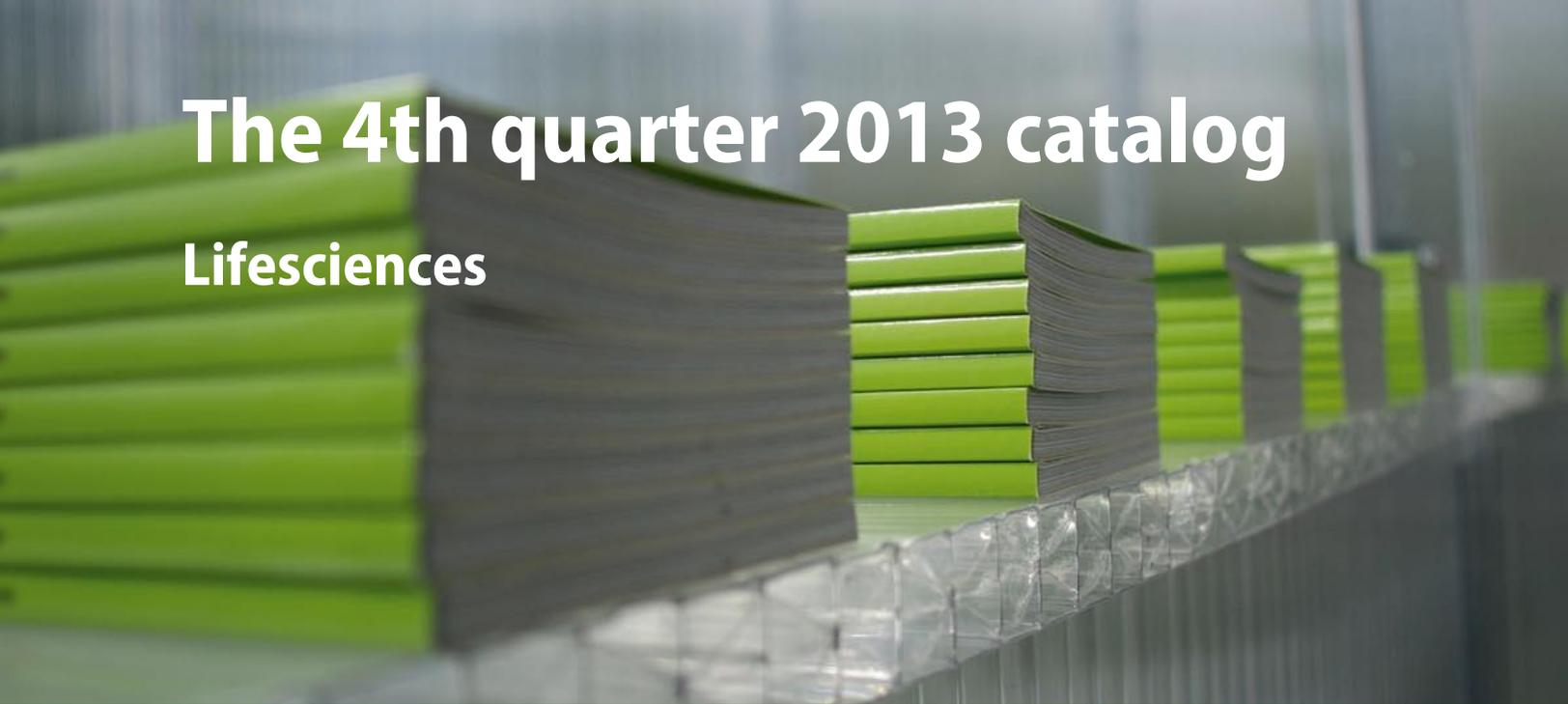


The 4th quarter 2013 catalog

Lifesciences



Earth Sciences

N. Ghose, Geological Society of India, Bengaluru, India; N. Chatterjee, Massachusetts Institute of Technology, Cambridge, USA; .. Fareeduddin, Geological Survey of India, Bengaluru, India

A Petrographic Atlas of Ophiolite

An example from the eastern India-Asia collision zone

The book is a thoughtful discussion with scientists studying convergent plate boundaries such as the well-known, active India-Eurasia collision zone. It provides a comprehensive collection of petrographic images of ophiolitic rocks exhumed from oceanic lithosphere and mantle at the India-Asia plate boundary. Ophiolite is exposed in the north-western Himalayas, eastern Indian plate margin and Andaman-Nicobar Islands. At the eastern margin, it occurs in a narrow strip comprising mantle peridotite tectonite, cumulate peridotite-gabbro-plagiogranite-anorthosite, mafic dyke, volcanics and oceanic sediments. Low temperature/high pressure rocks including blueschists and eclogites were[...]

Features

The book is a thoughtful discussion with scientists studying convergent plate boundaries such as the well-known, active India-Eurasia collision zone. It provides a comprehensive collection of petrographic images of ophiolitic rocks exhumed from oceanic lithosphere and mantle at the India-Asia plate boundary. Ophiolite is exposed in the north-western Himalayas, eastern Indian plate margin and Andaman-Nicobar [..]

Contents

Introduction.- Ophiolite around the Indian Plate Margin.- Geology of the Naga Hills Ophiolite.- Structure and Tectonics of the Naga Hills.- Petrography.- Petrogenesis.

Fields of interest

Geochemistry; Oceanography; Mineralogy; Structural Geology; Economic Geology; Earth Sciences (general)

Target groups

Research

Type of publication

Atlas

More on www.springer.com/978-81-322-1568-4

Hardcover

2014. XV, 240 p. 477 illus., 410 illus. in color. ISBN 978-81-322-1568-4

Due: October 31, 2013

W. Walczowski

Atlantic Water in the Nordic Seas

Properties, Variability, Climatic Importance

The book presents a wide description of hydrographic conditions in the studied area of the Norwegian and Greenland Seas. Variability of the Atlantic Water properties have been presented on the basis of time series obtained from oceanographic measurements performed each summer from 2000 to 2007 by the Institute of Oceanology Polish Academy of Sciences. The warming observed in that period has been described in detail as well as cooling of the Atlantic Water flowing towards the Fram Strait in 2007. Furthermore, concepts regarding multi-branch structure of the West Spitsbergen Current have been presented, types of flows in individual branches as well as variability of the flows.[...]

Features

The book presents a wide description of hydrographic conditions in the studied area of the Norwegian and Greenland Seas. Variability of the Atlantic Water properties have been presented on the basis of time series obtained from oceanographic measurements performed each summer from 2000 to 2007 by the Institute of Oceanology Polish Academy of Sciences. The warming observed in that period has been described [..]

Contents

Introduction.- The Nordic Seas.- Methodology of measurements and data analysis.- Properties of the Atlantic Water in 2000-2007.- Structure and variability of the Atlantic Water on the transects.- Dynamics of the West Spitsbergen Current.

Fields of interest

Oceanography; Climate Change Impacts

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-01278-0

Hardcover

2014. XVI, 174 p. 96 illus., 72 illus. in color. (GeoPlanet: Earth and Planetary Sciences) ISBN 978-3-319-01278-0

Due: September 30, 2013

J. Zhong, Petroleum University of China, Dongying, China, People's Republic; R. Grapes, Korea University, Seoul, Korea, Republic of (South Korea)

Atlas of Sedimentary Structures

The contents of the book would include, among others of a more general and introductory nature, chapters dealing with:- bedding structures; within-layer and layer-surface structures; biological structures, chemical structures; ice-induced structures; wind-induced structures; earthquake-induced structures. Most other books available cover the wider field of sedimentary rocks and petrography and will have a chapter on some of the common sedimentary structures. A book on the sedimentary structures in modern sediments and in sedimentary rocks of the oil-bearing basins throughout China is new and unique.

Features

The contents of the book would include, among others of a more general and introductory nature, chapters dealing with:- bedding structures; within-layer and layer-surface structures; biological structures, chemical structures; ice-induced structures; wind-induced structures; earthquake-induced structures. Most other books available cover the wider field of sedimentary rocks and petrography and will have a [..]

Fields of interest

Sedimentology; Soil Science & Conservation; Physical Geography

Target groups

Upper undergraduate

Type of publication

Monograph

More on www.springer.com/978-3-642-23107-0

Hardcover

2014. 550p. 200 illus. in color. ISBN 978-3-642-23107-0

Due: October 30, 2013

S. Mukherjee, Indian Institute of Technology Bombay, Mumbai, India

Atlas of Shear Zone Structures in Meso-scale

Study of structures associated with shear zones is a crucial aspect to understand the deformation mechanism associated with such zones. Shear zones have been emphasized since it will lead to many latest applied studies such as radioactive waste disposal, groundwater flow etc. For the sake of brevity, research papers cannot show all possible variation in structures found in shear zones. The proposed book aims to present some of these structures in great details with attractive colour photographs. Each photograph will have a comprehensive caption.

Features

Study of structures associated with shear zones is a crucial aspect to understand the deformation mechanism associated with such zones. Shear zones have been emphasized since it will lead to many latest applied studies such as radioactive waste disposal, groundwater flow etc. For the sake of brevity, research papers cannot show all possible variation in structures found in shear zones. The proposed book aims [...]

Contents

S-C shear fabric as ductile shear sense indicators.- Sheared clasts.- Folds in shear zones.- Brittle shear sense indicators.- Boudins in shear zones.- Fractures in shear zones.

Fields of interest

Structural Geology; Mineralogy

Target groups

Research

Type of publication

Atlas

More on www.springer.com/978-3-319-00088-6

Hardcover

2014. VIII, 51 p. 222 illus. (Springer Geology)
ISBN 978-3-319-00088-6

Due: December 5, 2013

L.D.G. Sigalotti, Instituto Venezolano de Investigaci, San Antonio de Los Altos, Venezuela; J. Klapp, Instituto Nacional des Investigaciones, Mexico, Mexico; E. Sira, Instituto Venezolano de Investigaciones, San Antonio de Los Altos, Venezuela (Eds.)

Computational and Experimental Fluid Mechanics with Applications to Physics, Engineering and the Environment

The book presents a collection of selected papers from the I Workshop of the Venezuelan Society of Fluid Mechanics held on Margarita Island, Venezuela from November 4 to 9, 2012. Written by experts in their respective fields, the contributions are organized into five parts: - Part I Invited Lectures, consisting of full-length technical papers on both computational and experimental fluid mechanics covering a wide range of topics from drops to multiphase and granular flows to astrophysical flows, - Part II Drops, Particles and Waves - Part III Multiphase and Multicomponent Flows - Part IV Atmospheric and Granular Flows - and Part V Turbulent and Astrophysical Flows. The book is intended[...]

Features

The book presents a collection of selected papers from the I Workshop of the Venezuelan Society of Fluid Mechanics held on Margarita Island, Venezuela from November 4 to 9, 2012. Written by experts in their respective fields, the contributions are organized into five parts: Part I Invited Lectures, consisting of full-length technical papers on both computational and experimental fluid mechanics covering a [...]

Contents

Environmental Fluid Mechanics: Applications to Weather Forecast and Climate Change.- Turbulent Diffusion of Heat at High Rayleigh Numbers.- Numerical Simulation of Sliding Drops on an Inclined Solid Surface.- Fluids in Cosmology.- Fluid Mechanics and Systems Biology for Understanding the Cosmic Distribution of Life: A Review.- The Impact of Computational Fluid Mechanics on Cancer Research.- Growth of Bubbles in Reservoirs and its Consequences on the Foam Formation.- Theoretical Physics of Granular Fluids and Solids.

Fields of interest

Environmental Science and Engineering; Geophysics and Environmental Physics; Engineering Fluid Dynamics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-00190-6

Hardcover

2014. XXV, 593 p. 195 illus., 109 illus. in color. (Environmental Engineering)
ISBN 978-3-319-00190-6

Due: November 30, 2013

S. Araghinejad

Data-Driven Modeling: Using MATLAB® in Water Resources and Environmental Engineering

"Data-Driven Modeling: Using MATLAB® in Water Resources and Environmental Engineering" provides a systematic account of major concepts and methodologies for data-driven models and presents a unified framework that makes the subject more accessible to and applicable for researchers and practitioners. It integrates important theories and applications of data-driven models and uses them to deal with a wide range of problems in the field of water resources and environmental engineering such as hydrological forecasting, flood analysis, water quality monitoring, regionalizing climatic data, and general function approximation. The book presents the statistical-based models including basic[...]

Features

"Data-Driven Modeling: Using MATLAB® in Water Resources and Environmental Engineering" provides a systematic account of major concepts and methodologies for data-driven models and presents a unified framework that makes the subject more accessible to and applicable for researchers and practitioners. It integrates important theories and applications of data-driven models and uses them to deal with a wide [...]

Contents

Preface.- 1. Introduction.- 2. Basic Statistics.- 3. Regression Based Models.- 4. Time Series Modeling.- 5. Artificial Neural Networks.- 6. Support Vector Machines.- 7. Fuzzy Models.- 8. Hybrid Models and Multi Model Data Fusion.- Appendix.- Index.

Fields of interest

Hydrogeology; Hydrology/Water Resources; Math. Appl. in Environmental Science; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Monitoring / Environmental Analysis; Environmental Management

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-94-007-7505-3

Hardcover

2014. XIV, 248 p. 122 illus., 79 illus. in color. (Water Science and Technology Library, Vol. 67)
ISBN 978-94-007-7505-3

Due: November 30, 2013

R.H. Behnke, Odessa Centre, Shipston-on-Stour, Warwickshire, United Kingdom

Desertification: Causes, Impacts & Consequences

Amongst the first in the new Springer-Praxis Earth System Science Series 'Desertification: The Interplay of Science, Politics and Public Opinion' describes how the process of desertification, a man-induced process that leads to soil nutrient depletion and reduction of biological productivity has heavily affected Sahelian droughts. The team of global experts takes our current understanding of desertification to a far broader level covering wider environmental science and public policy issues. This innovative new book attempts to distinguish between desertification hysteria and the considerable real threat that the process poses to many semi-arid landscapes and to those who inhabit them[...]

Features

Amongst the first in the new Springer-Praxis Earth System Science Series 'Desertification: The Interplay of Science, Politics and Public Opinion' describes how the process of desertification, a man-induced process that leads to soil nutrient depletion and reduction of biological productivity has heavily affected Sahelian droughts. The team of global experts takes our current understanding of desertification to [...]

Contents

Part 1: Foreword' from roy behnke , series editor - the great sahelian desertification boondoggle series introduction.- Part 2: Social and political consequences of the sahelian droughts.- Part 3: Scientific causes of the sahelian droughts.- Part 4: A global assesment of desertification.- Part 5: The capacity to adapt.- Part 6: Lessons learnt.

Fields of interest

Atmospheric Sciences; Soil Science & Conservation; Nature Conservation; Economic Geography; Geology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-11498-4

Hardcover

2014. Approx. 600 p. 65 illus., 45 illus. in color. (Earth System Science Series, Vol.)
ISBN 978-3-642-11498-4

Due: November 2013

R.K. Bhandari, Indian National Academy of Engineering, New Delhi, India

Disaster Education and Management

A Joyride for Students, Teachers and Disaster Managers

The book is expressly written for the young minds because they are our best hope for a safer tomorrow. The book is profusely illustrated, as it offers a joyride to the world of the whole range of hazards through simplified teaching-learning process, with less of teaching and more of learning. This is because most readers would love to learn without actually being taught. The book is designed to take advantage of distilled wisdom of centuries to inspire and enlighten the common man to turn them into prime movers of safer societies. Senior citizens, community leaders, self-trained disaster managers, social workers, media personnel, bureaucrats and those averse to the very thought of[...]

Features

The book is expressly written for the young minds because they are our best hope for a safer tomorrow. The book is profusely illustrated, as it offers a joyride to the world of the whole range of hazards through simplified teaching-learning process, with less of teaching and more of learning. This is because most readers would love to learn without actually being taught. The book is designed to take advantage [...]

Contents

Disaster Education-the Silver Bullet.- Disaster Terminology.- The world of Hazards and Disasters.- From Belief to the Basics of Disasters.- The New Awakening.- Prediction and Forecasting of Natural Disasters.- Lessons in Disaster Management.- Guide to Safety.- Annexure 1: Know about Some Major Disasters.- Annexure 2: References for Popular and Advanced reading.- They lived safely thereafter.

Fields of interest

Natural Hazards; Science Education; Popular Science

Target groups

Popular/general

Type of publication

Monograph

More on www.springer.com/978-81-322-1565-3

Hardcover

2014. XXVIII, 355 p. 301 illus.
ISBN 978-81-322-1565-3

Due: October 31, 2013

I. Sharma, Indian Institute of Technology Kanpur, Kanpur, India; J.T. Jenkins, Cornell University, Ithaca, USA; J.A. Burns, Cornell University, Ithaca, USA

Dynamics of Deformable Bodies

An approximate approach, with applications to solar system bodies

This book employs an approximate approach that can be systematically improved to investigate the statics and dynamics of deformable solid bodies. We apply these methods to investigate various phenomena encountered in planetary science that include disruptions during planetary fly-bys, equilibrium shapes, and nutational damping. With several space missions underway, and more being planned, interest in our immediate neighbourhood is growing. We feel that our flexible procedure may help gain valuable insight into the mechanics of solar system bodies, while at the same time complementing numerical investigations. The technique itself is built upon the virial method employed advantageously[...]

Features

This book employs an approximate approach that can be systematically improved to investigate the statics and dynamics of deformable solid bodies. We apply these methods to investigate various phenomena encountered in planetary science that include disruptions during planetary fly-bys, equilibrium shapes, and nutational damping. With several space missions underway, and more being planned, interest in our [...]

Contents

Dynamics.- Bodies in Space.- Celestial mechanics.

Fields of interest

Planetology; Geophysics / Geodesy; Extraterrestrial Physics, Space Sciences; Astronomy, Astrophysics and Cosmology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-12075-6

Hardcover

2014. Approx. 300 p. 100 illus., 40 illus. in color. (Advances in Geophysical and Environmental Mechanics and Mathematics)
ISBN 978-3-642-12075-6

Due: October 13, 2013

Y. Dilek, Miami University, Oxford, USA; H. Furnes, University of Bergen, Bergen, Norway (Eds.)

Evolution of Archean Crust and Early Life

This book presents an integrated approach to the study of the evolution of the Archean lithosphere, biosphere and atmosphere, and as such it is a unique contribution to our understanding of the early Earth and life. The structural and geochemical make-up of both the oceanic and continental crust of the Archean Earth is documented in some case studies of various cratons, and the implications of the Phanerozoic plate and plume tectonic processes for the Archean geology are discussed in several chapters in the book. All chapters are process-oriented and data-rich, and reflect the most recent knowledge and information on the Archean Earth. The interdisciplinary approach of examining the[...]

