Abiotic Stress Responses in Plants
Metabolism, Productivity and Sustainability

Contents

Fields of interests
Plant Sciences; Plant Biochemistry; Plant Anatomy/Development

Target groups
Professional/practitioner

Product Category
Contributed volume

Due December 2011
2012. XIX, 551 p. 63 illus., 14 in color. Hardcover
➡️ $239.00
ISBN 978-1-4614-0633-4

Environmental Adaptations and Stress Tolerance of Plants in the Era of Climate Change

Contents

Fields of interests
Plant Sciences; Plant Biochemistry; Plant Anatomy/Development

Target groups
Professional/practitioner

Product Category
Contributed volume

Due December 2011
2012. XIV, 498 p. 86 illus., 41 in color. Hardcover
➡️ $239.00

Regenerative Therapy Using Blood-Derived Stem Cells

Contents

Fields of interests
Stem Cells; Cell Biology; Hematology

Target groups
Professional/practitioner

Product Category
Contributed volume

Due November 2011
2011. VIII, 167 p. 11 illus., 8 in color. (Stem Cell Biology and Regenerative Medicine) Hardcover
➡️ $189.00
ISBN 978-1-61779-470-4
M. S. Ashton, M. L. Tyrrell, D. Spalding, B. Gentry, Yale University, New Haven, CT, USA (Eds)

Managing Forest Carbon in a Changing Climate

Contents

Features
- The only current overview of cutting-edge techniques and discoveries in organelle genetics
- Contributions from an international board of authors, all respected members of the organelle genetics community
- Improves the understanding of genome evolution

Contents

Fields of interests
Evolutionary Biology; Cell Biology; Proteomics

Target groups
Research

Product Category
Contributed volume
**Germline Development**

Methods and Protocols

**Contents**

Isolation of Fetal Gonads from Embryos of Timed-Pregnant Mice for Morphological and Molecular Studies. - Neonatal Testicular Gonocytes

**Fields of interest**

Cell Biology; Developmental Biology

**Target groups**

Professional/practitioner

**Product Category**

Contributed volume

---

**SELDI-TOF Mass Spectrometry**

Methods and Protocols

**Contents**


**Fields of interest**

Proteomics; Spectroscopy/Spectrometry

**Target groups**

Professional/practitioner

**Product Category**

Contributed volume

---

**Chemical and Physical Signatures for Microbial Forensics**

Combining the disciplines of biological, physical and chemical science, microbial forensics has a rapidly rising profile in a world increasingly troubled by the threat of ‘biocrime’ and ‘bioterrorism’. This valuable resource is a major addition to a body of literature reckoned to lack sufficient breadth.

**Features**

- Presents the existing state of research for a variety of different phenotypic and trace signature systems associated with cultured microorganisms
- Interdisciplinary in scope
- Educates about the forensic potential of various chemical and physical signatures

**Contents**


**Fields of interest**

Bacteriology; Microbiology; Virology

**Target groups**

Research

**Product Category**

Contributed volume

---

**Due December 2011**

2012. XII, 288 p. 54 illus., 20 in color. (Methods in Molecular Biology, Volume 818) Hardcover

- $119.00


---

**Due December 2011**

2012. XII, 306 p. 38 illus., 13 in color. (Methods in Molecular Biology, Volume 825) Hardcover

- $189.00


---

**Due December 2011**

2012. V, 140 p. 35 illus., 6 in color. (Infectious Disease) Hardcover

- $139.00

Cytokine Protocols

Contents

Fields of interests
Cell Biology; Cytokines and Growth Factors

Target groups
Professional/practitioner

Product Category
Contributed volume

Ribosome Display and Related Technologies

Methods and Protocols

Contents

Fields of interest
Protein Science

Target groups
Professional/practitioner

Product Category
Contributed volume

Encyclopedia of Systems Biology

Contents
A Geographic Perspective of Cuban Landscapes

Beginning in the era of the Spanish conquest and taking the reader right up to the present day, this book focuses on how the landscape of Cuba has changed and evolved into the environment we see today. It illustrates the range of factors – economic, political and cultural – that have determined Cuba’s physical geography, and explores the shifting conservation measures which have been instituted in response to new methods in agriculture and land management.

