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

Fields of interest
- Agriculture; Plant Breeding/Biotechnology; Microbiology

Target groups
- Research

Product category
- Contributed volume

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 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
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 on progress, limitations, and future directions.

Contents

Fields of interest
Stem Cells; Cell Biology; Human Genetics

Target groups
Professional/practitioner

Product category
Contributed volume

Due September 2013
2013. Approx. 300 p. 5 illus., 2 in color. (Stem Cell Biology and Regenerative Medicine) Hardcover
➤ € (D) 149,79 | € (A) 153,99 | sFr 186,50
➤ € 139,99 | £126.00
ISBN 978-1-4614-8356-4

Peptide Modifications to Increase Metabolic Stability and Activity

Contents

Fields of interest
Biochemistry, general; Nucleic Acid Chemistry

Target groups
Professional/practitioner

Product category
Contributed volume

Due August 2013
2013. XI, 506 p. 61 illus., 28 in color. Hardcover
➤ € (D) 160,49 | € (A) 164,99 | sFr 200,00
➤ € 149,99 | £135.00
ISBN 978-3-642-39680-9

Due September 2013
2013. X, 290 p. 89 illus., 16 in color. (Methods in Molecular Biology, Volume 1081) Hardcover
➤ € (D) 101,64 | € (A) 104,49 | sFr 126,50
➤ € 94,99 | £85.50
ISBN 978-1-62703-651-1
**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 occupation 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**

1. Introduction
2. Protozoan zoonoses
3. Trematode zoonoses
4. Cestode Zoonoses
5. Nematode and Acanthocephalus zoonoses
6. Arthropod zoonoses

**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 synthesis 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 yeast mitochondria.
- 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.
- The chloroplasts as platform for recombinant proteins production.

**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**

Preface.
1. Soundscape & Landscape Ecologies.
2. The Sonic Characters of the Landscapes.
4. Communication Theories.
5. The Human Dimension of the Soundscape: from Individuals to Society.
7. Sonic Patterns II: The Choruses.
10. Applications.

**Fields of interest**

Behavioural Sciences; Landscape Ecology; Urban Ecology

**Target groups**

Research

**Product category**

Monograph

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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. ► Depicts the mechanism of aging in different tissues. ► Covers model organisms and mammalian systems. ► Written by prominent experts in the field.

Contents

Fields of interest
Stem Cells; Cancer Research; Immunology

Target groups
Research

Product category
Contributed volume

Membrane Proteins
Folding, Association, and Design

Features
► Focusing 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

Fields of interest
Protein Science; Membrane Biology

Target groups
Professional/practitioner

Product category
Contributed volume

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

Contents

Fields of interest
Entomology; Agriculture; Plant Pathology

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

Due December 2013
2012. Approx. 400 p. (Methods in Molecular Biology, Tentative volume 2153) Hardcover
- *€ (D) 144,40 | € (A) 148,44 | sFr 177,50
- approx. € 134,95 | £120.50
ISBN 978-1-58829-688-7

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

Due September 2013
2013. X, 428 p. 42 illus., 25 in color. (Soil Biology, Volume 36) Hardcover
- *€ (D) 149,79 | € (A) 153,99 | sFr 186,50
- € 139,99 | £126.00
ISBN 978-3-642-39338-9
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
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-mercaptopyruvate 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

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

Product category
Handbook

Due September 2013
2013. XII, 380 p. 73 illus. (The Families and Genera of Vascular Plants, Volume 11) Hardcover
- € (D) 213,99 | € (A) 219,99 | sFr 266,50
- £199,99 | £180.00
ISBN 978-3-642-39416-4

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 recognised 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

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

Product category
Handbook
**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, Begoniaeae, 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.

**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
Protein Dynamics

Methods and Protocols

Contents

Fields of interest
Protein Science; Computer Appl. in Life Sciences; Protein Structure

Target groups
Professional/practitioner

Product category
Contributed volume

Regional Fisheries
Oceanography of the California Current System

The CalCOFI program
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
► Summarizes 60 years of the California Cooperative Oceanic Fisheries Investigation (CalCOFI) ► 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

Fields of interest
Fish & Wildlife Biology & Management; Freshwater & 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 discussion of conservation issues at local, national and international levels, and ultimately to a discussion of the importance of Citizen Science (Coombes 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