Features

This book presents an integrated approach to the study of the evolution of the Archean lithosphere, biosphere and atmosphere, and as such it is a unique contribution to our understanding of the early Earth and life. The structural and geochemical make-up of both the oceanic and continental crust of the Archean Earth is documented in some case studies of various cratons, and the implications of the [...]

Contents

Preface.- Precambrian Greenstone Belts Host Different Ophiolite Types.- The Plume to Plate Transition: Hadean and Archean Crustal Evolution in the Northern Wyoming Province, U.S.A.- Archaean elements of the basement outliers west of the Scandinavian Caledonides in Northern Norway: architecture, evolution and possible correlation with Fennoscandia.- A review of the geodynamic significance of hornblende-bearing ultramafic rocks in the Mesoarchean Fiskensætt Complex, SW Greenland.- The Precambrian Geology of the North China Craton: A review and update of the key issues.- How to Make a [...]

Fields of interest

Geology; Structural Geology; Geochemistry; Biogeosciences; Economic Geology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7614-2

Hardcover

2014. I, 541 p. 255 illus., 80 illus. in color. (Modern Approaches in Solid Earth Sciences, Vol. 7)
ISBN 978-94-007-7614-2

Due: November 30, 2013

J. Klapp, Instituto Nacional de Investigaciones, Mexico, Mexico; A. Medina, Universidad Autónoma, Mexico, Mexico (Eds.)

Experimental and Computational Fluid Mechanics

This book collects invited lectures and selected contributions presented at the Enzo Levi and XVIII Annual Meeting of the Fluid Dynamic Division of the Mexican Physical Society in 2012. It is intended for fourth-year undergraduate and graduate students, and for scientists in the fields of physics, engineering and chemistry with an interest in Fluid Dynamics from experimental, theoretical and computational points of view. The invited lectures are introductory in nature and avoid the use of complicated mathematics. The other selected contributions are also suitable for fourth-year undergraduate and graduate students. The Fluid Dynamics applications include oceanography, multiphase[...]

Features

This book collects invited lectures and selected contributions presented at the Enzo Levi and XVIII Annual Meeting of the Fluid Dynamic Division of the Mexican Physical Society in 2012. It is intended for fourth-year undergraduate and graduate students, and for scientists in the fields of physics, engineering and chemistry with an interest in Fluid Dynamics from experimental, theoretical and computational [...]

Fields of interest

Environmental Science and Engineering; Engineering Fluid Dynamics; Theoretical and Applied Mechanics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-00115-9

Hardcover

2014. XXIV, 532 p. 293 illus., 164 illus. in color. (Environmental Engineering)
ISBN 978-3-319-00115-9

Due: November 30, 2013

Z. Lu, Information Engineering University, Zhengzhou, China (P.R.); S. Qiao, Information Engineering University, Zhengzhou, China (P.R.)

Geodesy

Introduction to Geodetic Datum and Geodetic Systems

Geodetic datum (including coordinate datum, height datum, depth datum, gravimetry datum) and geodetic systems (including geodetic coordinate system, plane coordinate system, height system, gravimetry system) are the common foundations for every aspect of geomatics. This course book focuses on geodetic datum and geodetic systems, and describes the basic theories, techniques, methods of geodesy. The main themes include: the various techniques of geodetic data acquisition, geodetic datum and geodetic control networks, geoid and height systems, reference ellipsoid and geodetic coordinate systems, Gaussian projection and Gaussian plan coordinates and the establishment of geodetic[...]

Features

Geodetic datum (including coordinate datum, height datum, depth datum, gravimetry datum) and geodetic systems (including geodetic coordinate system, plane coordinate system, height system, gravimetry system) are the common foundations for every aspect of geomatics. This course book focuses on geodetic datum and geodetic systems, and describes the basic theories, techniques, methods of geodesy. The main themes [...]

Contents

Introduction.- Geodetic Data Collection Techniques.- Geodetic datum and Geodetic Control Network.- Geoid and Height System.- Reference Ellipsoid and Geodetic Coordinate System.- Gauss and UTM Conformal Projection and Plane Rectangular Coordinate System.- Establishment of Geodetic Coordinate System.

Fields of interest

Geophysics / Geodesy; Geographical Information Systems / Cartography; Geophysics and Environmental Physics

Target groups

Upper undergraduate

Type of publication

Monograph

More on www.springer.com/978-3-642-41244-8

Hardcover

2014. 300 p. 140 illus.
ISBN 978-3-642-41244-8

Due: December 9, 2013

M. Porter, BGC Engineering, Inc, Vancouver, Canada; M. Jakob, BGC Engineering, Inc, Vancouver, Canada; K.W. Savigny, BGC Engineering, Inc, Vancouver, Canada

Geohazard Risk Management for Linear Facilities

There are several books on geohazards such as landslides, floods and earthquakes, but there is no book that provides a unified framework for geohazard risk management along linear facilities, such as roads, railways, pipelines, electrical transmission lines and telecommunication cables. This book will describe how geohazards commonly cause different types of linear activities to fail to perform their intended function. Risk control techniques for each type of geohazard can vary amongst the different types of linear facility. This book will describe the common techniques used, highlighting those that tend to be most cost-effective for each hazard and facility type.

Features

There are several books on geohazards such as landslides, floods and earthquakes, but there is no book that provides a unified framework for geohazard risk management along linear facilities, such as roads, railways, pipelines, electrical transmission lines and telecommunication cables. This book will describe how geohazards commonly cause different types of linear activities to fail to perform their intended [...]

Contents

Geohazards.- Risk Assessment and Risk Management.- Unified Framework for Geohazard Risk Management.- Geohazard Magnitude and Frequency Estimates.- Pipelines.- Railways.- Public and Industrial Roads.- Electrical and Communication Transmission Facilities.- GIS and WEB Applications for Risk Management.- Future Challenges.

Fields of interest

Geotechnical Engineering & Applied Earth Sciences; Economic Geology; Structural Geology; Atmospheric Sciences

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-3-540-29817-5

Hardcover

2014. 310p. 30 illus., 20 illus. in color. (Environmental Sciences)

ISBN 978-3-540-29817-5

Due: November 2013

R. Surdam, University of Wyoming, Laramie, USA (Ed.)

Geological CO2 Storage Characterization

The Key to Deploying Clean Fossil Energy Technology

This book investigates geological CO2 storage and its role in greenhouse gas emissions reduction, enhanced oil recovery, and environmentally responsible use of fossil fuels. Written for energy/environmental regulators at every level of government (federal, state, etc.), scientists/academics, representatives from the power and fossil energy sectors, NGOs, and other interested parties, this book uses the characterization of the Rock Springs Uplift site in Wyoming as an integrated case study to illustrate the application of geological CO2 storage science, principles, and theory in a real-world scenario.

Features

This book investigates geological CO2 storage and its role in greenhouse gas emissions reduction, enhanced oil recovery, and environmentally responsible use of fossil fuels. Written for energy/environmental regulators at every level of government (federal, state, etc.), scientists/academics, representatives from the power and fossil energy sectors, NGOs, and other interested parties, this book uses the [...]

Contents

Geological Observations Supporting Dynamic Climatic Changes.-The Story of the Wyoming Carbon Underground Storage Project (WY-CUSP), and the Regional Inventory and Prioritization of Potential CO2 Storage Reservoirs in Wyoming.-Legal Framework: Carbon Storage Regulations and Access for the Wyoming Carbon Underground Storage Project (WY-CUSP) .-A Strategy for Designing an Optimal Characterization Study of the Premier Carbon Capture, Utilization and Storage Site in Wyoming.-Regional Geologic History, CO2 Source Inventory, and Groundwater Risk Assessment of a Potential CO2 Sequestration Site[...]

Fields of interest

Environmental Science and Engineering; Geotechnical Engineering & Applied Earth Sciences; Geoenvironmental Engineering, Foundations, Hydraulics; Economic Geology; Earth System Sciences; Fossil Fuels (incl. Carbon Capture)

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-1-4614-5787-9

Hardcover

2014. X, 304 p. 221 illus., 136 illus. in color. (Springer Environmental Science and Engineering)

ISBN 978-1-4614-5787-9

Due: February 20, 2014

J. Sundaresan, CSIR-NISCAIR, New Delhi, India; K.M. Santosh, Cochin University of Science & Kochi, India; A. Déri, University of London, London, United Kingdom; R. Roggema, Swinburne University of Technology, Hawthorne, Australia; R. Singh, University of Chapman, Orange, USA (Eds.)

Geospatial Technologies and Climate Change

Geospatial Technologies and Climate Change describes various approaches from different countries on how to use geospatial technologies to help solving climate change issues. It also details how different geospatial technologies (remote sensing, Geographical Information System...) can be used to help with climate monitoring and modeling, how to work with them and what to be careful about. This book is written by scientific experts from four different continents. Written in a comprehensive and complete way, this book is essential reading material for graduate and undergraduate students interested in these techniques and in climate change.

Features

"Geospatial Technologies and Climate Change" is a scholarly compilation of seventeen chapters from researchers working on climate change related research in five countries of four continents. Geospatial technologies, synergetic applications of remote sensing and geographical information systems, offer versatile cross-scale tools to study climate change, the climate system's changes over decades, and their [...]

Contents

Geospatial Technologies as Impact Assessment Tools in Scoping and Monitoring the Impact of Climate Change.- Climate change around the world: Australia, the Netherlands and India.- Dust storms over Indo-Gangetic basin and their impact on Regional climate, precipitation, Himalayan snow/glaciers and Ocean-Ecology supplement.- Impact of Climate Change on Coral Reefs.- Landslide disaster management.- Studies on mangrove Regeneration in tsunami affected area of port Blair, south Andaman using in situ and remote sensing techniques.- Phyto and Zooplankton community assemblages of Car Nicobar[...]

Fields of interest

Earth System Sciences; Climatology; Geographical Information Systems / Cartography; Geotechnical Engineering & Applied Earth Sciences

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-3-319-01688-7

Hardcover

2014. X, 288 p. 97 illus., 89 illus. in color. (Geotechnologies and the Environment, Vol. 10)

ISBN 978-3-319-01688-7

Due: October 31, 2013

A. Kokhanovsky, Institute of Environmental Physics, Bremen, Germany

Light Scattering Reviews, Vol. 9

Light Scattering and Radiative Transfer

Light Scattering Reviews (vol. 9) is aimed at the description of modern advances in radiative transfer and light scattering. The following topics will be considered: light scattering by atmospheric dust particles and also by inhomogeneous scatterers, the general - purpose discrete - ordinate algorithm DISORT for radiative transfer, the radiative transfer code RAY based on the adding-doubling solution of the radiative transfer equation, aerosol and cloud remote sensing, use of polarization in remote sensing, direct aerosol radiative forcing, principles of the Mueller matrix measurements, light reflectance from various land surfaces. This volume will be a valuable addition to already[...]

Features

Light Scattering Reviews (vol.9) is aimed at the description of modern advances in radiative transfer and light scattering. The following topics will be considered: light scattering by atmospheric dust particles and also by inhomogeneous scatterers, the general - purpose discrete - ordinate algorithm DISORT for radiative transfer, the radiative transfer code RAY based on the adding-doubling solution of the [...]

Contents

1. Single light scattering.- 1.2. Scattering of electromagnetic plane waves in radially inhomogeneous media: connections with potential scattering theory.- 2. Radiative transfer and remote sensing.- 2.1. The RAY code for fast and accurate simulation of the vector radiative transfer in atmosphere-land and atmosphere-ocean systems.- 2.2. The general-purpose discrete-ordinate algorithm DISORT for radiative transfer.- 2.3. Genesis and evolution of the use of polarization in remote sensing of atmosphere and ocean.- 2.4. Remote sensing of mixed cloud and aerosol scenes.- 2.5. Evaluations of[...]

Fields of interest

Atmospheric Sciences; Geophysics and Environmental Physics; Remote Sensing / Photogrammetry; Earth Sciences (general); Physics (general)

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-37984-0

Hardcover

2014. 600 p. 175 illus., 50 illus. in color. (Springer Praxis Books)
ISBN 978-3-642-37984-0

Due: February 6, 2014

C. Koeberl, Universität Wien, Wien, Austria; W.U. Reimold, University of Witwatersrand, Johannesburg, South Africa

Meteorite Impact Structures

An Introduction to Impact Crater Studies

This book provides an introduction to the study of impact craters and their structures. It will, thus, place emphasis of the variety of different characteristics associated to impact cratering as observed in the field and in the laboratory. A detailed discussion of how to recognize impact structures is followed by a description of impact-diagnostic mineralogical and geochemical characteristics allowing confirmation of an impact structure. The authors show the environmental effects of impact events as well as possible associations with geological boundaries and provide extensive references.

Features

This book provides an introduction to the study of impact craters and their structures. It will, thus, place emphasis of the variety of different characteristics associated to impact cratering as observed in the field and in the laboratory. A detailed discussion of how to recognize impact structures is followed by a description of impact-diagnostic mineralogical and geochemical characteristics allowing [...]

Contents

From the contents: Historical aspects of impact cratering.- General Characteristics of Impact Craters: Morphology and Geophysics.- Formation of Impact Craters.- Recognition of Impact Structures.- Shock Metamorphism.- Distal Ejecta.- Tektites and Impact Glasses.- Meteoritic Components.- Dating of Impact Craters.

Fields of interest

Geology; Geophysics / Geodesy; Mineralogy

Target groups

Research

Type of publication

Reference work

More on www.springer.com/978-3-540-23209-4

Hardcover

2014. Approx. 500 p. 290 illus., 8 illus. in color.
ISBN 978-3-540-23209-4

Due: October 31, 2013

B. Shen, CSIRO Earth Science and, Brisbane, Australia; O. Stephansson, Helmholtz Centre Potsdam, Potsdam, Germany; M. Rinne, Aalto University, Espoo, Finland

Modelling Rock Fracturing Processes

A Fracture Mechanics Approach Using FRACOD

This text book provides the theoretical background of rock fracture mechanics and displacement discontinuity methods used for the modelling of geo-mechanical problems. The computer program FRACOD is used to analyse the fracture problems, assessing fracture initiation and propagation in tension (Mode I), shear (Mode II) and mixed mode I and II of solid intact or jointed geomaterials. The book also presents the fundamentals of thermo-mechanical coupling and hydro-mechanical coupling. Formulations of multiple regional mechanical, thermal and hydraulic functions, which allow analyses of fracture mechanics problems for structures made of brittle, rock-like materials, are provided. In[...]

Features

This text book provides the theoretical background of rock fracture mechanics and displacement discontinuity methods used for the modelling of geo-mechanical problems. The computer program FRACOD is used to analyse the fracture problems, assessing fracture initiation and propagation in tension (Mode I), shear (Mode II) and mixed mode I and II of solid intact or jointed geomaterials. The book also presents [...]

Contents

Foreword.- Preface.- Acknowledgements.- 1. Introduction.-2. Introduction to Rock Fracture Mechanics.- 3. Numerical Method.- 4. Iteration Process in FRACOD.- 5. Modelling Time Dependency.- 6. Simulation of Multiple Region System.- 7. Solving Gravitational Problems.- 8. Sequential Excavation Function.- 9. Thermo-Mechanical Coupling.- 10. Hydro-Mechanical Coupling.- 11. Anisotropic Rock Strength Function.- 12. Rock Properties for FRACOD Modelling.- 13. FRACOD Verification Tests.- 14. Application Case Studies.- Index.

Fields of interest

Geotechnical Engineering & Applied Earth Sciences; Geoengineering, Foundations, Hydraulics; Waste Management / Waste Technology; Earth Sciences (general); Simulation and Modeling

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-94-007-6903-8

Hardcover

2014. XV, 169 p. 98 illus., 60 illus. in color.
ISBN 978-94-007-6903-8

Due: October 31, 2013

U.C. Mohanty, Indian Institute of Technology, Delhi, India; M. Mohapatra, India Meteorological Department, New Delhi, India; O.P. Singh, India Meteorological Department, New Delhi, India; B.K. Bandyopadhyay, India Meteorological Department, New Delhi, India; L.S. Rathore, India Meteorological Department, New Delhi, India (Eds.)

Monitoring and Prediction of Tropical Cyclones in the Indian Ocean and Climate Change

This book deals with recent advances in our understanding and prediction of tropical cyclogenesis, intensification and movement as well as landfall processes like heavy rainfall, gale wind and storm surge based on the latest observational and numerical weather prediction (NWP) modeling platforms. It also includes tropical cyclone (TC) management issues like early warning systems, recent high impact TC events, disaster preparedness, assessment of risk and vulnerability including construction, archiving and retrieval of the best tracking and historical data sets, policy decision etc., in view of recent findings on climate change aspects and their impact on TC activity. The chapters are [...]

Features

This book deals with recent advances in our understanding and prediction of tropical cyclogenesis, intensification and movement as well as landfall processes like heavy rainfall, gale wind and storm surge based on the latest observational and numerical weather prediction (NWP) modeling platforms. It also includes tropical cyclone (TC) management issues like early warning systems, recent high impact TC [...]

Contents

Construction and Quality of Best Tracks Parameters for Study of Climate change Impact on Tropical Cyclones over the North Indian Ocean during Satellite Era.- "Climate Change and southern Hemisphere Tropical Cyclones" International Initiative – Progress since the First International conference on Indian Ocean Tropical Cyclones and Climate Change.- Climate Change in Tropical Cyclones and Monsoon Depressions of North Indian Ocean.- Mechanism of the Indian Ocean Tropical Cyclone Frequency Changes due to Global Warming.- Recent Research at GDFL on Surface Temperature Trends and Simulations[...]

Fields of interest

Oceanography; Meteorology; Natural Hazards; Coastal Sciences; Atmospheric Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7719-4

Distribution rights for SAARC countries: Capital Publishing Company, New Delhi, India

Hardcover

Jointly published with Capital Publishing Company, New Delhi, India
2014. 400 p. 202 illus., 104 illus. in color. With Jointly published with Capital Publishing Company, New Delhi, India.

ISBN 978-94-007-7719-4

Due: October 15, 2013

J.L. Drake, The University of Findlay, Findlay, USA; Y.Y. Kontar, University of Nebraska-Lincoln, Lincoln, USA; G.S. Rife, The University of Findlay, Findlay, USA (Eds.)