Features
- New satellite imagery and GIS data from Cuba presented as land-use maps
- Novel approach, combining historical and modern analysis to correlate land use patterns with socio-economic factors
- Interdisciplinary look at environmental change in relation to governance, conservation, business and technology
- First comprehensive work of this nature in this region, and an unprecedented level of detail

Contents
1. Historical Background of Cuban Land Cover Change.
2. Linking Causal Factors to Areas of Highest Change.
4. Establishment and Description of Current Park/Protected Areas System.
5. Technological Development as It Relates to Assessment of Cuban Land Use and Land Cover.

Fields of interests
- Landscape Ecology
- Physical Geography
- Geography (general)

Target groups
- Research

Product Category
- Monograph

Technological Innovations in Major World Oil Crops, Volume 2

The present volume presents essential information on advancements in oilseed production, processing and utilization. Advances in the technology of seed processing to produce oil and oil quality for edible and industrial applications are well presented, followed by hybrid technology, biotechnology, oil technology and meal quality for animal nutrition. The following areas are also covered: the potential for oil in developing biodiesel markets, fatty acid long chains and their derivative, pollination management, and safety of pollinators from harmful effects of pesticides.

Contents
- Preface.
- Hybrid Technology.
- Oil Technology.
- Biotechnology.
- Breeding Oil Quality for Edible and Industrial Applications in Oilseed Rape and Linseed.
- Biochemistry of Fatty Acids.
- In Vitro Mutagenesis and Genetic Improvement.
- Economic Impact Assessment of Oilseed IPM Programs.
- Agro-Industrial By-Products Utilization in Animal Nutrition.
- Pollination in Oil Crops.
- Recent Advances and Future Strategies.
- Oil Crops as Potential Sources of Biofuels.
- Withering Yellow Revolution in Indian Context.

Fields of interests
- Plant Breeding/Biotechnology
- Plant Sciences

Target groups
- Research

Product Category
- Monograph
Microbial Technologies in Advanced Biofuels Production

Concerns over dwindling fossil fuel reserves and impending climate changes have focused attention worldwide on the need to discover alternative, sustainable energy sources and fuels. Biofuels, already produced on a massive industrial scale, are seen as sustainable energy sources and fuels. Biofuels, already produced on a massive industrial scale, are seen as sustainable energy sources and fuels.

Features
- Internationally recognized experts contribute specific technical chapters on individual areas of research
- Provides an authoritative review of the various options under development for the production of advanced biofuels as alternative energy sources
- Details present progress and future prospects

Contents
Biofuels, the larger context.

- Hydrogen production: light driven processes; cyanobacteria.
- Hydrogen production: dark processes; green algae.
- Hydrogen production: photofermentation.
- Combined Processes for maximum substrate conversion.
- Syntrophic Degradation of Fatty Acids by Methanogenic Communities.
- Anaerobic digestion as an effective biofuel production technology.
- Advanced Bioethanol Production.
- Novel strategies for production of medium and high chain length alcohols.
- Microbial Production of Fatty-Acid Based Biofuels.
- Biodiesel production by microalgae.
- Algae Oil. The Future of Biofuels, Biofuels of the Future.

Fields of interests
Microbiology; Biochemistry, general; Immunology

Target groups
Professional/practitioner

Product Category
Contributed volume

Due January 2012
2012. X, 273 p. 33 illus., 9 in color. Hardcover
- $189.00
ISBN 978-1-4614-1207-6

Due December 2011
- approx. $239.00

Bone Research Protocols

M. H. Helfrich, S. H. Ralston, University of Aberdeen, UK (Eds)

Contents
Long-Term Field Studies of Primates

Contents
Carbon Sequestration in Urban Ecosystems

Urbanization drastically alters the ecosystems structure and functions, disrupts cycling of C and other elements along with water. It alters the energy balance and influences climate at local, regional and global scales. In 2008, urban population exceeded the rural population. In 2050, 70% of the world population will live in urban centers. The number of megacities (10 million inhabitants) increased from three in 1975 to 19 in 2007, and is projected to be 27 in 2025. Rapid urbanization is altering the ecosystem C budget. Yet, urban ecosystems have a large C sink capacity in soils and biota. Judicious planning and effective management can enhance C pool in urban ecosystems, and off-set some of the anthropogenic emissions. Principal components with regards to C sequestration include home lawns and turfs, urban forests, green roofs, parks and recreational/sports facilities and urban agriculture.

