Symbiotic Endophytes

Features
- With contributions by international experts
- A valuable source of information for scientists in microbiology, agriculture and soil ecology
- Provides basic research and potential application of microbial symbionts

Contents
Journey to Nodule Formation: From Molecular Dialogue to Nitrogen Fixation.
- A Roadmap Towards A Systems Biology Description Of Bacterial Nitrogen Fixation.
- Carbon Metabolism During Symbiotic Nitrogen Fixation.
- Genomic and functional diversity of the sinorhizobial model group.
- Establishment of Actinorhizal symbioses.
- Abiotic Factors Influencing Nitrogen-fixing Actinorhizal Symbioses.
- Diversity of Frankia strains, actinobacterial symbionts of actinorhizal plants.
- Abiotic stress tolerance induced by endophytic PGPR.
- Fighting Plant Diseases Through the Application of Bacillus and Pseudomonas Strains.
- Functional diversity of endophytic bacteria.
- Chemical signalling in the arbuscular mycorrhizal symbiosis: biochemical applications.
- Carbon Metabolism and Costs of Arbuscular Mycorrhizal Associations to Host Roots.
- Arbuscular Mycorrhizal Fungi and Uptake of Nutrients.
- Arbuscular Mycorrhizal Fungi and the Tolerance of Plants to Drought and Salinity.
- Root Allies: Arbuscular Mycorrhizal Fungi Help Plants to Cope with Biotic Stresses.
- Fungal Endophytes in Plant Roots: Taxonomy, Colonization Patterns and Functions.
- Endophytic Yeasts - Biology and Applications.

Fields of interest
Agriculture; Plant Breeding/Biotechnology; Microbiology

Target groups
Research

Product category
Contributed volume

Due September 2013
2013. XII, 364 p. 36 illus., 16 in color. (Soil Biology, Volume 37) Hardcover
- $189.00
ISBN 978-3-642-39316-7

Perspectives in inflammation biology

Contents
Chapter 1. Pulmonary and Systemic inflammation.
- Chapter 2. Preclinical models of acute and chronic models of lung inflammation.
- Chapter 3. Studying the roles of some key molecules in acute allergic asthma.
- Research area 1- Enantiomers of albuterol, the OTC drug of choice for acute asthma management.
- Research area 2. Studies on prophylactic and therapeutic strategies to combat some local and systemic inflammatory pathologies.
- Sub-chapter 1. Role of integrin α4 (VLA- Very Late Antigen 4) and integrin β2 (CD18) in a pulmonary inflammatory and a systemic disease model using genetic knockout mice.
- Sub-chapter 2. Role of E-, L-, and P-selectins in the onset, maintenance and development of acute allergic asthma.
- Sub-Chapter 3. Role of gp91phox subunit of NADPH oxidase and MMP-12 in a acute inflammatory and an acute degenerative pulmonary disease model using genetic knockout mice.
- Chapter 4. Role of integrins α4 and β2 onset and development of chronic allergic asthma in mice.
- Chapter 5 Role of integrin α4 (VLA- Very Late Antigen 4) in lymphopoiesis by short and long term transplantation studies in genetic knockout model of mice.
- Chapter 6. Studying the roles of some critical molecules in systemic inflammation.

Fields of interest
Cell Biology; Stem Cells; Microbial Ecology

Target groups
Research

Product category
Monograph

Due November 2013
2014. Approx. 400 p. Hardcover
- $209.00
ISBN 978-3-7091-1401-8

Due September 2013
2013. Approx. 160 p. 49 illus., 12 in color. Hardcover
- $189.00
ISBN 978-81-322-1577-6
Stem Cell Therapy in Lysosomal Storage Diseases

Cell therapy for lysosomal diseases (LSDs) is developing rapidly. This volume discusses the history, current practice and future perspectives of stem cell in inborn errors of metabolism (IEM) and provides an international perspective.

Contents

Features
- Offers multidisciplinary input – from the clinic and the laboratory – into the management of LSD using cellular therapies, summarizing the recent and enormous changes in this field
- Examines the current roles of treatments, including newer ones, and how they may be used in combination to treat these rare diseases
- Provides state of the art treatment that can be implemented in daily practice and looks at possible long and short term future developments

Fields of interest
Stem Cells; Cell Biology; Human Genetics

Target groups
Professional/practitioner

Product category
Contributed volume

P. Buzzini, University of Perugia, Italy; R. Margesin, University of Innsbruck, Austria (Eds)

Cold-adapted Yeasts
Biodiversity, Adaptation Strategies and Biotechnological Significance