New Trends in Earth-Science Outreach and Engagement

The Nature of Communication

Perhaps just as perplexing as the biggest issues at the core of Earth science is the nature of communicating about nature itself. *New Trends in Earth-Science Outreach and Engagement: The Nature of Communication* examines the processes of communication necessary in bridging the chasm between climate change and natural hazard knowledge and public opinion and policy. At this junction of science and society, 17 chapters take a proactive and prescriptive approach to communicating with the public, the media, and policy makers about the importance of Earth science in everyday life. Book chapters come from some 40 authors who are geophysical scientists, social scientists, educators, scholars, [...]

Features

Perhaps just as perplexing as the biggest issues at the core of Earth science is the nature of communicating about nature itself. *New Trends in Earth-Science Outreach and Engagement: The Nature of Communication* examines the processes of communication necessary in bridging the chasm between climate change and natural hazard knowledge and public opinion and policy. At this junction of science and [...]

Contents

Preface.- Acknowledgements.- Foreword.- Part I – Framing Climate Change.- 1 Assessing Corporate Influence on Climate Change Dialogue.- 2 Reaching Out Beyond the "Usual Suspects" and Traditional Media.- 3 Investigating the Connections Between Oil and Gas Industry Affiliation and Climate Change Concerns.- Part II – The Role of Science in the Conversation.- 4 Science Communication and the Legal System.- 5 Reduction of Conflicts in Mining Using Good Neighbor Agreements.- 6 Science Communication and Tension Between Evidence-Based and Inclusive Features of Policy Making.- 7 Science [...]

Fields of interest

Natural Hazards; Communication Studies; Public Relations; Environment (general); Geography (general); Earth System Sciences

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-3-319-01820-1

Hardcover

2014. VII, 268 p. 48 illus., 46 illus. in color. (Advances in Natural and Technological Hazards Research, Vol. 38)
ISBN 978-3-319-01820-1

Due: November 30, 2013

K. Bjorlykke, University of Oslo, Oslo, Norway

Petroleum Geoscience

From Sedimentary Environments to Rock Physics

Petroleum geoscience comprises those geoscientific disciplines which are of greatest significance for the exploration and recovery of oil and gas. These include petroleum geology, of which sedimentary geology is the main foundation along with the contextual and modifying principles of regional, tectonic and structural geology. Additionally, biostratigraphy and micropalaeontology, organic geochemistry, and geophysical exploration and production techniques are all important tools for petroleum geoscientists in the 21st century. Now in its second edition, new chapters have been added and others expanded on geophysical methods in general and electromagnetic exploration methods in [...]

Features

Petroleum geoscience comprises those geoscientific disciplines which are of greatest significance for the exploration and recovery of oil and gas. These include petroleum geology, of which sedimentary geology is the main foundation along with the contextual and modifying principles of regional, tectonic and structural geology. Additionally, biostratigraphy and micropalaeontology, organic geochemistry, and [...]

Fields of interest

Geology

Target groups

Graduate

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-3-642-34131-1

Hardcover

2014. 650 p. 340 illus., 260 illus. in color.
ISBN 978-3-642-34131-1

Due: November 16, 2013

G. Sen, American University of Sharjah, Sharjah, United Arab Emirates

Petrology

Principles and Practice

This undergraduate textbook on the key subject of geology closely follows the core curriculum adopted by most universities throughout the world and is a must for every geology student. It covers all aspects of petrology, including not only the principles of petrology but also applications to the origin, composition, and field relationships of rocks. Although petrology is commonly taught in the junior year, this book is a useful resource for graduate students as well.

Features

This undergraduate textbook on the key subject of geology closely follows the core curriculum adopted by most universities throughout the world and is a must for every geology student. It covers all aspects of petrology, including not only the principles of petrology but also applications to the origin, composition, and field relationships of rocks. Although petrology is commonly taught in the junior year, [...]

Contents

Rock-forming Minerals.- Introduction to Igneous Rocks.- Phase relations in simple systems: Key to magma generation, crystallization, and mixing.- Phase equilibrium in ternary systems.- Magma formation and segregation.- Igneous Rock Series: Basalt Magma Evolution.- Origin of Basaltic magmas.- Basaltic Magmatism at major tectonic environments.- Intermediate and Felsic Magmas and their tectonic association.- Alkaline, Ultra-alkaline, Kimberlite, and Carbonatite Magmas.- Komatiites, Anorthositic, and Earth's Early Crust building.- Sediments.- Sedimentary rocks.- Metamorphism & Metamorphic[...]

Fields of interest

Geology; Mineralogy; Geochemistry

Target groups

Upper undergraduate

Type of publication

Undergraduate textbook

More on www.springer.com/978-3-642-38799-9

Hardcover

2014. XIII, 549 p. 377 illus., 102 illus. in color. ISBN 978-3-642-38799-9

Due: September 30, 2013

P. Wang, S. Dong, Beijing Normal University, Beijing, China (P.R.); J. Lassoie, Cornell University, Ithaca, USA

The Large Dam Dilemma

An Exploration of the Impacts of Hydro Projects on People and the Environment in China

Large dam construction has significant environmental and social impacts at different scales. As the largest developing country in the world, China has built about half of the world's large dams, and more are expected to be built over the next two decades to meet the country's rapidly growing demand for energy. This book summarizes and updates information about the history, distribution, functions, and impacts of large dams, both globally and at China's national level. It then addresses the environmental and social-economic impacts of large dams in China with particular emphasis on the impacts of large dams on relocated people and associated compensation policies. Lastly, it introduces[...]

Features

Large dam construction has significant environmental and social impacts at different scales. As the largest developing country in the world, China has built about half of the world's large dams, and more are expected to be built over the next two decades to meet the country's rapidly growing demand for energy. This book summarizes and updates information about the history, distribution, functions, and [...]

Contents

Chapter 1 A Global Review of Large Dam Construction.- Chapter 2 Large Dams in China: An Overview of History, Distribution, and Case Studies.- Chapter 3 Environmental Impacts of Dams in China: Focusing on Biological Diversity and Ecological Integrity.- Chapter 4 Socioeconomic Impacts of Dams in China: Focusing on Relocated People.- Chapter 5 Conclusions.- The Future of Large Dams in China.- Acknowledgements.

Fields of interest

Environmental Science and Engineering; Biodiversity; Human Geography; Energy (general)

Target groups

Research

Type of publication

Brief

More on www.springer.com/978-94-007-7629-6

Softcover

2014. XV, 99 p. 23 illus., 20 illus. in color. ISBN 978-94-007-7629-6

Due: November 30, 2013

A. Soloviev, Nova Southeastern University, Dania Beach, USA; R. Lukas, University of Hawaii at Manoa, Honolulu, USA

The Near-Surface Layer of the Ocean

Structure, Dynamics and Applications

The rationale for publishing a second edition of this monograph is that this area of research continues to show remarkable advancement. The new generation of synthetic aperture radar satellites has provided unprecedented spatial resolution of sea surface features. In addition, satellites to measure sea surface salinity have been launched. Computational fluid dynamics models open new opportunities in understanding the processes in the near-surface layer of the ocean and their visibility from space. Passive acoustic methods for monitoring short surface waves have significantly progressed. Of importance for climate research, processes in the near-surface layer of the ocean contribute to[...]

Features

The rationale for publishing a second edition of this monograph is that this area of research continues to show remarkable advancement. The new generation of synthetic aperture radar satellites provided unprecedented spatial resolution of the sea surface features. In addition, satellites to measure sea surface salinity have been launched. Computational fluid dynamic models open new opportunities in [...]

Contents

Introduction.- Sea Surface Microlayer.- Near-Surface Turbulence.- Fine Structure and Microstructure.- Spatially Varying and Coherent Structures.- High Wind Speed Regime.- Applications.

Fields of interest

Oceanography; Atmospheric Sciences; Math. Appl. in Environmental Science; Fluid- and Aerodynamics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7620-3

Hardcover

2014. I, 469 p. 259 illus., 69 illus. in color. (Atmospheric and Oceanographic Sciences Library, Vol. 48) ISBN 978-94-007-7620-3

Due: November 30, 2013

F. Biondi, University of Nevada, Reno, Reno, USA

Tree-ring Analysis of Environmental Change

Principles and Applications of Dendrochronology

The work is presented in three parts, Part 1 providing the basis of dendrochronology as a science, introducing the reader to the details of tree and wood anatomy, followed by a brief history of the discipline, emphasising the importance of cross-dating for the development of tree-ring chronologies. This section is completed with a conceptual model of environmental signals that are embedded in wood growth at individual and population level, including a discussion essential for interpretation. Part 2 focuses on the various tools used for dendrochronological studies of environmental change, specified with measurements, including width, density and composition of tree-rings. This is [...]

Features

The work is presented in three parts, Part 1 providing the basis of dendrochronology as a science, introducing the reader to the details of tree and wood anatomy, followed by a brief history of the discipline, emphasising the importance of cross-dating for the development of tree-ring chronologies. This section is completed with a conceptual model of environmental signals that are embedded in wood growth at [...]

Contents

Foreword.- I. Principles.- 1. Wood Anatomy.- 2. Crossdating.- 3. Conceptual Models.- 4. Rationale.- II. Methods.- 1. Measurement.- 2. Numerical Analysis.- III. Applications.- 1. Reconstructing climate.- 2. Dating Abrupt Events.- 3. Applications to Forest Dynamics.- 4. Studies of Human History.- Appendices.- Field and Laboratory Forms.- International Tree-Ring Data Bank.- Web Resources.

Fields of interest

Biogeosciences; Forestry; Climatology; Geoecology / Natural Processes; Ecotoxicology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-540-88390-6

Hardcover

Jointly published with Praxis Publishing, UK
2013. 300p. 70 illus., 50 illus. in color. (Environmental Sciences)

ISBN 978-3-540-88390-6

Due: November 2013

Y.A. Kontar, University of Findlay, Findlay, USA; V. Santigo-Fandiño, T. Takahashi, Kansai University, Takatsuki-shi, Osaka, Japan (Eds.)

Tsunami Events and Lessons Learned

Environmental and Societal Significance

This book is a collective effort by world experts, bringing together assorted contributions presented during the Ocean Science Session OS-017, of the AOGS-AGU Joint Assembly held in Singapore in 2012 (the Asia Tsunami and Great East Japan Earthquake and Tsunami events). The chapters cover assessment, evaluation, forecast and lessons learned as well as environmental and societal impacts of the latest tsunamis that occurred in the Indian Ocean in 2004 and the Pacific Ocean in Japan 2011. The book is aimed at experts, scientists and decision makers seeking recent updated information, knowledge and experiences to better understand, quantify, forecast and protect coastal water resources, [...]

Features

This book is a collective effort by world experts, bringing together assorted contributions presented during the Ocean Science Session OS-017, of the AOGS-AGU Joint Assembly held in Singapore in 2012 (the Asia Tsunami and Great East Japan Earthquake and Tsunami events) and other conferences. The chapters cover assessment, evaluation, forecast, policy and lessons learned as well as environmental and [...]

Contents

Preface.- Foreword.- 1. The Tsunami and Earthquake in Miyagi Prefecture and Sanriku 2011-2012 - An Overview.- 2. Assessment and Modeling of Dispersal Contamination Incoming with Submarine Groundwater Discharge (SGD) in Tsunami Affected Coastal Areas.- 3. Tsunami Inundation Modeling of the 2011 Tohoku Earthquake Using Three-dimensional Building Data for Sendai, Miyagi Prefecture, Japan.- 4. Numerical Simulation of Coastal Sediment Transport by the 2011 Tohoku-oki Earthquake Tsunami.- 5. NOAA's Historical Tsunami Event Database, Raw and Processed Water Level Data, and Model Output[...]

Fields of interest

Natural Hazards; Environmental Science and Engineering; Marine & Freshwater Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7268-7

Hardcover

2014. XIV, 435 p. 220 illus., 187 illus. in color. (Advances in Natural and Technological Hazards Research, Vol. 35)

ISBN 978-94-007-7268-7

Due: October 31, 2013

F.J. Dahlkamp

Uranium Deposits of the World

Uranium Deposits of the World, in four volumes, comprises an unprecedented compilation of data and overviews of the key uranium regions throughout the globe. It offers not only a complete uranium-resource reference based on the latest research but also access to previously unavailable data. Each country and region receives an analytical overview followed by the detailed geologically- and economically-relevant synopsis of the individual regions and fields, including: location and magnitude of uranium districts and deposits; principal features of uranium districts; and characteristics of selected deposits. The description of districts and deposits includes sections on geology, [...]

Features

Uranium Deposits of the World, in four volumes, comprises an unprecedented compilation of data and overviews of the key uranium regions throughout the globe. It offers not only a complete uranium-resource reference based on the latest research but also access to previously unavailable data. Each country and region receives an analytical overview followed by the detailed geologically- and [...]

Fields of interest

Mineral Resources; Nuclear Engineering; Metallic Materials; Economic Geology

Target groups

Research

Type of publication

Handbook

More on www.springer.com/978-3-540-78559-0

Hardcover

4 volumes only available as a set
2013. 2400p. In 4 volumes, not available separately.
ISBN 978-3-540-78559-0

Due: August 31, 2013

4 volumes only available as a set

2013. 2400p. eReference. In 4 volumes, not available separately.

ISBN 978-3-540-78560-6

Due: August 31, 2013

Hardcover

4 volumes only available as a set
2013. 2400p. Print + eReference. In 4 volumes, not available separately.

ISBN 978-3-540-78556-9

Due: August 31, 2013

E.O. Box, University of Georgia, Athens, USA; K. Fujiwara, Yokohama City University, Kanagawa-ku, Japan (Eds.)

Warm-temperate Deciduous Forests around the Northern Hemisphere

Warm-temperate deciduous forests are "southern", mainly oak-dominated deciduous forests, as found over the warmer southern parts of the temperate deciduous forest regions of East Asia, Europe and eastern North America. Climatic analysis has shown that these forests extend from typical temperate climates to well into the warm-temperate zone, in areas where winters are a bit too cold for the 'zonal' evergreen broad-leaved forests normally expected in that climatic zone. This book is the first to recognize and describe these southern deciduous forests as an alternative to the evergreen forests of the warm-temperate zone. This warm-temperate zone will become more important under global[...]

Features

Warm-temperate deciduous forests are "southern", mainly oak-dominated deciduous forests, as found over the warmer southern parts of the temperate deciduous forest regions of East Asia, Europe and eastern North America. Climatic analysis has shown that these forests extend from typical temperate climates to well into the warm-temperate zone, in areas where winters are a bit too cold for the 'zonal' evergreen [...]

Contents

Introduction.- Warm-temperate Deciduous Forests: Concepts and Global Overview.- Character of Warm-temperate Forests in Asia.- Chorology and Phytosociology of *Quercus petraea* in Trentino-Alto Adige.- Warm-temperate Deciduous Forests of Eastern North America.- Quantitative Delimitation of Warm-temperate Deciduous Forest Areas.

Fields of interest

Biogeosciences; Physical Geography; Plant Ecology; Plant Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-01260-5

Hardcover

2014. XIV, 354 p. 59 illus., 34 illus. in color. (Geobotany Studies)

ISBN 978-3-319-01260-5

Due: September 30, 2013

Environment

E. Taylor, A. McMillan (Eds.)

Air Quality Management

Canadian Perspectives on a Global Issue

This book provides a wide overview of the issues related to managing of air quality in Canada. Learn about the air issues that have caused impacts to ecosystems or human health and hence been targeted to be managed. Discover how Canada's national governance involving a federal government along with provincial and territorial governments impacts the air quality management process. Understand how Canadians manage their air quality in context with the USA, their largest and closest neighbour. Benefit from the experience of 43 of Canada's most experienced air quality management professionals who share their insights into the state of air quality in Canada today, how it is managed, as well[...]

Features

This book provides a wide overview of the issues related to managing of air quality in Canada. Learn about the air issues that have caused impacts to ecosystems or human health and hence been targeted to be managed. Discover how Canada's national governance involving a federal government along with provincial and territorial governments impacts the air quality management process. Understand how Canadians [...]

Contents

PART I : Air Pollution Science.- PART II: Air Quality Impacts.- PART III: Management of Emissions.- PART IV : Policy and Planning.- PART V: Communicating Air Quality Information.

Fields of interest

Atmospheric Protection / Air Quality Control / Air Pollution; Atmospheric Sciences; Public Health

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7556-5

Hardcover

2014. XIII, 404 p. 191 illus., 134 illus. in color.

ISBN 978-94-007-7556-5

Due: October 31, 2013

S.S. Muthu, Global Sustainability Services, Hong Kong, Hong Kong/P.R.China (Ed.)

Assessment of Carbon Footprint in Different Industrial Sectors, Volume 1

Carbon footprint is one of the important environmental impacts, which has received greater attention from the public, government and media. It is one of the important topics of even any government's agenda as well and every nation is trying its best to reduce its carbon footprint to the maximum possible extent. Every company would like to reduce the carbon footprint of its products and consumers are looking for the products which emit lower carbon emissions in their entire life cycle. Assessment of Carbon footprint for different products, processes and services and also carbon labelling of products have become familiar topics in the recent past in various industrial sectors. Every[...]

Features

Carbon footprint is one of the important environmental impacts, which has received greater attention from the public, government and media. It is one of the important topics of even any government's agenda as well and every nation is trying its best to reduce its carbon footprint to the maximum possible extent. Every company would like to reduce the carbon footprint of its products and consumers are looking [...]

Contents

Introduction to the eco-design methodology and the role of Product Carbon Footprint.- Carbon footprint estimation of agriculture sector.- Methodology for Determining the Carbon Footprint of the Construction Of Residential Buildings.- Carbon Footprint of Food Products.- The carbon footprint of ceramic products.- Carbon footprint of mobile devices: Open questions in carbon footprinting of emerging mobile ICT technologies.- The carbon footprint of pigmeat in Flanders.- Carbon emission and carbon footprint of different industrial spaces in different regions of China.- Ecodesign and Product[...]

Fields of interest

Environmental Management; Production / Logistics; Industrial and Production Engineering; Environmental Engineering / Biotechnology; Sustainable Development

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-981-4560-40-5

Hardcover

2014. IX, 534 p. 89 illus., 74 illus. in color. (EcoProduction)

ISBN 978-981-4560-40-5

Due: October 31, 2013

S.S. Muthu, Global Sustainability Services, Hong Kong, Hong Kong/P.R.China; Y. Li, The Hong Kong Polytechnic University, Hong Kong, Hong Kong/P.R.China

Assessment of Environmental Impact by Grocery Shopping Bags

An Eco-Functional Approach

This book reviews the manufacturing processes of different shopping bags used for grocery purposes, life cycle impacts, modelling of life cycle impacts, carbon and eco-footprints in different countries, consumption of shopping bags in different countries, consumer behaviour of shopping bags in various countries and its relation to eco-impact, assessment of functionality of shopping bags, concept and framework of eco-functional assessment of shopping bags, biodegradation of shopping bags, etc.