Features
► Urban ecosystem and climate change ► Carbon sequestration in urban soils and biota ► Sustainable management of urban ecosystems

Contents

Fields of Interests
Agriculture; Soil Science & Conservation; Climate Change

Target groups
Professional/practitioner

Product Category
Contributed volume

Edible Medicinal And Non Medicinal Plants
Volume 3: Fruits

This book continues as volume 3 of a multi-compendium on Edible Medicinal and Non-Medicinal Plants. It covers edible fruits/seeds used fresh or processed, as vegetables, spices, stimulants, edible oils and beverages. It encompasses species from the following families: Ginkgoaceae, Gnetaceae, Juglandaceae, Lauraceae, Lecythidaceae, Magnoliaceae, Malpighiaceae, Malvaceae, Marantaceae, Meliaceae, Moraceae, Moringaceae, Muntiginiaceae, Musaceae, Myristicaceae and Myrtaceae. This work will be of significant interest to scientists, researchers, medical practitioners, pharmacologists, ethnobotanists, horticulturists, food nutritionists, agriculturists, botanists, 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 and pharmacological properties; medicinal uses and research findings; nonedible uses; and selected references.

Features
► More than 400 coloured illustrations per volume ► Referenced up-to-date-information on nutritive and medicinal properties ► Common and vernacular names to help in plant identification ► Medical and scientific glossaries

Contents

Fields of Interests
Plant Sciences; Agriculture; Biomedicine general

Target groups
Research

Product Category
Monograph

Measuring Roots
An Updated Approach

Roots represent half of the plant body – and arguably the more interesting half.

Features
► Written by experts ► Richly illustrated ► Covers both academic and practical aspects

Contents

Fields of Interests
Plant Physiology; Biological Techniques; Agriculture

Target groups
Research

Product Category
Contributed volume
Post-Fire Management and Restoration of Southern European Forests

Contents
Setting the scene for post-fire management.- Land cover change and fire regime in Europe.- Recent advances in evaluating the effects of fire on flora, fauna and soil.- Economic assessment of fire damage in Europe.- Fire hazard and combustibility of European forest types.- Fire ecology and post-fire restoration approaches in Southern European Forest types.- Post-fire management of serotinous pine forests.- Post-fire management of non-serotinous pine forests.- Post-fire management of Mediterranean broadleaved forests.- Post-fire management of cork oak forests.- Post-fire management of exotic woody species.- Post-fire management of newly fire affected threatened forest types: biodiversity hotspots.- Post-fire management of Mediterranean shrublands.

Fields of interests
Forestry Management; Environmental Management; Applied Ecology

Target groups
Research

Product Category
Contributed volume

Liver Stem Cells
Methods and Protocols

Contents
Purification and Culture of Fetal Mouse Hepatoblasts that are Precursors of Mature Hepatocytes and Biliary Epithelial Cells.- Clinical Uses of Liver Stem Cells.- Identification and Isolation of Adult Liver Stem/Progenitor Cells.- Isolation and Purification Method of Mouse Fetal Hepatoblasts.- Isolation of Hepatic Progenitor Cells from the Galactosamine-Treated Rat Liver.- Purification of Adipose Tissue Mesenchymal Stem cells (AT-MSC) and Differentiation Towards Hepatic-Like Cells.- Development of Immortalized Hepatocyte-like Cell from hMSC.- Isolation of Adult Human Pluripotent Stem Cells from Mesenchymal Cell Populations and their Application to Liver Damages.- Generation and Hepatic Differentiation of Human iPSC.- Efficient Hepatic Differentiation from Human iPSC cells by Gene Transfer.- ”Tet-On” System Toward Hepatic Differentiation of Human Mesenchymal Stem Cells by Hepatocyte Nuclear Factor.- SAMe and HuR in Liver Physiology Usefulness of Stem Cells in Hepatic Differentiation Research.- Transdifferentiation of Mature Hepatocytes into Bile Duct Cells within a Collagen Gel Matrix.- Identification of Cancer Stem Cell-Related MicroRNAs in Hepatocellular Carcinoma.- Intravenous Human Mesenchymal Stem Cells (MSC) Transplantation in NOD/SCID Mice Preserve Liver Integrity of Irradiation Damage.- Engineering of Implantable Liver Tissues.- Mesenchymal Stem Cell Therapy on Murine Model of Non-Alcoholic Steatohepatitis.