Contents
Cold-Adapted Yeasts: a Lesson from the Cold and a Challenge for the XXI Century | Methods for the Isolation and Investigation of the Diversity of Cold-Adapted Yeasts and their ex situ Preservation in Worldwide Collections | Cold-Adapted Yeasts in Arctic Habitats | Cold-Adapted Yeasts in Antarctic Deserts | Cold-adapted Yeasts in Alpine and Apennine glaciers | Cold-Adapted Yeasts in Patagonian Habitats | Cold-Adapted Yeasts in Deep-Sea Environments | Black Yeasts in Cold Habitats | Production of Pigments and Photo-Protective Compounds by Cold-Adapted Yeasts | Changes in Lipids Composition and Fluidity of Yeast Plasma Membrane as Response to Cold | Cold-Shock Response and Adaptation to Near-Freezing Temperature in Cold-Adapted Yeasts | Production of Antifreeze Proteins by Cold-Adapted Yeasts | Role of Sterol Metabolism and Endoplasmic-Reticulum-Associated Degradation (ERAD) of Proteins in Cold Adaptation of Yeasts | Subzero Activity of Cold-Adapted Yeasts | Fundamentals of Cold-Active Enzymes | Cold-Active Yeast Lipases: Recent Issues and Future Prospects | Miscellaneous Cold-Active Yeast Enzymes of Industrial Importance | Production of Polymers and other Compounds of Industrial Importance by Cold-Adapted Yeasts | Low-Temperature Production of Wine, Beer and Distillates using Cold-Adapted Yeasts | Cold-Adapted Yeasts as Biocontrol Agents: Biodiversity, Adaptation Strategies and Biocontrol Potential

Fields of interest
Microbiology; Microbial Ecology; Applied Microbiology

Target groups
Research

Product category
Monograph

P. Cudic, Torrey Pines Institute for Molecular Studies, Port St. Lucie, FL, USA (Ed)

Peptide Modifications to Increase Metabolic Stability and Activity

Contents
Hantzsch Based Macrocyclization Approach for the Synthesis of Thiazole Containing Cyclopeptides | The Chemical Synthesis of α-Conotoxins and Structurally Modified Analogs with Enhanced Biological Stability | Synthesis of Appeptides | Peptoids and Peptide – Peptoid Hybrid Biopolymers as Peptidomimetics | Synthesis of Side Chain N,N-diaminoalkylated Derivatives of Basic Amino Acids for Application in Solid-phase Peptide Synthesis | Study Protein Folding and Aggregation Using Non-natural Amino Acid p-cyanophenylalanine as a Sensitive Optical Probe | Adaman-
toyLated Biologically Active Small Peptides and Glycopeptides Structurally Related to the Bacterial Peptidoglycan | Optimization of Physicochemical and Pharmacological Properties of Peptide Drugs by Glycosylation | The Maillard Reaction Induced Modification of Endogenous Opioid Peptide Encephalin | Solid-phase Guanidinylation of Pep
tidyl Amines Compatible with Standard Fmoc-chemistry | Formation of Monosubstituted Guanidines | Stabilization of Collagen-Model, Triple-Helical Peptides for In Vitro and In Vivo Applications | Identification of Adiponectin Receptor Agonists and Turning Them to Antagonists | Peptide Detection and Structure Determination in Live Cells using Confocal Raman

Fields of interest
Biochemistry, general; Nucleic Acid Chemistry

Target groups
Professional/practitioner

Product category
Contributed volume

Due September 2013
2013. X, 290 p. 89 illus., 16 in color. (Methods in Molecular Biology, Volume 1081) Hardcover
$119.00
ISBN 978-1-62703-651-1

Due August 2013
2013. XI, 506 p. 61 illus., 28 in color. Hardcover
$209.00
ISBN 978-3-642-39680-9

Due September 2013
2013. Approx. 300 p. 5 illus., 2 in color. (Stem Cell Biology and Regenerative Medicine) Hardcover
$189.00
ISBN 978-1-4614-8356-4
**Parasitic Zoonoses**

The book "Parasitic Zoonoses" emphasizes a veterinary and public health perspective of zoonotic parasites. This book is suitable for higher undergraduate and graduate students of zoonoses and public health, veterinary parasitology, parasite epidemiology; public health workers; public health veterinarians; field veterinarians, medical professionals and all others interested in the subject. More than 15 protozoa and 50 other parasitic diseases are zoonotic in nature and all these diseases have been discussed in detail. The first chapter is concerned with classification of zoonotic parasites, food borne, vector borne and occupational related zoonotic parasites. The remaining chapters cover etiology, epidemiology, life cycle, transmission, clinical signs, diagnosis, prevention and control of zoonotic parasites.

**Features**
- The epidemiology of each zoonotic disease is described alongside the strategies for prevention and control
- All parasitic zoonoses have been classified and discussed based on etiological agents, transmission cycle, reservoir hosts and principal hosts
- Parasitic zoonoses have also been discussed by classifying them as food borne, vector borne and occupational parasitic zoonoses
- Coloured photographs and line diagrams have been used to depict the parasites, providing visual appeal

**Contents**

**Fields of interest**
Zoology; Animal Anatomy / Morphology / Histology; Animal Physiology

**Target groups**
Research

**Product category**
Monograph

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**Translation in Mitochondria and Other Organelles**

The present book gives an overview on the similarities and differences of the various translation systems. Moreover, it highlights the mechanisms and control of translation in mitochondria and other organelles such as chloroplasts, plastids and apicoplasts in different organisms. Lastly, it offers an outlook on future developments and applications that might be made possible by a better understanding of translation in mitochondria and other organelles.