Features

This book details the different types of shopping bags used for grocery purposes and their manufacturing processes; various impacts made by different grocery shopping bags in their entire life cycle from cradle to grave stages; importance of consumer behaviour in determining the life cycle impact of shopping bags with the case study of the consumer behaviour studied in different countries for various shopping [...]

Contents

Basic introduction to shopping bags and eco-functional assessment of shopping bags.- Manufacturing processes of grocery shopping bags.- Life cycle assessment of grocery shopping bags.- Functionality assessment of shopping bags.- Consumption behaviour of shopping bags in various countries: Consumption and eco-impact.- End-of-life assessment of grocery shopping bags.- Eco-functional assessment of grocery shopping bags.- Conclusions.

Fields of interest

Environmental Engineering / Biotechnology; Production / Logistics; Sustainable Development; Environmental Management

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-981-4560-19-1

Hardcover

2014. XI, 162 p. 35 illus., 16 illus. in color. (EcoProduction)
ISBN 978-981-4560-19-1

**usually dispatched within 3 to 5 business days
October 31, 2013**

M. Tiepolo, Politecnico di Torino, Torino, Italy; S. Macchi, Sapienza Università di Roma, Roma, Italy (Eds.)

Climate Change Vulnerability in Southern African Cities

In recent decades, extreme rains and drought have struck urban regions in Africa like never before. Nevertheless, limited information is available on which to base development of early warning systems, identification of high-risk zones, and formulation of local action plans. This book is about how to build the knowledge necessary for planning adaptation to climate change in Sub-Saharan cities. It brings together lessons learned from international development actions conducted by a number of scholars in disciplines ranging from meteorology and hydrogeology to urban planning and environmental management. Selected methods to assess the impacts of extreme weather and ecological stress are [...]

Features

In recent decades, extreme rains and drought have struck urban regions in Africa like never before. Nevertheless, limited information is available on which to base development of early warning systems, identification of high-risk zones, and formulation of local action plans. This book is about how to build the knowledge necessary for planning adaptation to climate change in Sub-Saharan cities. It brings [...]

Contents

From the Contents: Adaptation to Incremental Climate Stress in Urban Regions.- Managing the Risks of Weather Extreme Events in Cities.- A case study.- Climate Change Impact and Institutional Response Capacity.- Climate Change Effect on Seawater Intrusion: Developing Exposure Scenarios for Vulnerability Assessment.

Fields of interest

Climate Change; Climate Change Impacts; Climate Change Management and Policy; Landscape, Regional and Urban Planning

Target groups

Research

Type of publication

Professional book

More on www.springer.com/978-3-319-00671-0

Hardcover

2014. X, 220 p. 60 illus. (Springer Climate)
ISBN 978-3-319-00671-0

Due: October 17, 2013

D.L. Peterson, J.M. Vose, USDA Forest Service, Raleigh, USA; T. Patel-Weynand, USDA Forest Service, Arlington, USA (Eds.)

Climate Change and United States Forests

This volume offers a scientific assessment of the effects of climatic variability and change on forest resources in the United States. Derived from a report that provides technical input to the 2013 U.S. Global Change Research Program National Climate Assessment, the book serves as a framework for managing U.S. forest resources in the context of climate change. The authors focus on topics having the greatest potential to alter the structure and function of forest ecosystems, and therefore ecosystem services, by the end of the 21st century. Part I provides an environmental context for assessing the effects of climate change on forest resources, summarizing changes in environmental [...]

Features

This volume offers a scientific assessment of the effects of climatic variability and change on forest resources in the United States. Derived from a report that provides technical input to the 2013 U.S. Global Change Research Program National Climate Assessment, the book serves as a framework for managing U.S. forest resources in the context of climate change. The authors focus on topics having the greatest [...]

Contents

Part I Seeking the Climate Change Signal.- Chapter 1 Recent Changes in Climate and Forest Ecosystems.- Chapter 2 Projected Changes in Future Climate.- Part II Effects of Climatic Variability and Change.- Chapter 3 Forest Processes.- Chapter 4 Disturbance Regimes and Stressors.- Chapter 5 Climate Change and Forest Values.- Chapter 6 Regional Highlights of Climate Change.- Part III Responding to Climate Change.- Chapter 7 Managing Carbon.- Chapter 8 Adapting to Climate Change.- Chapter 9 Risk Assessment.- Part IV Scientific Issues and Priorities.- Chapter 10 Research and Assessment in the [...]

Fields of interest

Climate Change; Ecosystems; Landscape, Regional and Urban Planning; Social Sciences (general); Fossil Fuels (incl. Carbon Capture); Science

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7514-5

Hardcover

2014. XX, 286 p. 48 illus., 37 illus. in color. (Advances in Global Change Research, Vol. 57)
ISBN 978-94-007-7514-5

Due: November 30, 2013

M. Mantou, Monash University, Melbourne, Australia; L.A. Stevenson, Asia-Pacific Network Global Change Res., Kobe, Japan (Eds.)

Climate in Asia and the Pacific

Security, Society and Sustainability

Commissioned by the Intergovernmental Meeting (IGM) of the Asia-Pacific Network for Global Change Research (APN), this book offers a detailed survey of the current status of climate change and climate variability in the Asia-Pacific region, a thorough and thoughtful assessment of climate and security and clear recommendations on the best paths of climate research in the future.

Features

Commissioned by the Intergovernmental Meeting (IGM) of the Asia-Pacific Network for Global Change Research (APN), this book offers a detailed survey of the current status of climate change and climate variability in the Asia-Pacific region, a thorough and thoughtful assessment of climate and security and clear recommendations on the best paths of climate research in the future. The opening [...]

Contents

Foreword by Helen Clarke.- Foreword by Ghassem Asrar.- Foreword by Scott Hauger.- Preface.- 1. Introduction.- 2. Climate Variability and Change.- 3. Climate and Urbanization.- 4. Climate and Security.- 5. Climate and Society.- 6. Climate and Sustainability.- 7. Future Directions for Climate Research in Asia and the Pacific.- Index.

Fields of interest

Climate Change; Earth System Sciences; Sustainable Development

Target groups

Graduate

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7337-0

Hardcover

2014. XVIII, 317 p. 45 illus., 41 illus. in color. (Advances in Global Change Research, Vol. 56)
ISBN 978-94-007-7337-0

Due: September 30, 2013

J. Zhang, Chinese Academy of Forestry, Fuyang, China (P.R.)

Coastal Saline Soil Rehabilitation and Utilization Based on Forestry Approach in China

The most recent advances in research on coastal saline soil rehabilitation and utilization based on forestry approach are discussed. The forestry approach is emphasized rather than physical or engineering measures to ameliorate saline soils, which is significant for coastal environmental improvement and land resources expansion. The monograph is a useful reference for researchers using techniques of ecology, forestry and agronomy. Prof. Jianfeng Zhang works at the Institute of Subtropical Forestry, Chinese Academy of Forestry. He has been working on afforestation in saline soils for over 20 years.

Features

The most recent advances in research on coastal saline soil rehabilitation and utilization based on forestry approach are discussed. The forestry approach is emphasized rather than physical or engineering measures to ameliorate saline soils, which is significant for coastal environmental improvement and land resources expansion. The monograph is a useful reference for researchers using techniques of ecology, [...]

Contents

Part I Characteristics of Salt-Affected Soil and its Amelioration by Trees.- Concepts Concerned with Salt-Affected Soil.- Part II Principles and Practice of Afforestation in Saline Soil.- Mechanism of salinity tolerance and techniques of trees planting.- Part III Saline Soil Utilization for Biomass Production.- Potential and future prospects of biomass production in saline soils.- Part IV Wetland Degradation and Water Shortage in Yellow River Delta Region.- Causes of Wetland Degradation and Ecological Restoration.- Part V Case Study.- Planting Techniques of Tamarix Chinensis and Its[...]

Fields of interest

Soil Science & Conservation; Forestry; Environmental Engineering / Biotechnology; Coastal Sciences; Ecology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-39914-5

Hardcover

2014. X, 230 p. 31 illus., 26 illus. in color.
ISBN 978-3-642-39914-5

Due: September 30, 2013

D.A. Vazquez-Brust, Royal Holloway University of London, Egham, United Kingdom; J. Sarkis, Clark University, Worcester, USA; J.J. Cordeiro, State University of New York, Brockport, USA (Eds.)

Collaboration for Sustainability and Innovation: A Role For Sustainability Driven by the Global South?

A Cross-Border, Multi-Stakeholder Perspective

A number of arguments are made by an international group of authors in this though provoking book about an understudied and socially important context. A future in which financial wealth transfers across the North-South divide from richer to poorer countries is far from sufficient for the relief of poverty and the pursuit of sustainability. Caution must be taken when growth is achieved through the liquidation of the natural wealth of poorer nations, in order to maintain a global economic status quo. Neither poverty reduction nor sustainability will ultimately be achieved. The financial collapse and social upheaval that might result will make the most recent economic downturn look[...]

Features

A number of arguments are made by an international group of authors in this though provoking book about an understudied and socially important context. A future in which financial wealth transfers across the North-South divide from richer to poorer countries is far from sufficient for the relief of poverty and the pursuit of sustainability. Caution must be taken when growth is achieved through the liquidation [...]

Contents

Foreword.- Chapter 1: Collaboration for Sustainability and Innovation in the Global South: A cross-border, multi-stakeholder perspective.- Chapter 2: Challenges of cross-border collaboration: knowledge networks for innovation and sustainability in the Global South.- Chapter 3: The role of expatriates in cross-subsidiary collaboration.- Chapter 4: The roles of first and second tier suppliers in Greening International Supply Chains.- Chapter 5: Cross-Border Innovation in South-North Fair Trade Supply Chains: The opportunities and problems of integrating fair trade governance into northern[...]

Fields of interest

Sustainable Development; Business & Economics (general); Social Sciences (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7632-6

Hardcover

2014. XIV, 323 p. 12 illus., 7 illus. in color. (Greening of Industry Networks Studies, Vol. 3)
ISBN 978-94-007-7632-6

Due: November 30, 2013

K. Tsukamoto, Nihon University, Fujisawa, Japan; M. Kuroki, The University of Tokyo, Tokyo, Japan (Eds.)

Eels and Humans

This book explains much of what is known currently about freshwater eels, focusing on social and cultural aspects as well as science. A wealth of eel-related material is presented by scientists from around the world, including information on eel fishing, resources, distribution, aquaculture, economics, cuisine, environment and ecosystems, idioms, arts and crafts, tradition, legends, mythology, archaeology and even memorial services. Eels are important as food for humankind and are an interesting model for scientists studying animal migration and reproductive ecology. Their snake-like morphology differentiates them from most other fish, and their unpredictable behaviour that allows them [...]

Features

This book explains much of what is known currently about freshwater eels, focusing on social and cultural aspects as well as science. A wealth of eel-related material is presented by scientists from around the world, including information on eel fishing, resources, distribution, aquaculture, economics, cuisine, environment and ecosystems, idioms, arts and crafts, tradition, legends, mythology, archaeology [...]

Contents

1 Eels and people in the United Kingdom.- 2 Eels and people in Ireland: From mythology to international eel stock conservation.- 3 Eels in culture, fisheries and science in Denmark.- 4 European eels: Dutch fisheries, culture and eel migration.- 5 Freshwater eels and people in France.- 6 Eels and the Japanese: An inseparable, long-standing relationship.- 7 Eels and the Korean people.- 8 Eels in China: Species, fisheries, stock management and culture.- 9 Freshwater eels and humans in Taiwan.- 10 Freshwater eels and people in New Zealand: A love/hate relationship.- 11 The American eel: A [...]

Fields of interest

Marine & Freshwater Sciences; Fish & Wildlife Biology & Management; Freshwater & Marine Ecology; Regional and Cultural Studies

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-4-431-54528-6

Hardcover

2014. XI, 177 p. 155 illus., 81 illus. in color. (Humanity and the Sea)

ISBN 978-4-431-54528-6

Due: **October 31, 2013**

G. Schneier-Madanes, GDR CNRS 2524 Res-Eau-Ville, Paris, France (Ed.)

Globalized Water

A Question of Governance

Globalized Water presents a compilation of voices that forms a unique scientific exploration of contemporary water management models and governance issues. The book describes the water paradox—how a local resource has become a global product—and the implications of this in how we identify challenges and make policy in the water sector. Over the last 20 years, the foundations of local and national water systems have been rocked by a wave of changes. The authors in this book, experts in a wide range of disciplines, address the resulting debates and issues: water as a commodity and patrimony, technological rent, liberalization and privatization, the continuing evolution of water [...]

Features

Globalized Water presents a compilation of voices that forms a unique scientific exploration of contemporary water management models and governance issues. The book describes the water paradox—how a local resource has become a global product—and the implications of this in how we identify challenges and make policy in the water sector. Over the last 20 years, the foundations of local and [...]

Contents

Introduction.- Part I Water Management Models and Globalization: The “French Model” and Europe.- Patrimonial Economics and Water Management: A French Case.- The Water Framework Directive: A Challenge for French Territorial Management.- Water Globalization: The Strategies of the Two French “Majors”.- Technological Rent: the Key for Water Services Regulation.- Liberalization of Water Services in Europe: The End of the French Water Exception?.- Part II Water Management Models and Globalization: Privatizations and access to water.- From the French Model to a “Globalized Model”.- [...]

Fields of interest

Sustainable Development; Political Science, general; Business & Economics (general); Landscape, Regional and Urban Planning; Environment (general); Geography (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7322-6

Hardcover

2014. X, 310 p. 17 illus., 4 illus. in color.

ISBN 978-94-007-7322-6

Due: **November 30, 2013**

N.C.S. Lambek, P. Claeys, University of Louvain, Louvain-la-Neuve, Belgium; A. Wong, R.L. Brilmayer, Yale Law School, New Haven, USA (Eds.)

Rethinking Food Systems

Structural Challenges, New Strategies and the Law

Taking as a starting point that hunger results from social exclusion and distributional inequities and that lasting, sustainable and just solutions are to be found in changing the structures that underlie our food systems, this book examines how law shapes global food systems and their ongoing transformations. Using detailed case studies, historical mapping and legal analysis, the contributors show how various actors (farmers, civil society groups, government officials, international bodies) use or could use different legal tools (legislative, jurisprudential, norm-setting) on various scales (local, national, regional, global) to achieve structural changes in food systems. Section 1, [...]

Features

Taking as a starting point that hunger results from social exclusion and distributional inequities and that lasting, sustainable and just solutions are to be found in changing the structures that underlie our food systems, this book examines how law shapes global food systems and their ongoing transformations. Using detailed case studies, historical mapping and legal analysis, the contributors show how various [...]

Contents

Introduction: In Search of Better Options: Food Sovereignty, the Right to Food and Legal Tools for Transforming Food Systems.- Part I: Institutionalizing New Approaches to Managing Food Systems and Addressing Hunger.- Via Campesina's Struggle for the Right to Food Sovereignty: From Above or From Below?.- Opportunities and Challenges for Food Sovereignty Policies in Latin America: The case of Nicaragua.- Implementing the Right to Food in Uganda: Advances, Challenges and the Way Forward.- Part II: Regulating for Change.- Respecting and Protecting the Right to Food: When States Must Get Out [...]

Fields of interest

Sustainable Development; Human Rights; Social Structure, Social Inequality; Public International Law; Sources and Subjects of International Law, International Organizations; Political Economy

Target groups

Graduate

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7777-4

Hardcover

2014. I, 213 p.

ISBN 978-94-007-7777-4

Due: **December 31, 2013**

D.M. Whitacre (Ed.)

Reviews of Environmental Contamination and Toxicology, Volume 227

Reviews of Environmental Contamination and Toxicology attempts to provide concise, critical reviews of timely advances, philosophy and significant areas of accomplished or needed endeavor in the total field of xenobiotics, in any segment of the environment, as well as toxicological implications.

Features

CONTENTS Foreword Preface Occurrence, Degradation and Effect of Polymer Based Materials in the Environment Scott Lambert, Chris Sinclair, and Alistair Boxall Effects of Addictive Substances During Pregnancy and Infancy and their Analysis in Biological Material Justyna Plotka, Sylwia Narkowicz, Żaneta Polkowska, Marek Biziuk, Jacek Namieśnik Genetic Structure and Diversity [...]

Contents

Foreword.- Preface.- Occurrence, Degradation and Effect of Polymer Based Materials in the Environment.- Effects of Addictive Substances during Pregnancy and Infancy and their Analysis in Biological Materials.- Genetic Structure and Diversity of Animal Populations Exposed to Metal Pollution.- Bioamplification as a Bioaccumulation Mechanism for Persistent Organic Pollutants (POPs) in Wildlife.- Index.

Fields of interest

Ecotoxicology; Environmental Management; Waste Management / Waste Technology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-319-01326-8

Hardcover

2014. XI, 155 p. 11 illus. (Reviews of Environmental Contamination and Toxicology, Vol. 227)

ISBN 978-3-319-01326-8

Due: October 31, 2013

M.A. Khan, University of Karachi, Karachi, Pakistan; B. Böer, UNESCO Doha, Doha, Qatar; M. Öztürk, Ege University, Bornova, Izmir, Turkey; T.Z. Al Abdessalaam, Environmental Agency, Abu Dhabi (EAD), Abu Dhabi, United Arab Emirates; M. Clüsener-Godt, UNESCO Headquarters, Natural Sciences Se, Paris Cedex 15, France; B. Gul, University of Karachi, Karachi, Pakistan (Eds.)

Sabkha Ecosystems: Volume IV: Cash Crop Halophyte and Biodiversity Conservation

Sustainable development is the key for the survival in 21st century. The natural resources are finite and cannot be used with impunity because we are the custodian of these resources and have responsibility to pass these to the next generation. This monumental task requires several major commitments and most important of them is to arrest population explosion which has already reached seven billion. Natural resources like air to breathe, food to eat, and water to drink, and fossil fuel to maintain this life style are being overexploited. Unrestrained consuming culture will accelerate undesired situation. This situation will have more dire consequences in resource limited ecosystems [...]

Features

This is the fourth volume of the sabkha ecosystem series in Tasks for Vegetation Science. More than ten years have passed since the publication of the first volume, dealing with the Arabian Peninsula and adjacent countries. Volume two provided information on West and Central Asia, volume three on Africa and Southern Europe, where a lack of scientific capacity in this specialized field of saline dry lands [...]