Fields of interests
Cell Biology; Stem Cells

Target groups
Professional/practitioner

Product Category
Contributed volume

Mitochondrial Bioenergetics
Methods and Protocols

Contents

Fields of interest
Biochemistry, general

Target groups
Professional/practitioner

Product Category
Contributed volume
Life Sciences

M. Palo, E. Lehto, Helsinki, Finland

Private or Socialistic Forestry? Forest Transition in Finland vs. Deforestation in the Tropics

Contents
1. Rationale of the Book. 1.1 Problem of Continuous Tropical Deforestation. 1.2 Research on Causes of Tropical Deforestation. 1.3 Forest Transitions in Finland. 1.4 Role of Theories and Purpose of the Book. 1.5 Structure of the Book. References. - 2. Theory, Method and Data. 2.1 Sustained Yield Industrial Forestry. 2.2 Existing Theories of Forest Transition. 2.3 Theory of Ecological Economics. 2.4 Theory of Institutional Economics. 2.5 Theories of Property Rights and Public Goods. 2.6 Forest-based Development Theory. 2.7 Universal System Causality Model of Forest Transition. 2.8 Methods and Data. 2.9 Discussion. References. - 3. Evolution of Preindustrial Forestry in Finland. 3.1 Hunting and Gathering Economy. 3.2 Shifting Cultivation. 3.3 Conversion of Forests for Agriculture. 3.4 Industrial Exploitation of Forests. 3.5 Great Land Reform. 3.6 State Regulatory Institutions. 3.7 Informal Institutions. 3.8 International Impacts. 3.9 Discussion. References. - 4. Transition to Industrial Forestry in Finland. 4.1 De Facto Transition 1900–1960. 4.2 Ecological Conditions. 4.3 Informal Institutions. 4.4 Formal Institutions. 4.5 Enforcement of Institutions. 4.6 Forest-based Development. 4.7 Coevolution of Forestry and Society. 4.8 Inter-Sector Factors. 4.9 International Factors. 4.10 Transition to Postindustrial Forestry after 1960. 4.11 Discussion and Conclusions. References. - 5. Deforestation in the Tropics. 5.1 Deforestation Tragedy of Socialistic Forestry. 5.2 Causes of deforestation in poor and less poor tropical countries. 5.3 Underlying causes of expansion of plantations forests among tropical countries. [...] 

Fields of interests
Forestry; Environment, general; Development Economics

Target groups
Research

Product Category
Monograph

A. H. Perera, Ontario Forest Research Institute, Sault Ste. Marie, ON, Canada; C. A. Drew, North Carolina State University, Raleigh, NC, USA; C. J. Johnson, University of Northern British Columbia, Prince George, BC, Canada (Eds)

Expert Knowledge and Its Application in Landscape Ecology

Contents

Fields of interests
Landscape Ecology; Environmental Management; Conservation Biology/Ecology

Target groups
Graduate

Product Category
Contributed volume

J. Pérez-Martín, Centro Nacional de Biotecnologia CSIC, Madrid, Spain; A. Di Pietro, University of Cordoba, Spain (Eds)

Morphogenesis and Pathogenicity in Fungi

Infectious fungal diseases continue to take their toll in terms of human suffering and enormous economic losses. Invasive infections by opportunist fungal pathogens are a major cause of morbidity and mortality in immuno-compromised individuals.

Features
► Covers a broad spectrum of taxonomically and biologically diverse fungal pathogens, plus a number of key topics related to morphogenesis and pathogenesis.  ► Offers an in-depth and up-to-date analysis of the current state of knowledge on the subject.  ► Written by experts in their respective fields.

Contents
Molecular basis of morphogenesis in fungi.- Tropic orientation responses of pathogenic fungi.- Hyphal fusion.- Signalling of infectious growth in Fusarium oxysporum.- Integrating Cdk signaling in Candida albicans environmental sensing networks.- Cell cycle and morphogenesis connections during the formation of the infective filament in Ustilago maydis.- Appressorium Function in Colletotrichum orbiculare and Prospect for Genome Based Analysis.- Morphogenesis in Candida albicans: How to stay focused.- Morphogenesis in Paracoccidioides brasiliensi.- Morphogenesis of Cryptococcus neoformans.- Morphogenesis and infection in Botrytis cinerea.- Morphogenesis, growth and development of the grass symbiont Epichloë festucae.- Cryptococcus-neutrophil interaction.-

Fields of interests
Cell Biology; Biochemistry, general; Fungus Genetics

Target groups
Research

Product Category
Contributed volume
**Signaling and Communication in Plant Symbiosis**

A multiplicity of biotrophic micro-organisms interact with plants in nature, forming symbiotic relationships that range from mutualism to antagonism. Microorganisms that have adopted biotrophy as a lifestyle are able to colonize the plant and often to cross the plant cell boundaries by forming intracellular structures that are the site of nutrient uptake/exchange.