Due September 2013
2013. X, 335 p. 76 illus., 53 in color. Hardcover
► * € (D) 149,79 | € (A) 153,99 | sFr 186,50
► € 139,99 | £126.00
ISBN 978-3-642-39795-0

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Phenotyping for Plant Breeding
Applications of Phenotyping methods for Crop Improvement

Features
► Contain 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

Due September 2013
2013. IV, 286 p. 14 illus., 12 in color. Hardcover
► * € (D) 149,79 | € (A) 153,99 | sFr 186,50
► € 139,99 | £126.00

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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

Due September 2013
2013. Approx. 400 p. 16 illus. in color. Hardcover
► approx. * € (D) 165,80 | € (A) 170,44 | sFr 206,50
► € 154,95 | £139.50
ISBN 978-1-4614-8584-1
Multiple Sequence Alignment Methods

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.- Heuristics.- Objective Functions.- An Appraisal of Methods.- Objective Functions.- An Appraisal of Methods.- BLAST and FASTA Similarity Searching for Multiple Sequence Alignment.- Clustal Omega.

Accurate Alignment of Very Large Numbers of Sequences.- T-COFFEE: 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

Forests of Iran

A Treasure from the Past, a Hope for the Future

The work describes the general ecological aspects of Iran as well as West and Central Asia in the introduction. The book includes three chapters, each describing the climate, geology and soil characteristics, vegetation and forest types, site demands of the main tree species and the ecogram of them, management and socio-economic issues of three different phytogeographical regions, mainly the Hyrcanian, Irano-Turanian, and Saharo-Sindian.

Features
- Lack of information and literature in the Middle East region, in particular about forests of Iran, due to its importance in the northern hemisphere
- Describing the tree species and their ecological characteristics as well as their site demands in three different phytogeographical regions
- Describing the relation of socio-economic issues and forests different parts of the country, which is very similar to the entire Middle East region

Contents

Fields of interest
Forestry; Ecology; Forestry Management

Target groups
Research

Product category
Monograph

Conservation of the Richmond Birdwing Butterfly in Australia

This survey of one of the longest insect conservation campaigns in Australia deals with recovery of one of the most iconic endemic butterflies, the Richmond birdwing, threatened by clearance and fragmentation of subtropical rainforest in eastern Australia and the spread of an alien larval food-plant. Its conservation has involved many aspects of community involvement, developed over more than 20 years, and focused on habitat restoration and weed eradication, in conjunction with conservation of remaining forest fragments.

Features
- Account of one of longest insect conservation programmes in Australia
- Deals with major iconic species with strong public/community interest
- Innovative community involvements provide many lessons for similar exercises in many parts of the world

Contents

Fields of interest
Conservation Biology/Ecology; Entomology; Ecology

Target groups
Research

Product category
Monograph
J. Saxena, Bipin Tripathi Kumaon Institute of Technology, Dwarahat, India; I. Ravi, Indira Gandhi National Open University, Mansarovar, Jaipur, India; M. Baunthiyal, Govind Ballabh Pant Engineering College, Ghurdauri, Pauri, India (Eds)

**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

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H. Schulze-Koops, Universitätsklinikum Erlangen Medizinische Klinik III, Erlangen, Germany

**Regulatory T-Cells**

**Field of interest**

Cell Biology

**Target groups**

Research

**Product category**

Contributed volume

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B. Sharma, RL Saharia Govt. PG College, Jaipur, India; S. Kulshreshtha, Government Shaktambar PG College, Jaipur, India; A. R. Rahmani, Bombay Natural History Society, Mumbai, India (Eds)

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

**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**
Necrotic cell death at a glance: concept, mechanisms and biological functions.
- Necrosis: Alternative death modality under death receptors.
- RIP1 and RIP3 in necrotic cell death.
- PARP-mediated necrotic cell death.
- Autophagic cell death, true or false?
- Oxidative stress and necrotic cell death.
- Necrosis and DNA damage.
- Lysosomes in necrotic cell death.
- Necrotic cell death in development.
- Necrotic cell death in immunity.
- Necrotic cell death in inflammation.
- Necrotic cell death and cancer.
- Necrotic cell death in ischemia reperfusion injury.
- Necrotin, a necrosis inhibitor as a therapeutic agent.
- Necrotic cell death in model organisms (C. elegans).
- Methodology in studying necrotic cell death.