Contents

List of Authors.- Preface.- Foreword.- Acknowledgements.- Introduction.- 1. Economic sustainability for halophyte cash farms in urban environments.- 2. Spatial distribution of soil salinity and its management options in the Northern Emirates, UAE.- 3. Gypsum crystals formation and habits, Umm Said sabkha, Qatar.- 4. Distribution, ecology and ecophysiology of mangroves in Pakistan.- 5. Halophytes for the production of liquid biofuels.- 6. Feasibility of halophyte domestication for high-salinity agriculture.- 7. The gypsum dunes of Cuatrociénegas Valley, Mexico – A secondary Sabkha [...]

Fields of interest

Environment (general); Life Sciences (general); Energy (general); Education (general); Sustainable Development

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7410-0

Hardcover

2014. Approx. 300 p. 75 illus. (Tasks for Vegetation Science, Vol. 47)

ISBN 978-94-007-7410-0

Due: December 2, 2013

K.T. Osman, University of Chittagong, Chittagong, Bangladesh

Soil Degradation, Conservation and Remediation

In view of the grave consequences of soil degradation on ecosystem functions, food security, biodiversity and human health, this book covers the extent, causes, processes and impacts of global soil degradation, and processes for improvement of degraded soils. Soil conservation measures, including soil amendments, decompaction, mulching, cover cropping, crop rotation, green manuring, contour farming, strip cropping, alley cropping, surface roughening, windbreaks, terracing, sloping agricultural land technology (SALT), dune stabilization, etc., are discussed. Particular emphasis is given to soil pollution and the methods of physical, chemical and biological remediation of polluted [...]

Features

This book views soil as a fundamental resource that must urgently be protected, preserved and restored, in order to secure food for the ever-increasing human population and to maintain the health and quality of the Earth's ecosystems. It emphasizes the immediate and long-lasting impacts of soil degradation on agricultural productivity (crops, livestock, and fisheries), air and water quality, health [...]

Contents

Soil Resources and Soil Degradation.- Physical Deterioration of Soil.- Soil Erosion by Water.- Wind Erosion.- Chemical Soil Degradation.- Soil Pollution.- Index.

Fields of interest

Soil Science & Conservation; Agriculture; Earth Sciences (general); Forestry

Target groups

Lower undergraduate

Type of publication

Monograph

More on www.springer.com/978-94-007-7589-3

Hardcover

2014. XIV, 226 p. 63 illus., 34 illus. in color.

ISBN 978-94-007-7589-3

Due: October 31, 2013

R.C. Rauscher, Habitat Assoc. for Arts and Environment, East Gosford, Australia; S. Momtaz, University of Newcastle, Callaghan, Australia

Sustainable Communities: A Framework for Planning

Case Study of an Australian Outer Sydney Growth Area

This book is in part a response to the attempts of governments to address increasing concerns over such environmental issues as the impact of climate change; carbon emissions; pressures from overpopulation of cities; coal seam gas extraction and depleting natural resources. The authors have developed a Sustainable Communities Framework (SCF) which incorporates social-cultural, environmental and economic sustainability principles in the process of urban planning. The authors propose a five-step SCF built on an application of sustainability tables. The book examines a wide range of urban planning practices utilizing sustainability criteria, outlining both qualitative and quantitative[...]

Features

This book is in part a response to the attempts of governments to address increasing concerns over such environmental issues as the impact of climate change; carbon emissions; pressures from overpopulation of cities; coal seam gas extraction and depleting natural resources. The authors have developed a Sustainable Communities Framework (SCF) which incorporates social-cultural, environmental and economic [...]

Contents

Chapter 1: Introduction to sustainability.- 1.1 Abstract.- 1.2 Introducing Sustainability Terms.- Chapter 2: Sustainability and Urban Planning.- 2.1: Abstract.- 2.2: Sustainability and ESD.- 2.3: ESD Related Documents.- 2.3.1 International.- 2.3.2 International Non-government Organisations (NGOs).- 2.3.3 Commonwealth.- 2.3.4 New South Wales.- 2.4: ESD Based Urban Planning Frameworks.- 2.4.1 Land Use Planning.- 2.4.2 Natural Resource Planning.- 2.4.3 Sustainable Urban Planning.- Chapter 3: sustainable communities framework (SCF).- 3.1: Abstract.- 3.2: SCF Structure.- Chapter 4: Data[...]

Fields of interest

Sustainable Development; Landscape, Regional and Urban Planning; Social Sciences (general); Geography (general)

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-94-007-7508-4

Hardcover

2014. XX, 123 p. 39 illus., 33 illus. in color.
ISBN 978-94-007-7508-4

Due: October 31, 2013

B.D. Solomon, Michigan Technological University, Houghton, USA; R. Bailis, Yale University, New Haven, USA (Eds.)

Sustainable Development of Biofuels in Latin America and the Caribbean

This book examines recent developments in Latin American biofuel production. Taking "sustainable development" as a central theme, each chapter considers one country in the region and explores how biofuel production is evolving given concerns about food sovereignty, trade and other social issues. Environmental conservation, as well as an increasingly complex and globalized economic structure, is also taken into account. The contributions to this volume critically explore the ways in which biofuel production in Latin America impact social, economic and environmental systems: the so-called "three pillars of sustainability". Numerous stakeholders, drawn from government, industry, civil[...]

Features

This book examines recent developments in Latin American biofuel production. Taking "sustainable development" as a central theme, each chapter considers one country in the region and explores how biofuel production is evolving given concerns about food sovereignty, trade and other social issues. Environmental conservation, as well as an increasingly complex and globalized economic structure, is also taken into [...]

Contents

Introduction.- International Sustainability Standards and Certification.- Brazil: Ethanol.- Brazil: Biodiesel.- Argentina.- Peru.- Colombia.- Guatemala.- Mexico.- The Caribbean.- Conclusions.- Index.

Fields of interest

Sustainable Development; Renewable and Green Energy; Energy Policy, Economics and Management; Environmental Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9274-0

Hardcover

2014. I, 416 p. 46 illus., 33 illus. in color.
ISBN 978-1-4614-9274-0

Due: November 30, 2013

R.W. Scholz, Fraunhofer IWKS, Alzenau, Germany; A.H. Roy, International Fertilizer Development Cen, Muscle Shoals, USA; F.S. Brand, Südzucker AG Mannheim/Ochsenfurt, Mannheim, Germany; D.T. Hellums, International Fertilizer Development Cen, Muscle Shoals, USA; A.E. Ulrich, ETH Zürich, Zürich, Switzerland (Eds.)

Sustainable Phosphorus Management

A Global Transdisciplinary Roadmap

This book describes a pathway for sustainable phosphorus management via the Global Transdisciplinary Processes for Sustainable Phosphorus Management project (Global TraPs). Global TraPs is a multi-stakeholder forum in which scientists from a variety of disciplines join with key actors in practice to jointly identify critical questions and to articulate what new knowledge, technologies and policy processes are needed to ensure that future phosphorus use is sustainable, improves food security and environmental quality and provides benefits for the poor. The book offers insight into economic scarcity and identifies options to improve efficiency and reduce environmental impacts of[...]

Features

This book describes a pathway for sustainable phosphorus management via the Global Transdisciplinary Processes for Sustainable Phosphorus Management project (Global TraPs). Global TraPs is a multi-stakeholder forum in which scientists from a variety of disciplines join with key actors in practice to jointly identify critical questions and to articulate what new knowledge, technologies and policy processes [...]

Contents

1. Sustainable Phosphorus Management: A Transdisciplinary Challenge.- 2. Exploration: What Reserves and Resources?- 3. Mining and Concentration: What Mining To What Costs And Benefits?- 4. Processing.- 5. Use.- 6. Dissipation And Recycling: What Losses, What Dissipation Impacts, and What Recycling Options?- 7. Trade and Finance as a Cross-Cutting Node.

Fields of interest

Sustainable Development; Soil Science & Conservation; Earth Sciences (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7249-6

Hardcover

2013. V, 195 p. 57 illus.
ISBN 978-94-007-7249-6

Due: December 18, 2013

T. Shishkov, Institute of Soil Science, Sofia, Bulgaria; N. Kolev, Agricultural Academy, Sofia, Bulgaria

The Soils of Bulgaria

The Soils of Bulgaria offers a comprehensive analysis of the characteristics of soils and concepts on their magnitude. The purpose of the book is to introduce readers to the soil problematic and ecology in Bulgaria. The volume is divided into 3 parts. The first includes historical facts on soil research in Bulgaria, as well as general conditions and factors of soil formation, while the second applies an original pedological approach. The book's third part focuses on essential information concerning land use/cover in Bulgaria. Each of the 13 chapters deals more specifically with fundamental chemical and physical soil properties, concepts of soil evolution, old and modern processes, [...]

Features

The Soils of Bulgaria offers a comprehensive analysis of the characteristics of soils and concepts on their magnitude. The purpose of the book is to introduce readers to the soil problematic and ecology in Bulgaria. The volume is divided into 3 parts. The first includes historical facts on soil research in Bulgaria, as well as general conditions and factors of soil formation, while the second [...]

Fields of interest

Soil Science & Conservation; Physical Geography; Agriculture; Geomorphology; Geoecology / Natural Processes; Geotechnical Engineering & Applied Earth Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7783-5

Hardcover

2014. X, 218 p. 170 illus., 87 illus. in color. (World Soils Book Series)

ISBN 978-94-007-7783-5

Due: December 31, 2013

S.A. Shahid, International Center for Biosaline Agric, Dubai, United Arab Emirates; M.A. Abdelfattah, Environment Agency - Abu Dhabi, Abu Dhabi, United Arab Emirates; M.A. Wilson, USDA-NRCS, North Lincoln, USA; J.A. Kelley, Bettmark Inc., Raleigh, USA; J.V. Chiaretti, USDA-NRCS, North Lincoln, USA

United Arab Emirates Keys to Soil Taxonomy

Central to human life and civilization, soils are an integral part of the physical and cultural environment. Although we may take them for granted, the rise and fall of civilizations is closely linked with the use and abuse of soil and water resources. It is therefore important to evaluate soils for their quality and link them to appropriate uses and services. This book provides information on soil classification and shows how to key out taxa relevant to UAE soils. The latest soil inventory of United Arab Emirates reveals that a rather uniform looking desert landscape has, in fact, a diversity of subsurface features. These features confirm the soil diversity in terms of [...]

Features

Central to human life and civilization, soils are an integral part of the physical and cultural environment. Although we may take them for granted, the rise and fall of civilizations is closely linked with the use and abuse of soil and water resources. It is therefore important to evaluate soils for their quality and link them to appropriate uses and services. This book provides information on soil [...]

Contents

1 Soil Classification.- 2 The Soils That We Classify.- 3 Horizons, Layers, and Characteristics Diagnostic for the Higher Categories.- 4 Family and Series Differentiae.- 5 Identification of the Taxonomic Class of a Soil.- 6 Laboratory Methods for Classification of United Arab Emirates.- 7 Soil Families and Soil Series of the United Arab Emirates.- Index.

Fields of interest

Soil Science & Conservation; Landscape, Regional and Urban Planning; Environmental Science and Engineering; Geoecology / Natural Processes; Geographical Information Systems / Cartography; Geography (general)

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-94-007-7419-3

Hardcover

2014. VII, 98 p. 52 illus. in color.

ISBN 978-94-007-7419-3

Due: December 31, 2013

A. Troccoli, CSIRO Marine and Atmospheric Research, Canberra, Australia; L. Dubus, EDF - R&D, Chatou, France; S.E. Haupt, Haupt Associates, Boulder, USA (Eds.)

Weather Matters for Energy

It is the purpose of this book to provide the meteorological knowledge and tools to improve the risk management of energy industry decisions, ranging from the long term finance and engineering planning assessments to the short term operational measures for scheduling and maintenance. Most of the chapters in this book are based on presentations given at the inaugural International Conference Energy & Meteorology (ICEM), held in the Gold Coast, Australia, 8-11 November 2011. The main aim of the conference was to strengthen the link between Energy and Meteorology, so as to make meteorological information more relevant to the planning and operations of the energy sector. The ultimate goal [...]

Features

It is the purpose of this book to provide the meteorological knowledge and tools to improve the risk management of energy industry decisions, ranging from the long term finance and engineering planning assessments to the short term operational measures for scheduling and maintenance. Most of the chapters in this book are based on presentations given at the inaugural International Conference Energy & [...]

Contents

Part I: Why Should the Energy Industry be Concerned About Weather Patterns?.- A new era for Energy.- Vulnerability of Energy Systems in a Changing Climate.- Climatic Changes: Looking Back, Looking Forward.- Renewable Energy and Climate Change Mitigation - an Overview of the IPCC Special Report.- Part II: How is the Energy Industry Meteorology-proofing Itself?.- Managing Weather and Climate Risks: a View from the Energy Sector.- Improving Resilience Challenges and Linkages of the Energy Industry in a Changing Climate.- Combining Meteorological and Electrical Engineering Expertise to [...]

Fields of interest

Climate Change; Climate Change Management and Policy; Energy (general); Environmental Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9220-7

Hardcover

2014. IX, 347 p. 190 illus., 147 illus. in color.

ISBN 978-1-4614-9220-7

Due: December 30, 2013

Geography

D. Burghardt, Institute of Cartography, Dresden, Germany; C. Duchêne, IGN, Saint-Mande, France; W. Mackness, School of GeoSciences, Edinburgh, United Kingdom (Eds.)

Abstracting Geographic Information in a Data Rich World

Methodologies and Applications of Map Generalisation

Research in the field of automated generalisation has faced new challenges in recent years as a result of technological developments in web-based processing, new visualisation paradigms and access to very large volumes of multi-source data generated by sensors and humans. In these contexts, map generalisation needs to underpin 'on-demand mapping', a form of mapping that responds to individual user requirements in the thematic selection and visualisation of geographic information. It is this new impetus that drives the research of the ICA Commission on Generalisation and Multiple Representation (for example through its annual workshops, biannual tutorials and publications [...])

Features

Research in the field of automated generalisation has faced new challenges in recent years as a result of technological developments in web-based processing, new visualisation paradigms and access to very large volumes of multi-source data generated by sensors and humans. In these contexts, map generalisation needs to underpin 'on-demand mapping', a form of mapping that responds to individual user requirements [...]

Contents

Changing contexts and new challenges.- Modelling user requirements.- Modelling geographic relationships in automated environments.- Data structures and continuous generalisation.- Integrating Multi source data and user generated content.- Generalisation operators.- Process modelling, web services and geoprocessing.- Object and field generalisation.- Evaluation and usability of map generalisation outputs.- Generalisation in the context of schematic maps / maps on mobile devices.- Generalisation in practice.

Fields of interest

Geographical Information Systems / Cartography

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-00202-6

Hardcover

2014. 450 p. (Publications of the International Cartographic Association (ICA))
ISBN 978-3-319-00202-6

Due: January 17, 2014

J. Hanes, Northern Michigan University, Marquette, USA (Ed.)

Biophysical Applications of Satellite Remote Sensing

A variety of biophysical applications (e.g. leaf area index and evapotranspiration) have been derived from using remote sensing methods, as for example from NASA's MODIS sensors and other satellite platforms. In *Biophysical Applications of Satellite Remote Sensing* the authors thoroughly describe the major applications of satellite remote sensing for studying earth's biophysical phenomena. Starting with an introductory and historical overview of the biophysical applications of satellite remote sensing the book provides a comprehensive background and reference base for researchers and newcomers to the field. The focus of the book lies on the broad palette of specific applications[...]

Features

A variety of biophysical applications (e.g. leaf area index and evapotranspiration) have been derived from using remote sensing methods, as for example from NASA's MODIS sensors and other satellite platforms. In *Biophysical applications of satellite remote sensing* the authors thoroughly describe the major applications of satellite remote sensing for studying earth's biophysical phenomena. Starting [...]

Contents

An introduction to measuring biophysical activity using satellite remote sensing.- History of the biophysical applications of satellite remote sensing.- Indices of vegetation activity.- Leaf area and the fraction of photosynthetically active radiation absorbed by vegetation.- Vegetation phenology of the land surface.- Land cover change.- Terrestrial gross and net primary production.- Atmosphere-biosphere exchange of carbon dioxide.- Chlorophyll content in the oceans.- Oceanic net primary production.

Fields of interest

Remote Sensing / Photogrammetry; Biophysics and Biological Physics; Environment (general)

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-25046-0

Hardcover

2014. 280 p. 80 illus. in color. (Springer Remote Sensing/Photogrammetry)
ISBN 978-3-642-25046-0

Due: March 30, 2014

T. Brabazon, Charles Sturt University, Bathurst, Australia (Ed.)

City Imaging: Regeneration, Renewal and Decay

This book examines the paradoxes, challenges, potential and problems of urban living. It understands cities as they are, rather than as they may be marketed or branded. All cities have much in common, yet the differences are important. They form the basis of both imaginative policy development and productive experiences of urban life. The phrase 'city imaging' is often used in public discourse, but rarely defined. It refers to the ways that particular cities are branded and marketed. It is based on the assumption that urban representations can be transformed to develop tourism and attract businesses and in-demand workers to one city in preference to another. However, such a[...]

Features

This book examines the paradoxes, challenges, potential and problems of urban living. It understands cities as they are, rather than as they may be marketed or branded. All cities have much in common, yet the differences are important. They form the basis of both imaginative policy development and productive experiences of urban life. The phrase 'city imaging' is often used in public discourse, but [...]

Contents

Introduction: Sliced Cities: Tara Brabazon.- Section One – Disconnection: 1: Glasgow the brand: Whose story is it anyway?: Mhairi Lennon.- 2: My state had a mining boom and all I got was this lousy train-line: Leanne McRae.- 3: Swan Valley Sideways: Economic development through taste and tourism in Western Australia: Tara Brabazon.- 4: The Atrium: a convergence of education, leisure and consumption: Danny Hagan.- 5: Culture of car parks or car parking cultures?: Zuzana Blazekova.- 6: Sticky Brighton: Dog Excrement in Brighton and Hove public areas: Ana Kvalheim.- 7: Hacking the[...]