**Features**
- This volume focuses on the genetic, molecular and cellular components involved in the communication between partners of well-known symbioses, but also reports on the advances for less studied systems.
- With contributions by international experts.
- With numerous drawings and color photographs.

**Contents**
The role of diffusible signals in the establishment of rhizobial and mycorrhizal symbioses.
- Infection of Lotus japonicus roots by Mesorhizobium loti.
- Signalling and re-structuring of the plant cell architecture in AM symbiosis.
- Common pathways in legume and arbuscular mycorrhizal symbioses.
- Signalling and communication in the actinorhizal symbioses.
- Signalling in the cyanobacterial-plant symbioses.
- Signalling in ectomycorrhizal symbioses.
- Signalling in the Epichloë festucae – perennial ryegrass mutualistic symbiosis.
- Plant infection by biotrophic fungal and oomycete pathogens.
- Compatibility in biotrophic plant-fungal interactions: Ustilago maydis and friends.
- Compatible plant-root knot nematode interaction and parallels with symbiosis.

**Fields of interests**
- Plant Ecology; Plant Sciences; Plant Physiology

**Target groups**
- Research

**Product Category**
- Contributed volume

---

**Pathobiology and Molecular Biology of the Metabolic Syndrome**

A first „pathobiocchemist’s view“ giving only a short clinical/medical background but a condensed overview about biochemical pathways closely related to several facets of the Metabolic Syndrome.

**Features**
- Condensed pathobiocchemist’s view on the major facets of the Metabolic Syndrome.
- Focus on specific signalling pathways and molecular mechanisms that are involved in the Metabolic Syndrome.
- Connection between subclinical inflammation, insulin resistance and cancer is highlighted.

**Contents**
- Preface.
- Chapter 1 Definition of the Metabolic Syndrome.
- Chapter 2 Insulin signaling and insulin resistance.
- Chapter 3 Adipose tissue inflammation and hypoxia.
- Chapter 4 Mitochondrial dysfunction.
- Chapter 5 Nonalcoholic liver inflammation.
- Chapter 6 Dysregulation of apolipoprotein metabolism and disturbed lipid homeostasis.
- Chapter 7 Endothelial dysfunction.
- Chapter 8 Genetics of the Metabolic Syndrome.
- Chapter 9 Metabolic Syndrome and Ovarian Polycystosis.
- Chapter 10 Metabolic Syndrome and Cancer.
- Chapter 11 Animal Models of the Metabolic Syndrome.
- Bibliography.

**Fields of interests**
- Metabolomics; Nutrition; Human Physiology

**Target groups**
- Research

**Product Category**
- Monograph

---

**Continuous Cover Forestry**

Although the majority of the world’s forest ecosystems are dominated by uneven-sized multi-species stands, forest management practice and theory has focused on the development of plantation monocultures to maximize the supply of timber at low cost. Societal expectations are changing, however, and uneven-aged multi-species ecosystems, selectively managed as Continuous Cover Forestry (CCF), are often believed to be superior to monocultures in addressing a wide range of expectations.

**Features**
- Information about continuous cover forest management is urgently needed.
- People and forest landowners want to avoid clearfelling.
- Forestry paradigm is changing for plantation forestry to near-natural management.

**Contents**
- 1 Historical Emergence and Current Application of CCF.
- 2 Forest Structure and Diversity.
- 3 Continuous Cover Forestry in Finland - Recent Research Results.
- 4 Regulation of Timber Yield Sustainability for Tropical and Subtropical Moist Forests: Ecosilvicultural Paradigms and Economic Constraints.
- 5 The Economics of Continuous Cover Forestry.
- 6 Optimizing Continuous Cover Forest Management.
- 7 Modelling Continuous Cover Forests.
- 8 Bootstrap simulation, Markov decision process models, and role of discounting in the valuation of ecological criteria in uneven-aged forest management.
- 9 Resource Assessment Techniques for Continuous Cover Forestry.