**Features**
- Gives an overview on the different translation machineries in the cell
- Specifies mechanisms and control of translation in mitochondria and other organelles
- Written by international experts in the field

**Contents**
- Structural aspects of mitochondrial ribosome function.
- Mechanism and control of protein translation in mammalian mitochondria.
- Translation in mammalian mitochondria: Order and disorder linked to tRNA and Aminoacyl-tRNA synthetases.
- Mitochondrial targeting of RNA and mitochondrial translation in yeast and mammals.
- Mechanisms and control of protein synthesis in extracts of mammalian cell cultures.
- Mitochondrial translation in trypanosomatids.
- Translation in mitochondria and apicoplasts in Apicomplexa.
- Translation in mitochondria in green algae and higher plants.
- Translation in flowering plant chloroplasts.

**Fields of interest**
Protein Science; Cell Biology; Cytogenetics

**Target groups**
Research

**Product category**
Contributed volume

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**Soundscape Ecology**

Soundscape Ecology represents a new branch of ecology and it is the result of the integration of different disciplines like Landscape ecology, Bioacoustics, Acoustic ecology, Biosemiotics, etc. The soundscape that is the object of this discipline, is defined as the acoustic context resulting from natural and human originated sounds and it is considered a relevant environmental proxy for animal and human life. With Soundscape Ecology Almo Farina means to offer a new cultural tool to investigate a partially explored component of the environmental complexity.

**Features**
- First handbook on soundscape ecology for a graduate course in advanced landscape ecology
- Integration between soundscape and landscape principles
- Application of the soundscape ecology to nature conservation and human well-being

**Contents**

**Fields of interest**
Behavioural Sciences; Landscape Ecology; Urban Ecology

**Target groups**
Research

**Product category**
Monograph
**G Protein-Coupled Receptors - Modeling and Simulation**

**Contents**

**Fields of interest**
Protein Structure; Gene Function; Physiological, Cellular and Medical Topics

**Target groups**
Research

**Product category**
Contributed volume

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**The Biology of Reaction Wood**

**Features**
- Brings together information on reaction wood that never was all in the same place or in such an accessible form. 
- With the continuing realisation of the fundamental role of reaction wood in the adaptation to trees to their environment this book will help place reaction wood at the centre stage of our understanding of tree physiology and reaction wood. 
- Written by international experts.

**Fields of interest**
Wood Science & Technology; Forestry; Plant Physiology

**Target groups**
Research

**Product category**
Contributed volume

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**ß-barrel Channel Proteins as Tools in Nanotechnology**

**Biology, Basic Science and Advanced Applications**

ß-barrel outer membrane channel proteins (OMP) are useful as robust and flexible models or components in nanotechnology. Over the last decade biotechnological techniques allowed to expand the natural characteristics of OMPs by modifying their geometry and properties. The present book is oriented towards a broad group of readers including graduate students and advanced researchers. It gives a general introduction to the field of OMP based nano-component development as well as the state of the art of the involved research. On the example of the E.

**Features**
- Gives a comprehensible report on how to use beta-barrel membrane proteins as nano-material components (including all involved steps) 
- Is useful for both experimentalists and theoreticians that want to expand their knowledge toward the rapidly expanding field of membrane protein based bio-nanotechnology 
- Includes a chapter with “wet-lab” information on the beta-barrel membrane protein production (including trouble shootings and suggestions)

**Contents**

**Fields of interest**
Protein Structure; Gene Expression; Biotechnology

**Target groups**
Research

**Product category**
Monograph

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Due September 2013

2013. Approx. 300 p. 95 illus., 45 in color. (Advances in Experimental Medicine and Biology, Volume 796) Hardcover
- $189.00
ISBN 978-94-007-7422-3

Due August 2013

- $189.00

Due October 2013

- approx. $209.00
ISBN 978-3-642-10813-6

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### Membrane Proteins
**Folding, Association, and Design**

**Features**
- Focuses on model systems for the study of structure, folding, and association of proteins in the membrane
- Presents laboratory-ready protocols provided by experts in the field
- Features key tips and implementation advice to ensure successful results