Fields of interest

Landscape, Regional and Urban Planning; Cities, Countries, Regions; Urbanism

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7234-2

Hardcover

2014. VII, 268 p. 11 illus. (GeoJournal Library, Vol. 108)
ISBN 978-94-007-7234-2

Due: October 31, 2013

S. Jin, Chinese Academy of Sciences, Shanghai, China (P.R.); E. Cardellach, Institut d'Estudis Espacials de Catalunya, Barcelona, Spain; F. Xie, Texas A&M University-Corpus Christi, Corpus Christi, USA

GNSS Remote Sensing

Theory, Methods and Applications

The versatile and available GNSS signals can detect the Earth's surface environments as a new, highly precise, continuous, all-weather and near-real-time remote sensing tool. This book presents the theory and methods of GNSS remote sensing as well as its applications in the atmosphere, oceans, land and hydrology. Ground-based atmospheric sensing, space-borne atmospheric sensing, reflectometry, ocean remote sensing, hydrology sensing as well as cryosphere sensing with the GNSS will be discussed per chapter in the book.

Features

The versatile and available GNSS signals can detect the Earth's surface environments as a new, highly precise, continuous, all-weather and near-real-time remote sensing tool. This book presents the theory and methods of GNSS remote sensing as well as its applications in the atmosphere, oceans, land and hydrology. Ground-based atmospheric sensing, space-borne atmospheric sensing, reflectometry, ocean remote [...]

Contents

Introduction to GNSS.- Atmospheric delays and Multipath.- Ground-based GNSS Atmospheric Sensing.- Space-borne GNSS Atmospheric Sensing.- GNSS Reflectometry.- GNSS Ocean Remote Sensing.- GNSS Hydrology Sensing.- GNSS Cryosphere Sensing.

Fields of interest

Remote Sensing / Photogrammetry; Geophysics / Geodesy; Atmospheric Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7481-0

Hardcover

2014. XVI, 272 p. 102 illus., 56 illus. in color. (Remote Sensing and Digital Image Processing, Vol. 19)
ISBN 978-94-007-7481-0

Due: October 31, 2013

K. Matsui

Geography of Religion in Japan

Religious Space, Landscape, and Behavior

This book discusses modern aspects of Japanese religion in terms of cultural geography. To understand the function of religion, it is essential to examine it in the context of local societies. One of the distinguishing characteristics of Japanese religion is its diversity; indeed, it is often remarked that "Japan is a museum of religions." In this work, the author clarifies some geographical aspects of the complex situation of Japanese religion. Chapter 1 discusses the trend of geographical studies of religion in Japan, of which four types can be identified. Chapter 2 focuses on certain characteristics of Japanese religious traditions by discussing tree worship and the landscape of [...]

Features

This book discusses modern aspects of Japanese religion in terms of cultural geography. To understand the function of religion, it is essential to examine it in the context of local societies. One of the distinguishing characteristics of Japanese religion is its diversity; indeed, it is often remarked that "Japan is a museum of religions." In this work, the author clarifies some geographical aspects of the [...]

Contents

Recent Trends in the Geography of Religion in Japan.- Religious Tradition in Japan.- Spatial Structure of Japanese Religion.- Sacred Places, Pilgrimage and Tourism.- Conclusions.

Fields of interest

Geography (general); Culture - Religion; Regional and Cultural Studies

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-4-431-54549-1

Hardcover

2014. XII, 200 p. 95 illus., 36 illus. in color. (International Perspectives in Geography, Vol. 2)
ISBN 978-4-431-54549-1

Due: October 31, 2013

S.M. Sonak, Centre for Environment and Natural Resou, Panaji, India

Khazan Ecosystems of Goa

Building on Indigenous Solutions to Cope with Global Environmental Change

This book elaborates on the Khazan ecosystems of Goa, India. Khazans are human-managed ecosystems, which are reclaimed from coastal wetlands, salt marshes and mangrove areas, where tidal influence is regulated through a highly structured system of dykes, canals, furrows, and sluice gates using resources that are amply available locally. Khazan ecosystems are marvels of tribal engineering. They are a simple architectural design, which operate at a very low running cost using tidal, hydro, and solar energy. The design contributes to a highly complex but eco-friendly ecosystem integrating agriculture, aquaculture and salt panning. . Khazan ecosystems have been functional for the last[...]

Features

This book elaborates on the Khazan ecosystems of Goa, India. Khazans are human-managed ecosystems, which are reclaimed from coastal wetlands, salt marshes and mangrove areas, where tidal influence is regulated through a highly structured system of dykes, canals, furrows, and sluice gates using resources that are amply available locally. Khazan ecosystems are marvels of tribal [...]

Contents

Indigenous traditional knowledge and Global Environmental Change.- An introduction to Goa and Khazan ecosystems.- Traditional ecological knowledge and environmental sustainability in Khazan.- Management of khazan ecosystems: contested environments, competing interests and changing institutions.- Erosion of indigenous resource base: causes and challenges.- A framework for ecosystem performance, ecological vulnerability, ecosystem valuation and local livelihoods using Khazan example.- Building on indigenous resource management systems: key to finding solutions.

Fields of interest

Physical Geography; Coastal Sciences; Sustainable Development

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7201-4

Hardcover

2014. XII, 137 p. 15 illus. in color. (Advances in Asian Human-Environmental Research)
ISBN 978-94-007-7201-4

Due: October 31, 2013

S.J. Buechler, University of Illinois at Chicago, Chicago, USA

Labor in a Globalizing City

Economic Restructuring in São Paulo, Brazil

The extraordinary stories of low-income women living in São Paulo, industrial case studies and the details of three squatter settlements, and communities in the periphery researched in Simone Buechler's book, *Labor in a Globalizing City*, allow us to better understand the period of economic transformation in São Paulo from 1996 to 2003. Buechler's in-depth ethnographic research over a period of 17 years include interviews with a variety of social actors ranging from favela inhabitants to Wall Street bankers. Buechler examines the paradox of a globalizing city with highly developed financial, service, and industrial sectors, but at the same time a growing sector of microenterprises, [...]

Features

The extraordinary stories of low-income women living in São Paulo, industrial case studies and the details of three squatter settlements, and communities in the periphery researched in Simone Buechler's book, *Labor in a Globalizing City*, allow us to better understand the period of economic transformation in São Paulo from 1996 to 2003. Buechler's in-depth ethnographic research over a period of 17 [...]

Contents

Introduction.- The Spectrum of Voices in the São Paulo Economy.- Six Industrial Case Studies: Internal and External Flexibilization and Technological Change.- The History, Politics, and Economics of Three Communities and their Inhabitants.- Outsourcing Production and Commerce: A Close Examination of Unregistered Salaried Workers, Sweatshop Workers, Homeworkers and Ambulant Vendors for Firms.- The Increasingly Precarious Nature of Self-Employment.- "Destiny is not set in stone": Social Actors, Cooperatives, and Local Coalition-Building.- Conclusion.

Fields of interest

Economic Geography; Emerging Markets/Globalization; Labor Economics; Microeconomics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-01660-3

Hardcover

2014. XVI, 362 p. (Urban and Landscape Perspectives, Vol. 16)

ISBN 978-3-319-01660-3

Due: October 31, 2013

E. Schönherr, Universität Erfurt, Erfurt, Germany; S. Rau, Universität Erfurt, Erfurt, Germany (Eds.)

Mapping Spatial Relations, their Perceptions and Dynamics

The City Today and in the Past

This book is the product of an eponymous workshop, which took place in Erfurt in May, 2012, and which has since then been supplemented with four further contributions. The topics focus on the potential mapping of perceived urban space and spatial hierarchies as a consequence of social usage (undertaken by a variety of active participants) together with spatio-temporal changes as a result of factors such as demographic urban growth and decline. Historians, cartographers and geographers are brought together to present and discuss different models, ideas and new methods of spatial analysis and modes of representing changes in perceptions. The two main subjects are: the epistemology of [...]

Features

This book is the product of an eponymous workshop, which took place in Erfurt in May, 2012, and which has since then been supplemented with four further contributions. The topics focus on the potential mapping of perceived urban space and spatial hierarchies as a consequence of social usage (undertaken by a variety of active participants) together with spatio-temporal changes as a result of factors such as [...]

Contents

Maps and Technology.- Lyon and Barcelona – two Case-Studies.- Mapping Humanities.- Comment.

Fields of interest

Geographical Information Systems / Cartography

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-00992-6

Hardcover

2014. 220 p. (Lecture Notes in Geoinformation and Cartography)

ISBN 978-3-319-00992-6

Due: December 17, 2013

F. Major, Severna Park, MD, Severna Park, USA

Quo Vadis: Evolution of Modern Navigation

The Rise of Quantum Techniques

Quo Vadis: Evolution of Modern Navigation presents an intelligent and intelligible account of the essential principles underlying the design of satellite navigational systems—with introductory chapters placing them in context with the early development of navigational methods. The material is organized roughly as follows: the first third of the book deals with navigation in the natural world, the early history of navigation, navigating by the stars, precise mechanical chronometers for the determination of longitude at sea, and the development of precise quartz controlled clocks. Then, the reader is introduced to quantum ideas as a lead in to a discussion of microwave and optical [...]

Features

Quo Vadis: Evolution of Modern Navigation presents an intelligent and intelligible account of the essential principles underlying the design of satellite navigational systems—with introductory chapters placing them in context with the early development of navigational methods. The material is organized roughly as follows: the first third of the book deals with navigation in the natural world, the early [...]

Contents

1. Navigation in Nature.- 2. The Early Navigators.- 3. Historical Background to Astronomy.- 4. Modern Astronomy.- 5. Navigation at Sea.- 6. The Longitude Problem.- 7. The Quartz Revolution.- 8. Classical Atomic Frequency Standards.- 9. Atomic and Molecular Oscillators.- 10. Field Confinement of Ions.- 11. Optical Frequency Oscillators: Lasers.- 12. The Gyrocompass.- 13. Radio Navigation.- 14. Satellite Navigation: GPS Space Segment.- 15. Satellite Navigation: GPS Control Segment.- 16. Satellite Navigation: GPS User Segment.- 17. Space Navigation.- 18. The Future of Navigation.

Fields of interest

Geographical Information Systems / Cartography; Remote Sensing / Photogrammetry; Aerospace Technology and Astronautics

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-1-4614-8671-8

Hardcover

2014. XI, 426 p. 169 illus., 2 illus. in color.

ISBN 978-1-4614-8671-8

Due: October 31, 2013

Life Sciences

I. Ravi, Indira Gandhi National Open University, Mansarovar, Jaipur, India; M. Baunthiyal, Govind Ballabh Pant Engineering College, Ghurdauri, Pauri, India; J. Saxena, Bipin Tripathi Kumaon Institute of Tech, Dwarahat, 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. Fourteen authoritative chapters written by experts having experience in academics and research on current developments and future trends in[...]

Features

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 [...]

Contents

1. High Capacity vectors.- 2. DNA Sequencing.- 3. Molecular Markers.- 4. Gene Therapy.- 5. RNA interference and its Applications.- 6. DNA Microarray.- 7. Metagenomics: The Exploration of Unculturable Microbial World.- 8. Proteomics.- 9. Recent Advances in Stem Cell Research.- 10. Biosensors.- 11. Production and Applications of Monoclonal Antibodies.- 12. Edible Vaccines.- 13. Engineering Plants for Phytoremediation.- 14. Future of Biotechnology Companies in India.

Fields of interest

Life Sciences (general); Biomedicine (general); Environment (general); Science; Medicine (general); Pharmacy

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-81-322-1553-0

Hardcover

2013. XII, 259 p. 65 illus., 43 illus. in color.
ISBN 978-81-322-1553-0

Due: October 31, 2013

V. Verma, Institute of Medical Sciences, Varanasi, India; A.C. Gange, School of Biological Sciences, Egham, United Kingdom (Eds.)

Advances in Endophytic Research

In recent years there has been significant attention paid on the endophytic research by various groups working within this domain. Mutualistic endophytic microbes with an emphasis on the relatively understudied fungal endophytes are the focus of this special book. Plants are associated with micro-organisms: endophytic bacteria and fungi, which live inter- and intra-cellularly without inducing pathogenic symptoms, but have active biochemical and genetic interactions with their host. Endophytes play vital roles as plant growth promoters, biocontrol agents, biosurfactant producers, enzymes and secondary metabolite producers, as well as providing a new hidden repertoire of bioactive[...]

Features

In recent years there has been significant attention paid on the endophytic research by various groups working within this domain. Mutualistic endophytic microbes with an emphasis on the relatively understudied fungal endophytes are the focus of this special book. Plants are associated with micro-organisms: endophytic bacteria and fungi, which live inter- and intra-cellularly without inducing pathogenic [...]

Contents

Part 1: Ecology and Biodiversity.- Chapter 1. Diversity and ecology of endophytic and epiphytic fungi of tree leaves in Japan: a review.- Chapter 2. Endophytic actinobacteria: diversity and ecology.- Chapter 3. Foliar fungal endophytes in herbaceous plants: a marriage of convenience?.- Part 2: Entomopathogenic endophytes.- Chapter 4. Entomopathogenic and nematophagous fungal endophytes.- Part 3: Host-endophyte interactions.- Chapter 5. Interactions of meristem-associated endophytic Bacteria.- Chapter 6. Unraveling the dark septate endophyte functions: Insights from the Arabidopsis model[...]

Fields of interest

Microbiology; Fungus Genetics; Microbial Ecology; Microbial Genetics and Genomics; Bacteriology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-81-322-1574-5

Hardcover

2014. XVI, 521 p. 80 illus., 36 illus. in color.
ISBN 978-81-322-1574-5

Due: October 31, 2013

P.R. Siyag

Afforestation, Reforestation and Forest Restoration in Arid and Semi-arid Tropics

A Manual of Technology & Management

The book is a comprehensive manual of practice for execution of afforestation and tree planting programmes in arid and semi-arid tropics. It includes a compact running account of the technology of afforestation and the relevant principles and practices in management of afforestation projects. It provides a wide range of structured information and a number of model designs which can be gainfully put to use by the field level supervisors as also by the managers concerned with planning and control of such projects. Written by a practising specialist, the book is invaluable for anyone concerned with the practice of afforestation and tree planting, be he a tree hobbyist or a school[...]

Features

This groundbreaking work offers a practical manual for implementing afforestation and reforestation programs in the arid and semi-arid tropics. The comprehensive text covers both the technical and managerial aspects of afforestation and reforestation, and includes model engineering and organizational designs. The book is intended for professionals engaged in planning, monitoring, and coordinating [...]

Contents

Foreword.- Preface.- Acknowledgement.- PART 1 TECHNOLOGY.- Chapter 1 Introduction.- 1.1 The imperative of afforestation and reforestation.- 1.1 Afforestation and reforestation for conservation.- 1.2 Afforestation and reforestation for subsistence economy and livelihoods.- 1.3 Afforestation, reforestation, forest restoration and tree planting.- 1.4 Afforestation for industrial-commercial purposes.- 1.5 The technology of afforestation 1.6 Participation of local communities.- 1.7 Constraints in afforestation and reforestation.- 1.8 Constraints specific to arid and semi-arid areas.- 1.9[...]

Fields of interest

Forestry Management; Biodiversity; Terrestrial Ecology

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-94-007-7450-6

Hardcover

Originally published by TreeCraft Communications, Jaipur, 1998
2014. XVII, 295 p. 51 illus., 13 illus. in color.
ISBN 978-94-007-7450-6

**usually dispatched within 3 to 5 business days
October 31, 2013**

F. Vanni, INEA, Rome, Italy

Agriculture and Public Goods

The Role of Collective Action

The debate on the future orientation of the EU Common Agricultural Policy (CAP) is increasingly shaped by the role of agriculture in providing public goods, and there is a broad consensus that this approach will be particularly relevant in legitimating the policy intervention in agriculture in the future. In the context of this debate, it is not clear to what extent collective action could be taken into consideration as a valuable alternative to market or state regulation in contributing to the provision of public goods, and to what extent it is possible to design and implement agricultural policies that incorporate a collective and collaborative approach between different stakeholders[...]

Features

The aim of this book is analyzing the role of collective action in the provision of agri-environmental public goods through agriculture at EU level, as well as providing policy recommendations regarding agri-environmental strategies based on collective and collaborative approaches. The European debate on the future orientation of the Common Agricultural Policy (CAP) is increasingly shaped by the [...]

Contents

Introduction.- 1. Agriculture and public goods.- 2. The role of collective action.- 3. Collective agri-environmental strategies.- 4. The project "Custody of the Territory" in Media Valle del Serchio (Tuscany).- 5. The agri-environmental agreement in Valdoso (Marche).- 6. Collective action for public goods: institutional and policy innovation.- Conclusions.- Appendix: methodology.- Epistemological approach.- Participatory methods: an overview.- Data collection and analysis: Rapid Rural Appraisal (RRA).- Overview of the RRA methods.- Grounded theory and analysis of the qualitative data.- [...]

Fields of interest

Agriculture; Agricultural Economics; Forestry; Environmental Law / Policy / Ecojustice

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7456-8

Hardcover

2014. XV, 145 p. 24 illus., 14 illus. in color. ISBN 978-94-007-7456-8

Due: October 31, 2013

J.C. Dagar, Central Soil Salinity Research Institute, Karnal, India; A.K. Singh, Indian Council of Agricultural Research, New Delhi, India; A. Arunachalam, Indian Council of Agricultural Research, New Delhi, India (Eds.)

Agroforestry Systems in India: Livelihood Security & Ecosystem Services

Agroforestry, the word coined in early seventies, has made its place in all the developed and the developing countries of the world and is now recognized as an important approach to ensuring food security and rebuilding resilient rural environments. India has been an all-time leader in agroforestry. The South and Southeast Asia region comprising India is often described as the cradle of agroforestry. Almost all forms of agroforestry systems exist across India in ecozones ranging from humid tropical lowlands to high-altitude and temperate biomes, and perhumid rainforest zones to parched drylands. The country ranks foremost among the community of nations not only in terms of this[...]

Features

Agroforestry, the word coined in early seventies, has made its place in all the developed and the developing countries of the world and is now recognized as an important approach to ensuring food security and rebuilding resilient rural environments. India has been an all-time leader in agroforestry. The South and Southeast Asia region comprising India is often described as the cradle of agroforestry. Almost [...]

Contents

1. Introduction.- 2. Soil conservation and ecosystem stability: Natural resource management through agroforestry in the northwestern Himalayan region.- 3. From shifting cultivation to integrating farming: Experience of agroforestry development in the northeastern Himalayan region.- 4. Agroforestry inroads into the traditional two-crop system heartlands of the Indo-Gangetic plains.- 5. Agroforestry as a strategy for livelihood security in the rainfed areas: experiences and expectations.- 6. Livelihood improvements and climate-change adaptations through agroforestry in hot arid[...]