**Fields of interests**
- Forestry; Forestry Management; Environmental Management

**Target groups**
- Research

**Product Category**
- Contributed volume
**Reviews in Fluorescence 2009**

**Features**
- Chapters authored by known leading figures in the fluorescence field. New volume publishes annually
- Comprehensive coverage of the year’s hottest and emerging topics
- Accessible utility in a single volume reference
- New volume publishes annually
- Comprehensive coverage of the year’s hottest and emerging topics
- Accessible utility in a single volume reference

**Contents**

**Fields of interests**
Biological Microscopy; Biotechnology; Analytical Chemistry

**Target groups**
Research

**Product Category**
Contributed volume

---

**Available**
2011. XII, 390 p. 216 illus., 72 in color. (Reviews in Fluorescence, Annual volumes 2009) Hardcover
[
$209.00

ISBN 978-1-4419-9671-8

---

**Due December 2011**
2012. XVI, 456 p. 78 illus., 19 in color. (Methods in Molecular Biology, Volume 827) Hardcover
[
$139.00

ISBN 978-1-61779-441-4

---

**Due September 2011**
2012. 300 p. Hardcover
[
$209.00

ISBN 978-3-642-21679-4
Herpetological Osteopathology
Annotated Bibliography of Amphibians and Reptiles

As scientific analysis of testable hypotheses has replaced the speculative approach to study of bone disease in recent and fossil amphibians and reptiles, the field has advanced from simply reporting observations to analyzing their implications.

Features
► ESM material containing full bibliography for easy searching ► The current effort delineates the information by publication, characterizes the contents of the publication, establishes the validity of the conclusions and provides a unique indexing system for identifying the pertinent literature by common and scientific names ► It represents an exhaustive literature compilation organized searching by subject, examination of articles for additional apparently pertinent citations and review of journal tables of content.

Contents

Fields of interests
Animal Ecology; Animal Anatomy / Morphology / Histology; Animal Physiology

Target groups
Graduate

Product Category
Monograph

Microorganisms in Environmental Management
Microbes and Environment

Contents
Forests in Development: A Vital Balance

Forests in Development: A Vital Balance, shows some of the main advances in forestry over the six years spanning between the XII World Forestry Congress in Canada and the XIII WFC held in Buenos Aires.

Features

- Includes themes of production, forest protection, policies, environmental services, and economic aspects, linked by sustainability
- Focuses on the changes acting upon forests and forestry and the adaptation of policies, management and objectives
- Discusses drives which regulate forest growth and its relation to the ecosystem and ecosystem services
- Proposes actions courses on ecosystem health, taking into account a changing climate scenario
- Articles are written by leading authors in each of the topics mentioned in the book

Contents

Preface.- Acknowledgements.- Chapter 1: Conundrums, Paradoxes, and Surprise: A Brave New World of Biodiversity Conservation.- Chapter 2: Understanding the role resource use efficiency in determining the growth of trees and forests.- Chapter 3: Invasive Species, climate change and forest health.- Chapter 4: The Biorefining Story: Progress in the commercialization of biomass-to-ethanol.- Chapter 5: Tree plantation in South America and the water cycle: Impacts and emergent opportunities.- Chapter 6: Forest Sector Investments in a Changing Climate.- Chapter 7: Towards a new model of forest development.

Fields of interests

Forestry; Forestry Management; Climate Change

Target groups

Graduate

Product Category

Contributed volume

Oxidative Stress in Cancer Biology and Therapy

Oxidative Stress in Cancer Biology and Therapy.- The Role of Akt Pathway Signaling in Glucose Metabolism and Metabolic Oxidative Stress.- Enhancement of Cancer Therapy Using Ketogenic Diets.- Superoxide Dismutase and Cancer Therapy.- Radiosensitization and Chemosestzitation of Multicellular Spheroids by 2-deoxy-D-glucose is Stimulated by a Combination of TNFα and Glucose-deprivation-Induced Oxidative Stress.- Chemotherapy-Induced Oxidative Stress in Non-Targeted Normal Tissues.- Tetrahydrobiopterin and Endothelial Nitric Oxide Synthase: Implications for Radiation-Induced Endothelial Dysfunction and Normal Tissue Radiation Injury.- Amifostine and the Endogenous Cellular Antioxidant Enzyme Manganese Superoxide Dismutase in Radioprotection.- Redox Regulation of Stem Cell Compartments: The Convergence of Radiation-Induced Normal Tissue Damage and Oxidative Stress.- Functional Imaging in the Assessment of Normal Tissue Injury Following Radiotherapy.- Histone Deacetylase Inhibitors, Oxidative Stress, and Multiple Myeloma Therapy.- Curcumin, Oxidative Stress, and Cancer Therapy.- Oxidative Stress and Pancreatic Cancer.- Oxidative Stress and Photodynamic Therapy for Prostate Cancer.- Oxidative Stress in Prostate Cancer.- Role of Vitamin E in Prostate Cancer.- Pentoxifylline, Vitamin E, and Modification of Radiation Induced Fibrosis.- Antioxidants, Anorexia/Cachexia, and Oxidative Stress in Patients with Advanced-Stage Cancer.