**Contents**
- Use of Thiol-Disulfide Exchange Method to Study Transmembrane Peptide Association in Membrane Environments.
- Measurement of Transmembrane Peptide Interactions in Liposomes Using Förster Resonance Energy Transfer (FRET).
- Genetics Systems for Monitoring Interactions of Transmembrane Domains in Bacterial Membranes.
- Analyzing the Effects of Hydrophobic Mismatch on Transmembrane α-Helices Using Tryptophan Fluorescence Spectroscopy.
- Folding Alpha Helical Membrane Proteins into Liposomes In Vitro and Determination of Secondary Structure.
- Solvation Models and Computational Prediction of Orientations of Peptides and Proteins in Membranes.
- Membrane Protein Structure Determination: Back to the Membrane.
- On the Role of NMR Spectroscopy for Characterization of Antimicrobial Peptides.
- Prediction and Design of Outer Membrane Protein-Protein Interactions.
- Design of Transmembrane Peptides: Coping with Sticky Situations.
- Engineering and Utilization of Reporter Cell Lines for Cell-Based Assays of Transmembrane Receptors.
- Fluorination in the Design of Membrane Protein Assemblies.

**Fields of interest**
- Protein Science; Membrane Biology

**Target groups**
- Professional/practitioner

**Product category**
- Contributed volume

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**G. Ghirlanda, Arizona State University, Tempe, AZ, USA; A. Senes, University of Wisconsin, Madison, WI, WI, USA (Eds)**

**G. Gordh, USDA-APHIS, Raleigh, NC, USA; S. McKirdy, Murdoch University, Murdoch, WA, Australia (Eds)**

### The Handbook of Plant Biosecurity
**Principles and Practices for the Identification, Containment and Control of Organisms that Threaten Agriculture and the Environment Globally**

**Contents**
- Preface
- An introduction to plant biosecurity: Past, present and future
- The International Regulatory Framework
- Domestic regulatory framework and invasive alien species in China
- The Importance of Core Biological Disciplines in Plant Biosecurity
- The Biosecurity Continuum and Trade: Pre-Border Operations
- The Biosecurity Continuum and Trade: Border Operations
- The Biosecurity Continuum and Trade: Tools for Post-Border Biosecurity
- Agricultural Biosecurity Communications and Outreach
- The Role of Pest Risk Analysis in Plant Biosecurity
- Phytosanitary Treatments
- The Role of Surveillance Methods and Technologies in Plant Biosecurity
- Digital Identification Tools in Regulatory Science and Practice
- Molecular Diagnostic Techniques and Biotechnology in Plant Biosecurity
- Insect Eradication and Containment of Invasive Alien Species
- Invasive Insects in Plant Biosecurity: Case Study - Mediterranean Fruit Fly
- Invasive Insects in Plant Biosecurity: The Asian Longhorned Beetle Eradication Program
- Phytoperasitic Nematodes: Risks and Regulations
- Invasive Pathogens in Plant Biosecurity: Case Study - Citrus Biosecurity
- Invasive Pathogens in Plant Biosecurity: Case Study: Phytophthora ramorum

**Fields of interest**
- Entomology; Agriculture; Plant Pathology

**Target groups**
- Research

**Product category**
- Contributed volume

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**H. Geiger, Ulm University, Ulm, Germany; H. Jasper, University of Rochester, Rochester, NY, USA; M. C. Florian, Ulm University, Ulm, Germany (Eds)**

### Stem Cell Aging: Mechanisms, Consequences, Rejuvenation

Aging of somatic stem cells reduces stem cell function and results in dysfunctional organs and tissues. Aging of stem cells is thus an underlying cause for aging associated diseases.

**Features**
- First comprehensive book on stem cell aging and rejuvenation
- Covers model organisms and mammalian systems
- Written by prominent experts in the field

**Contents**
- A) Introduction: Stem cells, aging and longevity (overview)
- B) Mechanisms of Stem Cell Aging in Model Organisms
- Yeast: Chronological Aging
- Divisional Aging
- C. elegans: Primarily germline.
- Drosophila: Male germ line.
- Female germ line.
- Somatic stem cells (stress and regulation of hematopoietic precursors, intestinal stem cell aging and regulation)
- Zebrafish
- C) Mechanisms of Stem Cell Aging in Mammalian Tissues
- Hematopoietic (Mouse/Human)
- Skin (Mouse/Human)
- Intestine (Mouse/Human)
- Muscle (Mouse/Human)
- Neuronal Tissues (Mouse/Human)
- D) Diseases of Aging and Stem Cells
- Chronic Myeloid Leukemia and Aging of Hematopoietic Stem Cells (Mouse/Human)
- Wound Healing Repair and Aging of Skin Stem Cells (Mouse/Human)
- E) Stem Cell Rejuvenation Muscle
- Hematopoietic
- Neuronal

**Fields of interest**
- Stem Cells; Cancer Research; Immunology

**Target groups**
- Research

**Product category**
- Contributed volume
Legumes in the Omic Era

Legumes in the Omic Era provides a timely review of recent advances in legume genomics research and application. In this post-genomic era enormous amount of biological information is available which could be of huge potential use for crop improvement applications. This aspect of genomics assisted plant breeding is focused throughout the book for all the important grain legume crops.