**Fields of interest**
- Cell Cycle Analysis; Apoptosis; Oxidative Stress

**Target groups**
- Professional/practitioner

**Product category**
- Contributed volume

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**Plant Metabolism**

**Methods and Protocols**

**Contents**
- MeRy-B, a Metabolomic Database and Knowledge Base for Exploring Plant Primary Metabolism.
- Targeted Deuteriation of Polyphenolics for their Qualitative and Quantitative Metabolomic Analysis in Plant-Derived Extracts.
- Quantification of Plant Volatiles.
- Quantitative Imaging Approaches for Small Molecule Measurements using FRET Sensors in Plants.
- Isotopomer Measurement Techniques in Metabolic Flux Analysis I: Nuclear Magnetic Resonance.
- Isotopomer Measurement Techniques in Metabolic Flux Analysis II: Mass Spectrometry.
- Optimal Design of Isotope Labeling Experiments.
- Putting the Plant Metabolic Network Pathway Databases to Work: Going Offline to Gain New Capabilities.
- Elucidation of Metabolic Pathways from Enzyme Classification Data.
- Deducing Intracellular Distributions of Metabolic Pathways from Genomic Data.
- Genome-scale Models of Plant Metabolism.
- Elementary Flux Modes, Flux Balance Analysis and their Application to Plant Metabolism Junker.
- Systems Approaches to Unraveling Plant Metabolism: Identifying Biosynthetic Genes of Secondary Metabolic Pathways.
- Applications of Kinetic Modeling to Plant Metabolism.
- Kinetic Modeling of Plant Metabolism and its Predictive Power.
- Peppermint Essential Oil Biosynthesis as an Example.

**Fields of interest**
- Plant Sciences; Plant Biochemistry; Metabolomics

**Target groups**
- Professional/practitioner

**Product category**
- Contributed volume

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**Advances in Endophytic Research**

**Contents**
- Part 1: Ecology and Biodiversity.
- Part 3: Host-endophyte interactions.
- Part 4: Entomopathogenic and nematophagous fungal endophytes.
- Part 5: Bioactive compounds from endophytes.
- Part 6: Bio-control and bioremediation.
- Part 7: Asexual endophytes of grasses: Invisible symbionts, visible imprints in the host neighborhood.
- Part 8: Microbial endophytes: their resilience for innovative treatment solution to neglected tropical diseases.
- Part 9: Endophytes and plant secondary metabolite synthesis: molecular and evolutionary perspective.
- Part 10: Endophytes as a novel source of bioactive new structures.
- Part 11: Host-mimetic metabolomics of endophytes: looking back into the future.
- Part 12: Myconanosynthesis: Redefining the role of microbial endophytes.
- Part 6: Bio-control and bioremediation.
- Part 13: Biological control of insect-pest and diseases by endophytes.
- Part 14: Biocatalizers and bioremediation: two areas of endophytic research which hold great promise.
- Chapter 15. Biosourcing endophytes as biocontrol agents of wilt diseases.

**Fields of interest**
- Microbiology; Fungus Genetics; Microbial Ecology

**Target groups**
- Research

**Product category**
- Contributed volume
**PAMP Signals in Plant Innate Immunity**

**Signal Perception and Transduction**

Plant innate immunity is a potential surveillance system of plants and is the first line of defense against invading pathogens. The immune system is a sleeping system in unstressed healthy plants and is activated on perception of the pathogen-associated molecular patterns (PAMP; the pathogen signature) of invading pathogens.

**Features**

- The book explains the complex signalling network with flow charts and provides drawings elucidating the role of various signals in plant innate immune signal transduction

**Contents**

1. Introduction
2. PAMP signaling in Plant Innate Immunity
3. G-proteins as Molecular Switches in Signal Transduction
4. Calcium Ion Signaling System: Calcium Signatures and Sensors
5. Reactive Oxygen Species and Cognate Redox Signaling System in Plant Innate Immunity
6. Nitric oxide Signaling System in Plant Innate Immunity
7. Mitogen-activated Protein Kinase Signaling System: Calcium Signatures and Sensors
8. Ubiquitin-Proteasome System-mediated Protein Degradation in Defense Signaling

**Fields of interest**

- Plant Pathology
- Plant Physiology
- Microbiology

**Target groups**

- Research

**Product category**

- Monograph

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**Biocommunication of Animals**

**Contents**

Plant Cell Morphogenesis
Methods and Protocols

Contents