf Borneo geführtes wissenschaftliches Tagebuch. [..]

Contents
Vorwort.- Briefe Willy Kükenthals an seine Frau.- Wissenschaftliches Tagebuch Borneo.- Biographische Skizze Willy Kükenthal.

Fields of Interest
Zoology; History of Science

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L. Ahmad, R. Habib Kanth, S. Parvae, S. Sheraz Mahdi

The book is a practical manual which has been created to support the syllabus of agro-meteorology courses specifically designed for graduate and post-graduate students. The topics covered in the manual include working with meteorological instruments for measurement of various meteorological parameters like temperature, humidity, sunshine hours, precipitation, etc. [..]

Contents

Fields of Interest
Agriculture; Meteorology; Soil Science & Conservation; Sustainable Development; Climatology

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A Problem Solving Approach
H. L. Field, J. M. Long

Introduction to Agricultural Engineering Technology: A problem Solving Approach is an invaluable text for agriculture students at the introductory level. The fourth edition has been thoroughly updated and reorganized to meet the current units and standards of the American Society of Agricultural and Biological Engineers (ASABE). [...] 

Contents

Fields of Interest
Agriculture; Food Science; Environmental Engineering/Biotechnology

Grundzüge der Pflanzenökologie
F. Thomas

Wie reagieren Pflanzen auf Umwelteinflüsse? Wie sind Pflanzengemeinschaften in Mitteleuropa und global verbreitet? Wie "funktionieren" Ökosysteme auf der Basis pflanzlicher Biomasseproduktion? Gestützt auf den aktuellen Stand der Wissenschaft, gibt dieses Buch prägnante Erklärungen zu diesen Fragen, die anhand zahlreicher Beispiele und Fallstudien erläutert werden. [...] 

Contents

Fields of Interest
Plant Sciences; Plant Ecology; Community & Population Ecology; Climate Change; Agriculture

Biolgie von Parasiten
R. Lucius, B. Loos-Frank, R. P. Lane

Die 3. vollständig überarbeitete Auflage dieses Buches führt in die Biologie parasitärer Einzeller, Würmer und Arthropoden ein. Die Autoren bieten auf Grundlage der aktuellen Systematik eine Übersicht über die verschiedenen Parasitengruppen. [...] 

Contents
Allgemeine Aspekte der Biologie von Parasiten.- Parasitische Protozoen.- Parasitische Würmer und Myxozoa.- Arthropoda - Gliederfüßerspan

Fields of Interest
Zoology; Parasitology
Entwicklungsbio und Reproduktionsbiologie des Menschen und bedeutender Modellorganismen
W. A. Müller, M. Hassel

Dieses Buchs führt verständlich und auf dem neuesten Stand in die faszinierenden Vorgänge der Entwicklung und ihrer (epi)genetischen Steuerung ein. Es gibt einen Überblick über die Embryonalentwicklung des Menschen und bedeutender Modellorganismen. Hervorgehoben werden allgemeine Prinzipien und Grundmuster. […]

Contents

Fields of Interest
Developmental Biology; Animal Anatomy / Morphology / Histology; Cell Biology; Reproductive Medicine; Neurobiology

Angewandte Bioinformatik
Eine Einführung
P. M. Selzer, R. J. Marhöfer, O. Koch

Für Studierende und Wissenschaftler der Lebenswissenschaften schafft dieses Buch einen schnellen, strukturierten Zugang zur Angewandten Bioinformatik ohne Programmierkenntnisse oder tiefgehende Informationsvoraussetzung. Es bietet eine Einführung in die tägliche Anwendung der vielfältigen bioinformatischen Werkzeuge und gibt einen ersten Überblick über das sehr komplexe Fachgebiet. […]

Contents

Fields of Interest
Bioinformatics; Computer Appl. in Life Sciences

Computational Biology
F. Jopp, C. Lange, A. Goesmann (Eds)

Die moderne Informationsverarbeitung ist aus dem Studium und vor allem der Anwendung der Biologie nicht mehr wegzudenken: Daten- und Literaturrecherche im Netz, Auswertung mit Computerprogrammen, die teilweise selbst erarbeitet werden müssen, Kommunikation mit Kollegen, internationale Projektarbeit, E-Publishing der Ergebnisse. […]

Contents

Fields of Interest
Life Sciences, general; Computer Appl. in Life Sciences; Bioinformatics

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