Features
- Presents practical advancements in legume genomics
- Covers the current status of functional and comparative genomic research in grain legumes from around the globe
- A useful guide for teachers of graduate level courses where there are currently no other volumes available

Contents

Fields of interest
Plant Sciences; Plant Breeding/Biotechnology; Plant Genetics & Genomics

Target groups
Research

Product category
Contributed volume

Tissue Microarrays Methods and Applications

Field of interest
Cell Biology

Target groups
Research

Product category
Contributed volume

Genomics of Soil- and Plant-Associated Fungi

Features
- With contributions by international experts
- A valuable source of information for scientists in microbiology, agriculture, and biofuels industry
- Describes the basic genetics and the potential applications of fungi and their secondary metabolites

Contents

Fields of interest
Microbial Genetics and Genomics; Plant Pathology; Applied Microbiology

Target groups
Research

Product category
Contributed volume
Methicillin-Resistant Staphylococcus Aureus (MRSA) Protocols

Contents

Fields of interest
Microbiology; Bacteriology; Laboratory Medicine

Target groups
Professional/practitioner

Product category
Contributed volume

Plant Proteomics

Methods and protocols

Contents
H. Kimura, National Institut of Neuroscience, Tokyo, Japan (Ed)

**Hydrogen Sulfide and its Therapeutic Applications**

The metabolism of sulfur especially by sulfurtransferases had been intensively studied in mid 1900's. Three enzymes, cystathionine β-synthase (CBS), cystathionine γ-lyase (CSE) and 3-mercapto pyruvate sulfurtransferase (3MST) were found to have the capacity to produce H2S in vitro. However, H2S was recognized simply as a by-product of the metabolic pathways or as a marker for evaluating the activity of enzymes rather than as a physiological active molecule. In the late 1980's relatively high concentrations of sulfide were measured in the brain that led to the successive studies of identifying the physiological functions of H2S.

**Features**
- Gives a broad overview to the topic from chemical and biochemical basics to therapeutic application
- First volume on the topic with interdisciplinary scope
- Respective topics discussed by experts in basic science and clinical application

**Contents**
- Biogenesis and Catabolism of Hydrogen Sulfide
- Multiple roles of H2S in inflammation – a new class of therapeutics?
- Hydrogen Sulfide and Oxygen Sensing
- The signal transduction of H2S: identification of the ‘receptor’ for H2S
- Hydrogen sulfide: Physiological and pathophysiological functions
- Therapeutic Applications of Hydrogen Sulfide
- Biological effects of H2S inhalation and its therapeutic potential
- H2S-mediated defense against antibiotics in bacteria
- Modulation of cellular signaling and induction of cytoprotection by hydrogen sulfide

**Fields of interest**
- Biochemistry, general; Medical Biochemistry; Pharmacology/Toxicology

**Target groups**
- Research

**Product category**
- Contributed volume

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K. Kubitzki, Universität Hamburg, Hamburg, Germany (Ed)

**Flowering Plants. Eudicots**

**Malpighiales**

This volume presents systematic treatments for the families and genera of the Malpighiales, which more recently have been recognized as a new major group of the eudicots. Apart from several herbaceous lineages (already treated in Vol. IX of this series), the order consists mainly of rainforest trees, particularly those of the understory. Accompanied by other early eudicot lineages, this reflects the well-documented origin of the group as invaders into the conifer-, cycad- and seed fern-dominated forests of the Cretaceous which, at that time, were transformed into the tropical rainforest biome. In this volume, 24 families with 429 genera comprising over 12,000 species are treated.

**Features**
- Richly illustrated
- Takes the most recent systematic findings into account
- An indispensable source of information for anybody in the field of pure and applied plant sciences

**Contents**
- Introduction to Malpighiales
- Balanopaceae
- Caryocaraceae
- Centropetalaceae
- Chrysolobalanaceae
- Ctenolophonaceae
- Dichapetalaceae
- Elatinaceae
- Erythroxylaceae
- Euphorbiaceae
- Euphroniaceae
- Goupiaceae
- Humiriaceae
- Ixoniaceae
- Ixonanthaceae
- Linaceae
- Lophopyxidaceae
- Medusagynaceae
- Ochnaceae
- Pandaceae
- Putranjivaceae
- Quinaceae
- Rhizophoraceae
- Trigoniacceae
- Violaceae
- Addition to Peridiscaceae
- General References
- Index

**Fields of interest**
- Plant Systematics/Taxonomy/ Biogeography
- Plant Anatomy/Development
- Plant Genetics & Genomics