Fields of interests

Oxidative Stress; Cancer Research; Cell Biology

Target groups

Professional/practitioner

Product Category

Contributed volume
**Adaptation of Microbial Life to Environmental Extremes**

**Novel Research Results and Application**

**Features**
- Highlights life in several unusual extreme environments
- Emphasizes succinct treatment of novel applications
- Provides very thorough bibliographies, including tested websites for easy access to further information

**Contents**

**Fields of interests**
Microbial Ecology; Microbiology; Biodiversity

**Target groups**
Research

**Product Category**
Professional book

---

**Receptor-like Kinases in Plants**

**From Development to Defense**

**Features**
- Recent research findings on individual receptor kinases function are presented
- Focuses on the roles of receptor kinases, their signaling pathways, and the ways in which they are regulated
- State-of-the-art contents

**Contents**

**Fields of interests**
Membrane Biology; Protein-Ligand Interactions; Receptors

**Target groups**
Research

**Product Category**
Contributed volume

---

**Due September 2011**


- **approx.** $179.00
- ISBN 978-3-211-99690-4

---

**Due January 2012**


- **$139.00**
- ISBN 978-1-61779-454-4

---

**Due November 2011**

2012. VII, 308 p. 40 illus., 23 in color. (Signaling and Communication in Plants, Volume 13) Hardcover

- **$209.00**
- ISBN 978-3-642-23043-1

---

**H. Stan-Lotter**, University, Salzburg, Austria; **S. Fendrihan**, Romanian Biosource Center, Bucharest, Romania (Eds)

**B. Suter**, Quintara Biosciences, Albany, CA, USA; **E. E. Wanker**, Max-Delbrück-Centrum Für Molekulare Medizin Berlin-Buch, Germany (Eds)

**F. Tax**, University of Arizona, Tucson, AZ, USA; **B. Kemmerling**, University of Tübingen, Germany (Eds)
**Crop Stress and its Management: Perspectives and Strategies**

**Contents**

**Fields of interests**
Agriculture; Plant Biochemistry; Oxidative Stress

**Target groups**
Research

**Product Category**
Contributed volume

---

**Secretions and Exudates in Biological Systems**

Secretions and emissions in biological systems play important signaling roles within the organism but also in its communications with the surrounding environment.

**Features**
- This volume brings together state-of-the-art information about the role of secretions and emissions in different organs and organisms.
- Information regarding the biochemistry of flower volatiles and root exudates, and their role in attracting pollinators and soil microbial communities.
- No other book covers aspects related to biological secretion in such a holistic and integrative manner.