Fields of interest

Life Sciences (general); Environment (general); Social Sciences (general); Geography (general); Earth Sciences (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-81-322-1661-2

Hardcover

2014. IX, 619 p. 66 illus., 55 illus. in color. (Advances in Agroforestry, Vol. 10) ISBN 978-81-322-1661-2

Due: November 30, 2013

A. Pratap, J. Kumar (Eds.)

Alien Gene Transfer in Crop Plants, Volume 1

Innovations, Methods and Risk Assessment

Genetic engineering and biotechnology along with conventional breeding have played an important role in developing superior cultivars by transferring economically important traits from distant, wild and even unrelated species to the cultivated varieties which otherwise could not have been possible with conventional breeding. There is a vast amount of literature pertaining to the genetic improvement of crops over last few decades. However, the wonderful results achieved by crop scientists in food legumes' research and development over the years are scattered in different journals of the World. The two volumes in the series 'Alien Gene Transfer in Crop Plants' address this issue and [...]

Features

Transfer of alien genes into crop plants from wild and distant plant genetic resources has invoked tremendous interest of crop scientists globally and several traits including resistance to diseases and insect-pests, tolerance to drought, salinity, temperature extremities and other abiotic stresses as well as genes for several quality traits have been transferred through vertical and horizontal gene [...]

Contents

1. Alien Gene Transfer in Crop Plants: An Introduction.- 2. Distant Hybridization: A Tool for Inter-specific Manipulation of Chromosomes.- 3. Tissue culture and regeneration: a prerequisite for alien gene transfer.- 4. Methods and Role of Embryo Rescue Technique in Alien Gene Transfer.- 5. Horizontal Gene Transfer through Genetic Transformation.- 6. Distant Hybridization and Doubled Haploidy Breeding.- 7. Role of Molecular Markers.- 8. Molecular Cytogenetics for Identification of Alien Chromosomes and Chromosome Segments.- 9. Agronomically relevant traits transferred to major crop plants[...]

Fields of interest

Plant Sciences; Plant Breeding / Biotechnology; Plant Genetics and Genomics; Plant Anatomy / Development

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8584-1

Hardcover

2014. X, 364 p. 15 illus. in color. ISBN 978-1-4614-8584-1

Due: December 31, 2013

T.G. Villa, University of Santiago de Compostela, Santiago de Compostela, Spain; P. Veiga-Crespo, Lund University, Lund, Sweden (Eds.)

Antimicrobial Compounds

Current Strategies and New Alternatives

Since penicillin and salvarsan were discovered, a number of new drugs to combat infectious diseases have been developed, but at the same time, the number of multi-resistant microorganism strains is increasing. Thus, the design of new and effective antibacterial, antiviral and antifungal agents will be a major challenge in the next years. This book reviews the current state-of-the-art in antimicrobial research and discusses new strategies for the design and discovery of novel therapies. Topics covered include the use of genetic engineering, genome mining, manipulation of gene clusters, X-ray and neutron scattering as well as the antimicrobial effects of essential oils, antimicrobial[...]

Features

Since penicillin and salvarsan were discovered, a number of new drugs to combat infectious diseases have been developed, but at the same time, the number of multi-resistant microorganism strains is increasing. Thus, the design of new and effective antibacterial, antiviral and antifungal agents will be a major challenge in the next years. This book reviews the current state-of-the-art in antimicrobial [...]

Contents

Strategies for the design and discovery of novel antibiotics using genetic engineering and genome mining.- X-ray and Neutron Scattering Foundations for the Research in Antimicrobials.- Antibacterial, Antiviral and Antifungal Activity of Essential Oils: Mechanisms and Applications.- New antimicrobial agents of plant origin.- Advances in beta-lactam antibiotics.- The Cornerstone of Nucleic Acid-affecting Antibiotics in Bacteria.- Genetic analysis and manipulation of polyene antibiotic gene clusters as a way to produce more effective antifungal compounds.- Enzybiotics: The rush towards[...]

Fields of interest

Microbiology; Medical Microbiology; Microbial Genetics and Genomics; Pharmaceutical Sciences / Technology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-40443-6

Hardcover

2014. XXI, 378 p. 47 illus., 18 illus. in color.
ISBN 978-3-642-40443-6

Due: October 31, 2013

R.K. Gaur, Mody Institute of Technology & Science, Sikar, India; P. Sharma, Directorate of Wheat Research, Karnal, India (Eds.)

Approaches to Plant Stress and their Management

Plant stresses are serious threats to the sustainability of crop yields accounting for more crop productivity losses than any other factor in rainfed agriculture. Post-harvest losses mean surplus crops do not reach market, affecting the livelihoods of farming families, and too often these families are left with no other option than to eat contaminated stored food. These constraints impact the food security of these farming families as well as the communities and countries in which they live. This book is the demonstration of a clear synergistic effect of stresses, an effect that was unexpectedly as important as either stress applied alone. This book will add to our current knowledge[...]

Features

Plant stresses are serious threats to the sustainability of crop yields accounting for more crop productivity losses than any other factor in rainfed agriculture. Post-harvest losses mean surplus crops do not reach market, affecting the livelihoods of farming families, and too often these families are left with no other option than to eat contaminated stored food. These constraints impact the food security of [...]

Contents

1. Integrated management of polluted soils for enhancing productivity and quality of crops.- 2. Targeting Of Metabolic Pathways For Genetic Engineering To Combat Abiotic Stress Tolerance In Crop Plants.- 3. Role of organic and inorganic chemicals in plant-stress mitigation.- 4. Role of Calcium/Calmodulin in plant stress response and Signaling.- 5. Herbicide resistance in *Phalaris minor* and genetic-medication in crop.- 6. Phenology modeling and GIS applications in pest management: A tool for studying and understanding insect pest dynamics in the context of global climate change.- 7.[...]

Fields of interest

Plant Sciences; Agriculture; Popular Science in Mathematics / Natural Science / Technology; Science; Biotechnology; Biodiversity

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-81-322-1619-3

Hardcover

2014. XIV, 415 p. 59 illus., 37 illus. in color.
ISBN 978-81-322-1619-3

Due: November 30, 2013

T. Aftab, Leibniz Institute of Plant Genetics and, Gatersleben, Germany; J.F.S. Ferreira, United States Department of Agriculture, Riverside, USA; M.M.A. Khan, Aligarh Muslim University, Aligarh, India; M. Naeem, Aligarh Muslim University, Aligarh, India (Eds.)

Artemisia annua - Pharmacology and Biotechnology

Artemisinin, a sesquiterpene lactone originally extracted from the medicinal plant *Artemisia annua* L., is an effective antimalarial agent, particularly for multi-drug resistant and cerebral malaria. However, the concentration of artemisinin in the plant is very low. Because the chemical synthesis of artemisinin is complicated and not economically feasible in view of the poor yield of the drug, the intact plant remains the only viable source of artemisinin production. Therefore, it is necessary to increase the concentration of artemisinin in *A. annua* to reduce the cost of artemisinin based antimalarial drugs. Plant scientists have focused their efforts on *A. annua* for a higher[...]

Features

This book summarizes global research on the medicinal plant *Artemisia annua* and its component artemisinin, an antimalarial agent. It explores further artemisinin applications and future research possibilities. Artemisinin is an effective antimalarial agent, particularly for multi-drug-resistant and cerebral malaria. As the chemical synthesis of artemisinin is complicated and not economically [...]

Contents

How a herbal drug application interrelates with its therapeutic effects: reflections on qinghao# (Artemisia annua, L.) in the Chinese materia medica.- Ethno-pharmacology of Artemisia annua: A review.- Artemisia annua: a miraculous herb to cure malaria.- The whole-plant approach to therapeutic use of Artemisia annua L. (Asteraceae).- Pharmacological potentials of artemisinin and related sesquiterpene lactones: recent advances and trends.- Taxonomic implications of Artemisia annua L. (Asteraceae).- Trichomes in Artemisia annua: initiation, development, maturation and the possibility to[...]

Fields of interest

Plant Breeding / Biotechnology; Pharmacology / Toxicology; Plant Biochemistry

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-41026-0

Hardcover

2013. VII, 373 p. 50 illus., 21 illus. in color.
ISBN 978-3-642-41026-0

Due: October 31, 2013

S.L. Young, F.J. Pierce, Washington State University, Prosser, USA (Eds.)

Automation: The Future of Weed Control in Cropping Systems

Technology is rapidly advancing in all areas of society, including agriculture. In both conventional and organic systems, there is a need to apply technology beyond our current approach to improve the efficiency and economics of management. Weeds, in particular, have been part of cropping systems for centuries often being ranked as the number one production cost. Now, public demand for a sustainably grown product has created economic incentives for producers to improve their practices, yet the development of advanced weed control tools beyond biotech has lagged behind. An opportunity has been created for engineers and weed scientists to pool their knowledge and work together to 'fill[...]

Features

This book shifts the paradigm that weeds can only be controlled using broadcast applications of chemical and mechanical techniques in distinct spatiotemporal scales, also referred to as integrated weed management. In fact, true integrated weed management is more than just diversification of techniques and for the first time could be achieved using advanced technologies. Automated weed control is not the [...]

Contents

Forward; Simon Blackmore.- Preface; Stephen L. Young.- Acknowledgements.- Introduction: Scope of the Problem – Rising Costs and Demand for Environmental.- Safety for Weed Control; Stephen L. Young, Francis J. Pierce, and Pete Nowak.- Part I Agricultural Production Systems.- Current State of Organic and Conventional Cropping Systems; Alec F. McErlich and Rick A. Boydston.- Part II Principles and Merging of Engineering and Weed Science.- Engineering Advancements; John K. Schueller.- Plant Morphology and the Critical Period of Weed Control; J. Anita Dille.- The Biological Engineer: Sensing[...]

Fields of interest

Agriculture; Robotics and Automation; Control, Robotics, Mechatronics; Agricultural Economics

Target groups

Lower undergraduate

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7511-4

Hardcover

2014. XIII, 243 p. 82 illus., 49 illus. in color.
ISBN 978-94-007-7511-4

Due: November 30, 2013

E. Zajímalová, Institute of Experimental Botany, Prague 6, Czech Republic; J. Petrasek, Institute of Experimental Botany, Prague 6, Czech Republic; E. Benkova, Flanders Institute of Biotechnology (VIB), Ghent, Belgium (Eds.)

Auxin and Its Role in Plant Development

Auxin is an important hormone in plants and vital for plant development, growth and cell signaling. The present book *Auxin and its Role in Plant Development*, provides the reader with detailed and comprehensive insight into the functioning of the molecule on the whole and specifically in plant development. In the first part the functioning, metabolism and signaling pathways of auxin in plants are explained, the second part depicts the specific role of auxin in plant development and the third part describes the interaction and functioning of the hormone upon stimuli of the environment. Each chapter is written by international experts in the respective field and designed for scientists[...]

Features

Auxin is an important hormone in plants and vital for plant development, growth and cell signaling. The present book *Auxin and its Role in Plant Development*, provides the reader with detailed and comprehensive insight into the functioning of the molecule on the whole and specifically in plant development. In the first part the functioning, metabolism and signaling pathways of auxin in plants are explained, the [...]

Contents

Part 1: Auxin: definition; metabolism, transport and signaling: What is auxin?.- Auxin – metabolism.- Auxin – determination and metabolic profiling.- Auxin – intracellular transport.- Auxin – intercellular transport.- Auxin – signaling.- Part 2: Auxin and Plant Development: Auxin and cell cycle.- Auxin and polarity.- Auxin and embryogenesis.- Auxin, organogenesis and control of plant architecture.- Auxin and reproductive development.- Auxin and cross-talk with other hormones.- Auxin – evolutionary aspects.- Model organisms for auxin research.- Modelling the auxin role in development.- [...]

Fields of interest

Plant Physiology; Biochemistry; Cell Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-7091-1525-1

Hardcover

2013. Approx. 500 p. 160 illus., 60 illus. in color.
ISBN 978-3-7091-1525-1

Due: November 22, 2013

G. Witzany, Telos - Philosophische Praxis, Bürmoos, Austria (Ed.)

Biocommunication of Animals

Every coordination within or between animals depends on communication processes. Although the signaling molecules, vocal and tactile signs, gestures and its combinations differ throughout all species according their evolutionary origins and variety of adaptation processes, certain levels of biocommunication can be found in all animal species: (a) Abiotic environmental indices such as temperature, light, water, etc. that affect the local ecosystem of an organism and are sensed, interpreted. (b) Trans-specific communication with non-related organisms. (c) Species-specific communication between same or related species. (d) Intraorganismic communication, i.e., sign-mediated coordination[...]

Features

Every coordination within or between animals depends on communication processes. Although the signaling molecules, vocal and tactile signs, gestures and its combinations differ throughout all species according their evolutionary origins and variety of adaptation processes, certain levels of biocommunication can be found in all animal species: (a) Abiotic environmental indices such as temperature, [...]

Contents

Preface; Günther Witzany.- 1. Why Biocommunication of Animals?; Günther Witzany.- 2. Signs of Communication in Chimpanzees; Mary Lee A. Jensvold et al.- 3. African and Asian elephant vocal communication: A cross-species comparison; Angela Stoeger, Shermin de Silva.- 4. The information content of wolf (and dog) social communication; Tamás Faragó et al.- 5. Social origin of vocal communication in rodents; Stefan M. Brudzynski.- 6. Why the caged mouse sings: Studies of the mouse ultrasonic song system and vocal behavior; Gustavo Arriaga.- 7. Vibrational Communication: Spiders to Kangaroo[...]

Fields of interest

Community & Population Ecology; Sociolinguistics; Animal Physiology; Animal Biochemistry; Behavioural Sciences; Philosophy of Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7413-1

Hardcover

2014. VIII, 407 p. 68 illus., 44 illus. in color.
ISBN 978-94-007-7413-1

Due: October 31, 2013

H. Nojiri, The University of Tokyo, Tokyo, Japan; M. Tsuda, Tohoku University, Sendai, Japan; M. Fukuda, Nagaoka University of Technology, Nagaoka, Japan; Y. Kamagata, Nat'l Inst of Adv Industr Sci and Tech, Sapporo, Japan (Eds.)

Biodegradative Bacteria

How Bacteria Degrade, Survive, Adapt, and Evolve

Biodegradative Bacteria highlights the novel nature of bacterial cell functions in the field of biodegradation by putting them into three parts: (1) Genetic and genomic systems, (2) Degradative enzyme systems, and (3) Bacterial behavior in natural environmental systems. The first part of the book includes cell functions as degradative machinery, genome systems for effective degradation, and the evolution of degradative systems by mobile genetic elements. The second part deals with the structure, function, evolution, diversity, and application of degradative and related enzymes. The third part presents cell or genomic behaviors of biodegradative bacteria in natural ecosystems. Bacterial[...]

Features

Biodegradative Bacteria highlights the novel nature of bacterial cell functions in the field of biodegradation by putting them into three parts: (1) Genetic and genomic systems, (2) Degradative enzyme systems, and (3) Bacterial behavior in natural environmental systems. The first part of the book includes cell functions as degradative machinery, genome systems for effective degradation, and the [...]

Contents

Part 1 Genetic and genomic systems.- 1 Rhodococcus multiple-enzyme and parallel-degradation system for aromatic compounds.- 2 Appearance and evolution of gamma-hexachlorocyclohexane-degrading bacteria.- 3 Diversity of 2,4-dichlorophenoxyacetic acid (2,4-D)-degradative genes and degrading bacteria.- 4 Genetic system of organohalide-respiring bacteria.- 5 Mobile catabolic genetic elements in pseudomonads.- 6 Adaptation to xenobiotics and toxic compounds by Cupriavidus and Ralstonia with special reference to Cupriavidus metallidurans CH34 and mobile genetic elements.- 7 Conjugative[...]

Fields of interest

Microbial Ecology; Bacteriology; Microbiology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-4-431-54519-4

Hardcover

2014. VIII, 358 p. 79 illus., 22 illus. in color.
ISBN 978-4-431-54519-4

Due: October 31, 2013

Th. Seifert (Ed.)

Bioenergy from Wood

Sustainable Production in the Tropics

This book is written for scientists and practitioners interested in deepening their knowledge of the sustainable production of bioenergy from wood in tropical and sub-tropical countries. Utilising the value chain concept, this book outlines the necessary aspects for managing sustainable bioenergy production. A wide range of topics is covered including biomass localization, modelling and upscaling, production management in woodlands and plantations, and transport and logistics. Biomass quality and conversion pathways are examined in order to match the conversion technology with the available biomass. A section is dedicated to issues surrounding sustainability. The issues, covered in a[...]

Features

This book is written for scientists and practitioners interested in deepening their knowledge of the sustainable production of bioenergy from wood in tropical and sub-tropical countries. Utilising the value chain concept, this book outlines the necessary aspects for managing sustainable bioenergy production. A wide range of topics is covered including biomass localization, modelling and upscaling. [...]

Contents

1. Bioenergy from wood in the tropics.- 2. Localisation of biomass potentials.- 3. Modelling and simulation of tree biomass.- 4. Managing Southern African woodlands for biomass production: The potential challenges and opportunities.- 5. Biomass production in intensively managed forests.- 6. Biomass Harvesting and logistics.- 7. Biomass conversion to bioenergy products.- 8. Biomass Quality.- 9 Socio-economic aspects of rural bio-energy production.- 10. Ecological impacts of biomass production at stand and landscape levels.- 11. Determination of the environmental implications of[...]

Fields of interest

Forestry Management; Renewable and Green Energy; Forestry; Materials Science (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7447-6

Hardcover

2014. XII, 250 p. 62 illus., 33 illus. in color. (Managing Forest Ecosystems, Vol. 26)
ISBN 978-94-007-7447-6

Due: November 30, 2013

G. Longo, Ecole Normale Supérieure, Paris, France; M. Montévil, Tuft University, Boston, USA

Biological Time, Symmetries and Singularities

Perspectives on Life

This authored monograph introduces a genuinely theoretical approach to biology. Starting point is the investigation of empirical biological scaling including their variability, which is found in the literature, e.g. allometric relationships, fractals, etc. The book then analyzes two different aspects of biological time: first, a supplementary temporal dimension to accommodate proper biological rhythms; secondly, the concepts of pretension and retention as a means of local organization of time in living organisms. Moreover, the book investigates the role of symmetry in biology, in view of its ubiquitous importance in physics. In relation with the notion of extended critical[...]