**Target groups**
- Research

**Product category**
- Handbook

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Due August 2013

2013. Approx. 350 p. Hardcover
- approx. $79.95

Due September 2013

2013. X, 236 p. 39 illus., 23 in color. Hardcover
- $209.00
ISBN 978-3-642-39416-4
**Ecological Genomics**

**Ecology and the Evolution of Genes and Genomes**

**Contents**
1. Recent advances in ecological genomics: from phenotypic plasticity to convergent and adaptive evolution and speciation.
2. Trait transitions in explicit ecological and genomic contexts: plant mating systems as case studies.
5. Integrating phenotypic plasticity within an ecological genomics framework: recent insights from the genomics, evolution, ecology, and fitness of plasticity.
6. Eco-evolution: the time has come.
7. Evolutionary and ecological genomics of developmental plasticity: novel approaches and first insights from the study of horned beetles.
8. Neurogenomics of behavioral plasticity.
9. Ecological genomics of host behavior manipulation by parasites.
10. Ecological epigenetics.
11. The reproducibility of adaptation in the light of experimental evolution with whole genome sequencing.
14. Merging ecology and genomics to dissect diversity in wild tomatoes and their relatives.
15. Integrated genomics approaches in evolutionary and ecological endocrinology.
16. Evolutionary genomics of environmental pollution.

**Fields of interest**
Molecular Ecology; Gene Function; Evolutionary Biology

**Target groups**
Graduate

**Product category**
Contributed volume

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**Edible Medicinal And Non-Medicinal Plants**

**Volume 7, Flowers**

This book continues as volume 7 of a multi-compendium on Edible Medicinal and Non-Medicinal Plants. It covers plant species with edible flowers from families Acanthaceae to Facaceae in a tabular form and seventy five selected species from Amaryllidaceae, Apocynaceae, Asclepiadaceae, Asparagaceae, Asteraceae, Balsaminaceae, Bignoniaceae, Brassicaceae, Cactaceae, Calophyllaceae, Caprifoliaceae, Caryophyllaceae, Combretaceae, Convolvulaceae, Costaceae, Doryanthaceae and Fabaceae in detail. This work will be of significant interest to scientists, medical practitioners, pharmacologists, ethnobotanists, horticulturists, food nutritionists, botanists, agriculturists, conservationists, lecturers, students and the general public. Topics covered include: taxonomy; common/English and vernacular names; origin and distribution; agroecology; edible plant parts and uses; botany; nutritive/pharmacological properties, medicinal uses, nonedible uses; and selected references.

**Features**

- 200-400 coloured illustrations per volume
- Referenced up-to-date information on nutritive and medicinal properties
- Common and vernacular names to help in plant identification

**Contents**


**Fields of interest**
Protein Science; Agriculture; Biomedicine general

**Target groups**
Research

**Product category**
Monograph

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**Ethnobotany of Mexico**

**Interactions of People and Plants in Mesoamerica**

This book reviews the history, current state of knowledge, and different research approaches and techniques of studies on interactions between humans and plants in an important area of agriculture and ongoing plant domestication: Mesoamerica.

**Features**

- Original research from leading scholars on the botany of Mexico
- Latest scientific results
- Comprehensive coverage of ethnobotany of Mexico

**Contents**


**Fields of interest**
Plant Sciences; Plant Genetics & Genomics; Plant Systematics/Taxonomy/ Biogeography

**Target groups**
Professional/practitioner

**Product category**
Contributed volume
Regional Fisheries Oceanography of the California Current System

The California Current System is one of the best studied ocean regions of the world, and the level of oceanographic information available is perhaps only surpassed by the northeast and northwest Atlantic. The current literature (later than 1993) offers no comprehensive, integrated review of the regional fisheries oceanography of the California Current System.

Features
- Provides an up to date reference on fisheries oceanography in the California Current System
- Excellent reference point for multidisciplinary fisheries scientists and biological oceanographers

Contents
- Chapter 1. Introduction to the fisheries and the surveys.
- Chapter 2. Oceanography of the southern California Current System relevant to fisheries.
- Chapter 3. Classic CalCOFI.
- Chapter 4. Scales of variability relevant to fisheries in the southern California Current System.
- Chapter 5. Insights for fisheries from experimental and predation studies.
- Chapter 6. Fisheries stock assessment, environmental variability, and CalCOFI.
- Chapter 7. The new CalCOFI and fisheries.
- Chapter 8. Perspectives on CalCOFI.

Fields of interest
- Fish & Wildlife Biology & Management, Freshwater Sciences
- Marine Ecology, Marine & Freshwater Sciences

Target groups
- Research

Product category
- Monograph

Tewkesbury Walks
An Exploration of Biogeography and Evolution

The book is composed of eight chapters, each of which are organised as walks around the Tewkesbury (UK) countryside, which move from the specific to increasingly broader ideas. So, the MS starts with an individual’s relationship to their environment (Avon and Severn Valleys Loop) that leads to a description of conservation issues at local, national and international levels, and ultimately to a discussion of the importance of Citizen Science (Coombe Hill – Apperley – Deerhurst).