**Contents**

**Fields of interests**
Plant Sciences; Plant Biochemistry; Plant Physiology

**Target groups**
Research

**Product Category**
Contributed volume

---

**Bones, Genetics, and Behavior of Rhesus Macaques**

Macaca mulatta of Cayo Santiago and Beyond

**Contents**

**Fields of interests**
Evolutionary Biology; Anthropology; Developmental Biology

**Target groups**
Research

**Product Category**
Contributed volume
Next Generation Microarray Bioinformatics
Methods and Protocols

Contents

Fields of interest
Bioinformatics

Target groups
Professional/practitioner

Product Category
Contributed volume

Synthetic Gene Networks

Contents

Fields of interest
Bioinformatics; Systems Biology

Target groups
Professional/practitioner

Product Category
Contributed volume

mTOR Pathway and Functions

Contents
Mammalian Target of Rapamycin: A Signaling Kinase for every Aspect of Cellular Life.- Biochemical and Pharmacological Inhibition of mTOR by Rapamycin and an ATP-Competitive mTOR Inhibitor.- Evaluation of the Nutrient-Sensing mTOR Pathway.- mTOR Activity Under Hypoxia.- Isolation of the mTOR Complexes by Affinity Purification.- An in vitro Assay for the Kinase Activity of mTOR Complex 2.- Overexpression or Downregulation of mTOR in Mammalian Cells.- Detection of Cytoplasmic and Nuclear Functions of mTOR by Fractionation.- Evaluation of Rapamycin-Induced Cell Death.- Evaluation of mTOR-Regulated mRNA Translation.- A Genome-wide RNAi Screen for Polypeptides that Alter rpS6 Phosphorylation.- Immunohistochemical Analysis of mTOR activity in Tissues.- Assessing Cell Size and Cell Cycle Regulation in Cells With Altered TOR Activity.- Quantitative Visualization of Autophagy Induction by mTOR Inhibitors.- The in vivo Evaluation of Active-Site TOR Inhibitors (aTORi) in Models of BCR-ABL+ Leukemia.- Inducible raptor and rictor Knockout Mouse Embryonic Fibroblasts.- Expanding Human T Regulatory Cells with the mTOR-Inhibitor Rapamycin.- Rapamycin Induced Enhancement of Vaccine Efficacy in Mice.- Utilizing a Retroviral RNAi System to Investigate in vivo mTOR Functions in T Cells.- Exploring Functional in Vivo Consequences of the Selective Genetic Ablation of mTOR Signaling in T Helper Lymphocytes.- Evaluating the Therapeutic Potential of mTOR Inhibitors Using Mouse Genetic.- Inhibition of P13K-Akt-mTOR Signaling in Glioblastoma by mTORC1/2 Inhibitors. [...] 

Fields of interest
Cell Biology

Target groups
Professional/practitioner

Product Category
Contributed volume
Human Auditory Development

This volume will provide an important contemporary reference on hearing development and will lead to new ways of thinking about hearing in children and about remediation for children with hearing loss. Much of the material in this volume will document that a different model of hearing is needed to understand hearing during development. The book is expected to spur research in auditory development and in its application to pediatric audiology.

Features
- Provides an important contemporary reference on hearing development
- Will lead to new ways of thinking about hearing in children
- The book is expected to spur research in auditory development and in its application to pediatric audiology

Contents

Fields of interests
Neurobiology; Otorhinolaryngology; Neurosciences

Target groups
Research

Product Category
Contributed volume

Toxicity of Heavy Metals to Legumes and Bioremediation Potential of Rhizosphere Microbes

Contents
1 Heavy metal availability, uptake and signalling in legumes.- 2 Heavy metals as essential nutrients.- 3 Effects of heavy metals on germinating efficiency of legume seeds.- 4. Changes in phytohormones contents in legumes under heavy metal stress.- 5 Variation in response to heavy metals during vegetative growth of legumes.- 6 Rhizobium-legume symbiosis under metal stressed environment.- 7 Effect of sewage sludge/heavy metals on macromolecules and yield parameters of legumes.- 8 Sorption of heavy metals from aqueous solution by legumes.- 9 Phytochelatin synthases of legumes in response to heavy metals.- 10 Physiological process of legumes influenced by heavy metal application.- 11 Heavy metal induced oxidative damage.- 12 Induction of an antioxidant enzyme system and other oxidative stress markers associated with legumes.- 13 Heavy metal toxicity to nitrogen fixing microorganisms.- 14 How microsymbiont overcome metal stress?- 15 Bioremediation: Challenges and promises.- 16 Role of nitrogen fixers in decontamination/removal of heavy metal toxicity.- 17 Mycoremediation of metal contaminated soils.- 18 Microbially mediated transformation of heavy metals.- 19 Synergistic action of plant growth promoting rhizobacteria and nitrogen fixers in detoxifying the toxicity of heavy metals.- 20 Heavy metal toxicity to humans and strategies adopted for toxicity assessment

Fields of interests
Applied Ecology; Microbiology; Agriculture

Target groups
Research

Product Category
Contributed volume

Due January 2012

2012. 400 p. 53 illus., 7 in color. (Springer Handbook of Auditory Research, Tentative volume 42)
Hardcover
▶ $139.00

Due January 2012

2012. 300 p. 10 illus. Hardcover
▶ $189.00
ISBN 978-3-7091-0729-4