The following chapter (Mythe Bridge – Forthampton – Tewkesbury) looks at science as it is actually practiced and its role in modern society by an analysis of the theory of Continental Drift and a biography of Alfred Wegener. This is a story that really deserves a much wider audience, as the idea was, in my opinion, as revolutionary as general relativity or quantum mechanics, and Wegener himself was such a heroic character.

Features
- Michaux uses a walk around Tewkesbury as a jump-off point to discuss evolution and biogeography.
- The book contains beautiful color photos of the English countryside taken by the author.
- Author’s philosophical yet conversational tone makes the book an appealing read for both academic and popular audiences.

Contents
- Avon and Severn valleys loop.
- Getting acquainted with nature.
- Coombe Hill – Apperley – Deerhurst.
- Mythe Bridge – Forthampton – Bushley.
- Tewkesbury Ham.
- Oxenton Hill.
- Bredon Hill.
- Malvern Hills.
- Changing Seasons.

Fields of interest
- Ecology, Evolutionary Biology

Target groups
- Popular/general

Product category
- Popular science
Nucleic Acids and Molecular Biology
Series editor: J. M. Bujnicki
Volume 30
K. Murakami, The Pennsylvania State University, University Park, PA, USA; M. A. Trakselis, University of Pittsburgh, Pittsburgh, PA, USA (Eds)
Nucleic Acid Polymerases
Features
► Provides a comprehensive review of the multitude of nucleic acid polymerases ► Catalogs all nucleic acid polymerases ► Written by polymerase fans for polymerase fans

Contents

Fields of interest
Enzymology; Nucleic Acid Chemistry; Gene Expression

Target groups
Research

Product category
Contributed volume

S. K. Panguluri, University of Louisville, Louisville, KS, USA; A. A. Kumar, ICRISAT, Patancheru, India (Eds)
Phenotyping for Plant Breeding
Applications of Phenotyping methods for Crop Improvement
Features
► Contains comprehensive information on phenotyping of plants which indeed can be routinely used in breeding programs and a large number of breeders even in developing countries can use such screening techniques. ► A useful guide to practicing plant breeders to use appropriate phenotyping methods for improving the major traits in select crops. ► Serves the requirements of a practical plant breeder who is often perplexed with the selection process requiring a good phenotypic screening

Contents

Fields of interest
Plant Breeding/Biotechnology; Plant Sciences; Plant Genetics & Genomics

Target groups
Research

Product category
Contributed volume

A. Pratap, J. Kumar, Indian Institute of Pulses Research Crop Improvement Division, Kalyanpur-Kanpur, India (Eds)
Alien Gene Transfer in Crop Plants, Volume 1
Innovations, Methods and Risk Assessment
Features
► Brings together contributions from globally renowned scientists at one platform in a reader-friendly manner. ► Offers a comprehensive reference on the developments made in major food crops of the world. ► Most authentic and comprehensive piece of information on alien gene transfer in crop plants

Contents

Fields of interest
Plant Sciences; Plant Breeding/Biotechnology; Plant Genetics & Genomics

Target groups
Research

Product category
Contributed volume
The Prokaryotes
Deltaproteobacteria and Epsilonproteobacteria

Contents

Field of interest
Microbiology

Target groups
Research

Product category
Handbook

Due July 2014
Print
► $779.00
Subscription price, valid for subscribers of the whole series
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4th ed. 2014.
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ISBN 978-3-642-39045-6

The Prokaryotes
Gammaproteobacteria

Contents
Features
- Presents a broad range of choices available for multiple sequence alignment generation
- Focuses on practical aspects of algorithm usage
- Contains key notes and implementation advice from the experts

Contents
Dynamic Programming.- Heuristic Alignment Methods.- Objective Functions.- An Appraisal of Benchmarks for Multiple Sequence Alignment.- BLAST and FASTA Similarity Searching for Multiple Sequence Alignment.- Clustal Omega.- Accurate Alignment of Very Large Numbers of Sequences.- PairWise: Tree-Based Consistency Objective Function for Alignment Evaluation.- MAFFT: Iterative Refinement and Additional Methods.- Multiple Sequence Alignment Using Probcons and Probalign.- Phylogeny-Aware Alignment with PRANK.- GramAlign: Fast Alignment Driven by Grammar-Based Phylogeny.- Multiple Sequence Alignment with DIALIGN.- PicXAA: A Probabilistic Scheme for Finding the Maximum Expected Accuracy Alignment of Multiple Biological Sequences.- Multiple Protein Sequence Alignment with MSAProbs.- Large-Scale Multiple Sequence Alignment and Tree Estimation Using SATE.- PRALINE: A Versatile Multiple Sequence Alignment Toolkit.- PRO-MALS3D: Multiple Protein Sequence Alignment Enhanced with Evolutionary and 3-Dimensional Structural Information.- MSACompro: Improving Multiple Protein Sequence Alignment by Predicted Structural Features.

Field of interest
Bioinformatics

Target groups
Professional/practitioner

Product category
Contributed volume
Advances in Biotechnology

The book "Advances in Biotechnology" is about recent advances in some of the important fields that are ongoing in certain biotechnological applications. Biotechnology has been quite helpful in keeping pace with the demands of every increasing human population and in improving the quality of human life. Major biotechnological achievements associated with human welfare have been from the fields like genetic engineering: transgenic plants and animals; genomics, proteomics, monoclonal antibodies for the diagnosis of disease, gene therapy etc.

Features

► Updated information on important and advanced topics of Biotechnology/Molecular Biology ► Some topics covered in this book are not generally available in other text/reference book ► The chapters are readers savvy and clearly explain both basic and advanced concepts

Contents


Fields of interest
Life Sciences, general; Biomedicine general; Environment, general

Target groups
Research

Product category
Contributed volume

Faunal Heritage of Rajasthan, India: Conservation and Management of Vertebrates

The book "Faunal Heritage of Rajasthan, India: Conservation and Management of Vertebrates" is about the conservation and management of vertebrates in Rajasthan, India.

Contents

Necrotic Cell Death

In contrast to apoptosis, well-defined as a form of programmed cell death, necrosis used to be considered as accidental (i.e., non-programmed) cell death, usually in response to a severe injury. Accumulating evidence now suggests, however, that necrosis is also programmed and controlled by distinctive "death machinery" in response to various stimuli like oxidative stress or DNA damage.

Features
- Presents comprehensive coverage of necrosis
- Written by recognized experts from leading academic and medical institutions around the world
- Discusses basic concepts and the molecular mechanisms of necrosis

Contents

Fields of interest
Cell Cycle Analysis; Apoptosis; Oxidative Stress

Target groups
Professional/practitioner

Product category
Contributed volume

Due November 2013
2014. Approx. 400 p. 14 illus. in color. (Cell Death in Biology and Diseases) Hardcover
➤ approx. $189.00
G. Witzany, Telos - Philosophische Praxis, Bürmoos, Austria (Ed)

**Biocommunication of Animals**

**Contents**

**Fields of interest**
Community & Population Ecology; Sociolinguistics; Animal Physiology

**Target groups**
Research

**Product category**
Contributed volume

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V. Zarsky, Institute of Experimental Botany, Prague 6, Czech Republic; F. Cvrckova, Charles University, Prague, Czech Republic (Eds)

**Plant Cell Morphogenesis**

**Methods and Protocols**

**Contents**
Essential Methods of Plant Sample Preparation for Light Microscopy; Selected Simple Methods of Plant Cell Wall Histochemistry and Staining for Light Microscopy; Resin Embedding, Sectioning and Immunocytochemical Analyses of Plant Cell Walls in Hard Tissues; Automated Microscopy in Forward Genetic Screening of Arabidopsis; Image Analysis: Basic Procedures for Description of Plant Structures on Anatomical Sections; Identifying Subcellular Protein Localization with Fluorescent Protein Fusions After Transient Expression in Onion Epidermal Cells; Visualizing and Quantifying the in vivo Structure and Dynamics of the Arabidopsis Cortical Cytoskeleton using CLSM and VAEM; Sequential Replicas for In Vivo Imaging of Growing Organ Surfaces; Time-lapse Imaging of Developing Meristems using Confocal Laser Scanning Microscope; Quantifying Cell Shape and Gene Expression in the Shoot Apical Meristem using MorphoGraphX; Mechanical Measurements on Living Plant Cells by Micro-indentation with Cellular Force Microscopy; High-pressure Freezing and Low-temperature Processing of Plant Tissue Samples for Electron Microscopy; Reconstructing Plant Cells in 3D by Serial Section Electron Tomography; Imaging Plant Nuclei and Membrane-associated Cytoskeleton by Field Emission Scanning Electron Microscopy; Immuno-gold Labeling of Resin-embedded Electron Microscopical Sections; Live Cell Imaging of Arabidopsis Root Hairs; Morphological Analysis of Cell Growth Mutants in Physcomitrella; Plant Cell Lines in Cell Morphogenesis Research. [...] 

**Fields of interest**
Plant Sciences; Plant Physiology

**Target groups**
Professional/practitioner

**Product category**
Contributed volume
Auxin and Its Role in Plant Development

Auxin is an important hormone in plants and vital for plant development, growth and cell signaling.

Features
- Describes molecular-biological and biochemical background of auxin metabolism and its mechanism of action
- Comprehensively divided into three parts: a general part about auxin definition and function, and two specific parts treating the role of auxin in development and its interaction with the environment
- Represents a complete state-of-the-art work on auxin research

Contents

Fields of interest
Plant Physiology; Biochemistry, general; Cell Biology

Target groups
Research

Product category
Contributed volume

Humana Press

Due August 2013

2013. XVI, 280 p. 60 illus., 44 in color. (Methods in Molecular Biology, Volume 1071) Hardcover
➤ $119.00
ISBN 978-1-62703-621-4