Features

This authored monograph introduces a genuinely theoretical approach to biology. Starting point is the investigation of empirical biological scaling including their variability, which is found in the literature, e.g. allometric relationships, fractals, etc. The book then analyzes two different aspects of biological time: first, a supplementary temporal dimension to accommodate proper biological rhythms; [...]

Fields of interest

Developmental Biology; Mathematical and Computational Biology; Biophysics and Biological Physics; Philosophy (general); Systems Biology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-35937-8

Hardcover

2014. 330 p. 30 illus., 10 illus. in color. (Lecture Notes in Morphogenesis)
ISBN 978-3-642-35937-8

Due: October 2013

C.A. Edwards, Ohio State University, Columbus, USA; P. Hendrix, University of Georgia, Athens, USA; N. Arancon, Ohio State University, Columbus, USA

Biology and Ecology of Earthworms

This 4th edition updates the latest research on earthworms. More than 3,000 species of earthworm exist in the world. They are considered to be an important ally in advancing environmental and biomedical research. Earthworms play an important role in forest or agricultural ecosystems and play an increasing role in biomedical issues. Earthworms are critical to the environment because they consume huge quantities of decomposed litter, manure, and other organic matter deposited on soil -- helping to convert it into rich topsoil. Earthworms can also help reduce soil compaction, improve permeability--thus providing channels for root growth, water infiltration, and gas exchange. Earthworms[...]

Features

This is the 4th Edition of this popular text which reviews all aspects of earthworm biology and ecology. The book has been fully revised and updated throughout. Particular changes include: new treatments of earthworm taxonomy, diversity, migration and geographical distribution; interactions between earthworms and other soil organisms, especially microorganisms and soil-borne pests and diseases; [...]

Contents

Ch. 1. Earthworm Morphology.- Ch. 2. Earthworm Physiology.- Ch. 3. Earthworm Diversity, Dispersal, and Geographical Distribution.- Ch. 4. Earthworm Life Histories and Biology.- Ch. 5. Earthworm Ecology: Populations.- Ch. 6. Earthworm Ecology: Communities.- Ch. 7. The Influence of Environmental Factors on Earthworms.- Ch. 8. The Role of Earthworms in Organic Material and Nutrient Cycles.- Ch. 9.- Interactions Between Earthworms, Microorganisms, and Other Invertebrates.- Ch. 10. Role of Earthworms in Soil Structure, Fertility and Productivity.- Ch.11. Adverse and Beneficial Aspects of[...]

Fields of interest

Ecology; Animal Ecology; Environmental Management; Waste Management / Waste Technology; Invertebrates

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-0-387-74942-6

Hardcover

2014. XIV, 422 p. 95 illus., 7 illus. in color.
ISBN 978-0-387-74942-6

Due: August 31, 2013

A.S. Sidhu, Curtin University Sarawak Malaysia, Sarawak, Malaysia

Biomedical Ontologies

Design and Implementation

Biological data are often characterized as having large volumes, complex structures, high dimensionality, evolving biological concepts, and insufficient data modeling practices. These characteristics require database researchers and developers to make many special considerations while developing biological databases and database systems. They also have made biological data management and knowledge discovery in databases challenging. This book will give a detailed overview of the biomedical data integration and interoperation using ontologies and provide methodologies to help solve problems in Biological Data and Information Access and Retrieval.

Features

Biological data are often characterized as having large volumes, complex structures, high dimensionality, evolving biological concepts, and insufficient data modeling practices. These characteristics require database researchers and developers to make many special considerations while developing biological databases and database systems. They also have made biological data management and knowledge discovery in [...]

Fields of interest

Bioinformatics; Computer Applications in Life Sciences; Computational Biology / Bioinformatics; Biotechnology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-1-4614-4005-5

Hardcover

2013. Approx. 250 p.
ISBN 978-1-4614-4005-5

Due: October 28, 2013

T. Asakura, Tokyo University of Agriculture, Koganei, Japan; Th. Miller, University California - Riverside, Riverside, USA (Eds.)

Biotechnology of Silk

This book is a snapshot of the current state of the art of research and development on the properties and characteristics of silk and their use in medicine and industry. The field encompasses backyard silk production from ancient time to industrial methods in the modern era and includes an example of efforts to maintain silk production on Madagascar. Once revered as worth its weight in gold, silk has captured the imagination from its mythical origins onwards. The latest methods in molecular biology have opened new descriptions of the underlying properties of silk. Advances in technological innovation have created silk production by microbes as the latest breakthrough in the saga of[...]

Features

This book is a snapshot of the current state of the art of research and development on the properties and characteristics of silk and their use in medicine and industry. The field encompasses backyard silk production from ancient time to industrial methods in the modern era and includes an example of efforts to maintain silk production on Madagascar. Once revered as worth its weight in gold, silk has [...]

Contents

1. Wild silk production to support farmers excluded from protected areas of Madagascar.- 2. Evolutionary divergence of Lepidopteran and trichopteran fibroins.- 3. The Structure, Silk I and Lamella of (Ala-Gly)₁₅ as the model of Bombyx mori silk fibroin studied with solid state NMR.- 4. Silk fibroin biomaterials for vascular regeneration.- 5. Evolution and application of coiled coil silks from insects.- 6. Characterization of underwater silk proteins from caddisfly larva, Steophysche marmorata.- 7. Atomic force microscopy and spectroscopy of silk from spider draglines, capture-web[...]

Fields of interest

Entomology; Biotechnology; Structural Materials; Biomaterials; Polymer Sciences; Nanotechnology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7118-5

Hardcover

2014. X, 278 p. 88 illus., 50 illus. in color. (Biologically-Inspired Systems, Vol. 5)
ISBN 978-94-007-7118-5

Due: October 31, 2013

Y.-X. Wang, Albany Medical College, Albany, USA (Ed.)

Calcium Signaling In Airway Smooth Muscle Cells

Calcium signaling plays an important role in cellular responses in almost all types of cells including airway smooth muscle cells. This universal signaling may result from extracellular calcium influx and/or intracellular calcium release, which are precisely controlled and regulated by ion channels, exchangers and/or transporters on the plasmalemmal or sarcoplasmic reticulum membrane. First, several chapters detail calcium release channels (ryanodine receptors and inositol trisphosphate receptors), voltage-dependent potassium channels, transient receptor potential channels, Orai channels, calcium-activated potassium channels, and calcium-activated chloride channels. Discussion of [...]

Features

Calcium signaling plays an important role in cellular responses in almost all types of cells including airway smooth muscle cells. This universal signaling may result from extracellular calcium influx and/or intracellular calcium release, which are precisely controlled and regulated by ion channels, exchangers and/or transporters on the plasmalemmal or sarcoplasmic reticulum membrane. First, several [...]

Contents

Ryanodine and Inositol Trisphosphate Receptors/Ca²⁺ Release Channels in Airway Smooth Muscle Cells.- Kv7 (KCNQ) Potassium Channels and L-type Calcium Channels in the Regulation of Airway Diameter.- Transient Receptor Potential and Orai Channels in Airway Smooth Muscle Cells.- Large-conductance calcium-activated potassium channels.- Calcium-activated Chloride Channels.- Local Calcium Signaling in Airway Smooth Muscle Cells.- Regulation of Airway Smooth Muscle Contraction by Ca²⁺ Signaling: Physiology Revealed by Microscopy Studies of Lung Slices.- Temporal Aspects of Ca²⁺ Signaling in [...]

Fields of interest

Cell Biology; Biochemistry; Human Physiology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-319-01311-4

Hardcover

2013. X, 540 p. 73 illus., 43 illus. in color.

ISBN 978-3-319-01311-4

Due: October 31, 2013

H. Wu, Harvard Medical School, Boston, USA (Ed.)

Cell Death

Mechanism and Disease

Beginning from centuries of anecdotal descriptions of cell death, such as those on the development of the midwife toad in 1842 by Carl Vogt, to modern-day investigations of cell death as a biological discipline, it has become accepted that cell death in multicellular organisms is a normal part of life. This book provides a comprehensive view of cell death, from its mechanisms of initiation and execution, to its implication in human disease and therapy. Physiological cell death plays critical roles in almost all aspects of biology, and the book details its roles in lymphocyte homeostasis, neuronal function, metabolism, and the DNA damage response. When physiological cell death goes [...]

Features

Beginning from centuries of anecdotal descriptions of cell death, such as those on the development of the midwife toad in 1842 by Carl Vogt, to modern-day investigations of cell death as a biological discipline, it has become accepted that cell death in multicellular organisms is a normal part of life. This book provides a comprehensive view of cell death, from its mechanisms of initiation and execution, to [...]

Contents

1. Historical Perspective – the Seven Ages of Cell Death Research.- 2. The Intrinsic Apoptotic Pathway.- 3. Molecular Basis of Cell Death Programs in Mature T Cell Homeostasis.- 4. Bcl-2 family and their therapeutic potential.- 5. IAP proteins and their therapeutic potential.- 6. Cell Death and Cancer.- 7. The DNA damage response mediates apoptosis and tumor suppression.- 8. Neuronal Death Mechanisms in Development and Disease.- 9. The Complex Interplay Between Metabolism and Apoptosis.- 10. Programmed Necrosis/Necroptosis: An Inflammatory Form of Cell Death.- 11. Structural [...]

Fields of interest

Cell Biology; Cell Physiology; Receptors; Apoptosis; Biomedicine (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9301-3

Hardcover

2014. XII, 298 p. 46 illus., 42 illus. in color.

ISBN 978-1-4614-9301-3

Due: November 30, 2013

P. Buzzini, R. Margesin (Eds.)

Cold-adapted Yeasts

Biodiversity, Adaptation Strategies and Biotechnological Significance

Yeasts are a versatile group of eukaryotic microorganisms, exhibiting heterogeneous nutritional profiles and an extraordinary ability to survive in a wide range of natural and man-associated ecosystems, including cold habitats. Cold-adapted yeasts inhabit numerous low-temperature environments where they are subjected to seasonal or permanent cold conditions. Hence, they have evolved a number of adaptation strategies with regard to growth and reproduction, metabolic activities, survival and protection. Due to their distinctive ability to thrive successfully at low and even subzero temperatures, cold-adapted yeasts are increasingly attracting attention in basic science and industry for [...]

Features

Yeasts are a versatile group of eukaryotic microorganisms, exhibiting heterogeneous nutritional profiles and an extraordinary ability to survive in a wide range of natural and man-associated ecosystems, including cold habitats. Cold-adapted yeasts inhabit numerous low-temperature environments where they are subjected to seasonal or permanent cold conditions. Hence, they have evolved a number of adaptation [...]

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 [...]

Fields of interest

Microbiology; Microbial Ecology; Applied Microbiology; Enzymology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-39680-9

Hardcover

2014. XI, 533 p. 61 illus., 28 illus. in color.

ISBN 978-3-642-39680-9

Due: September 30, 2013

G.C. Lamb, N. DiLorenzo (Eds.)

Current and Future Reproductive Technologies and World Food Production

This book addresses the impacts of current and future reproductive technologies on our world food production and provides a significant contribution to the importance of research in the area of reproductive physiology that has never been compiled before. It would provide a unique opportunity to separate the impacts of how reproductive technologies have affected different species and their contributions to food production. Lastly, no publication has been compiled that demonstrates the relationship between developments in reproductive management tools and food production that may be used a reference for scientists in addressing future research areas. During the past 50 years[...]

Features

This book addresses the impacts of current and future reproductive technologies on our world food production and provides a significant contribution to the importance of research in the area of reproductive physiology that has never been compiled before. It would provide a unique opportunity to separate the impacts of how reproductive technologies have affected different species and their [...]

Contents

Chapter 1. Current and future assisted reproductive technologies for mammalian farm animals.- Chapter 2. Current and future assisted reproductive technologies for avian species.- Chapter 3. Current and future assisted reproductive technologies for fish species.- Chapter 4. Incorporation of genetic technologies associated with applied reproductive technologies to enhance world food production.- Chapter 5. Impacts of Reproductive Technologies on Beef Production in the United States.- Chapter 6. Impact of Reproductive Technologies on Dairy Food Production in the Dairy Industry.- Chapter 7.[...]

Fields of interest

Animal Physiology; Reproductive Medicine; Food Science; Agriculture; Fish & Wildlife Biology & Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8886-6

Hardcover

2014. X, 270 p. 37 illus., 18 illus. in color. (Advances in Experimental Medicine and Biology, Vol. 752)
ISBN 978-1-4614-8886-6

Due: November 30, 2013

V. Kagan-Zur, Ben-Gurion University, Beer-Sheva, Israel; N. Roth-Bejerano, Ben-Gurion University, Beer-Sheva, Israel; Y. Sitrit, Ben-Gurion University, Beer-Sheva, Israel; A. Morte, Universidad de Murcia, Murcia, Spain (Eds.)

Desert Truffles

Phylogeny, Physiology, Distribution and Domestication

Desert truffles are found in every known desert, irrespective of the habitat – cool or hot, loamy or acidic, sandy or heavy soil – the only common condition seems to be a limited supply of water. In contrast to ‘true’ truffles, desert truffles have evolved over time in different families, mainly within the order Pezizales. While in some arid areas, desert truffles have been traditionally used as food, in most regions interest has only recently been increasing, and truffles are now treasured for their nutritional value, as an income source and for research. This volume gives a comprehensive overview of the phylogeny, biology, mycorrhizal association, and distribution of desert truffles.[...]

Features

Desert truffles are found in every known desert, irrespective of the habitat – cool or hot, loamy or acidic, sandy or heavy soil – the only common condition seems to be a limited supply of water. In contrast to ‘true’ truffles, desert truffles have evolved over time in different families, mainly within the order Pezizales. While in some arid areas, desert truffles have been traditionally used as food, in [...]

Contents

Hypogeous desert fungi.- Nomenclatural history and Genealogies of Desert Truffles.- Cryptic and new species.- Soil Properties.- Types of Mycorrhizal Association.- Pre-symbiotic interactions between the desert truffle *Terfezia boudieri* and its host plant *Helianthemum sessiliflorum*.- Benefits conferred on plants.- Ecology and Distribution of Desert Truffles in Western North America.- The European desert truffles.- Mediterranean Basin: North Africa.- Asian Mediterranean Desert Truffles.- Non mediterranean Asian desert countries.- Ecology and Distribution of Desert Truffles in the Kalahari[...]

Fields of interest

Agriculture; Fungus Genetics; Plant Breeding / Biotechnology; Food Science

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-40095-7

Hardcover

2014. IX, 397 p. 97 illus., 47 illus. in color. (Soil Biology, Vol.)
ISBN 978-3-642-40095-7

Due: October 31, 2013

B. Turan, University of Ankara, Ankara, Turkey; N.S. Dhalla, St. Boniface Hosp. Research, Univ. of Ma, Winnipeg, Canada (Eds.)

Diabetic Cardiomyopathy

Biochemical and Molecular Mechanisms

Diabetes has long been recognized as a disease of high blood sugar, and there has been a continuous search of the exact reason for its development and effective treatment. In 2005, the World Health Organization had estimated that more than 180 million people worldwide suffer from diabetes mellitus and indicated that this figure is likely to double within the next 20 years. Among the 3.8 million deaths each year associated with diabetes, about two thirds are attributable to cardiovascular complications, and diabetes is now considered to be a major metabolic risk factor for the occurrence of heart disease. Diabetic Cardiomyopathy: Biochemical and Molecular Mechanisms is a compilation of[...]

Features

Diabetes has long been recognized as a disease of high blood sugar, and there has been a continuous search of the exact reason for its development and effective treatment. In 2005, the World Health Organization had estimated that more than 180 million people worldwide suffer from diabetes mellitus and indicated that this figure is likely to double within the next 20 years. Among the 3.8 million deaths each [...]

Contents

Cardiac defects in diabetes.- Hormonal imbalance and neuropathy.- Role of oxidative stress.- Role of cation channel defects.- Abnormalities in glucose transport.- Fatty acid utilization.- Sarcolemmal Na⁺-K⁺ ATPase.- Sarcolemmal Ca²⁺-transport.- Sarcolemmal Ca²⁺-homeostasis.- Mitochondrial function.- Contractile proteins.- β -adrenoceptor mechanisms.- Protein kinases and signal transduction.- Regulation of phospholipases.- Endothelin defects and cardiac dysfunction.- Metabolic changes in smooth muscles.- Metabolic defects in skeletal muscles.- [...]

Fields of interest

Proteomics; Diabetes; Cardiology; Human Physiology; Membrane Biology; Medical Biochemistry

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9316-7

Hardcover

2014. X, 390 p. 61 illus., 35 illus. in color. (Advances in Biochemistry in Health and Disease, Vol. 9)
ISBN 978-1-4614-9316-7

Due: December 31, 2013

V.S.H. Rao, Jawaharlal Nehru Technological University, Hyderabad, India; R. Durvasula, University of New Mexico School of Medicine, Albuquerque, USA (Eds.)

Dynamic Models of Infectious Diseases

Volume 2: Non Vector-Borne Diseases

Though great advances in public health are witnessed world over in recent years, infectious diseases, besides insect vector-borne infectious diseases remain a leading cause of morbidity and mortality. Control of the epidemics caused by the non-vector borne diseases such as tuberculosis, avian influenza (H5N1) and *Cryptococcus gattii*, have left a very little hope in the past. The advancement of research in science and technology has paved way for the development of new tools and methodologies to fight against these diseases. In particular, intelligent technology and machine-learning based methodologies have rendered useful in developing more accurate predictive tools for the early[...]

Features

Though great advances in public health are witnessed world over in recent years, infectious diseases, besides insect vector-borne infectious diseases remain a leading cause of morbidity and mortality. Control of the epidemics caused by the non-vector borne diseases such as tuberculosis, avian influenza (H5N1), and *Cryptococcus gattii*, have left a very little hope in the past. The advancement [...]

Contents

Control of Infectious Diseases: Dynamics and Informatics.- Evaluating the evolutionary dynamics of viral populations.- Percolation Methods for Seir Epidemics on Graphs.- Dynamics of tuberculosis in a developing country: Nigeria as a case study.- Component Signaling Systems of *M. tuberculosis*: Regulators of Pathogenicity and More.- Mycobacterium tuberculosis evolution, host-pathogen interactions and implications for tuberculosis control.- Trends in HIV transmission according to differences in numbers of sexual partnerships among men who have sex with men in China.- The Impact of[...]

Fields of interest

Systems Biology; Infectious Diseases; Bioinformatics

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9223-8

Hardcover

2014. VI, 318 p. 67 illus., 40 illus. in color.
ISBN 978-1-4614-9223-8

Due: November 30, 2013

C. Landry, Université Laval, Local 3110, Quebec, Canada; N. Aubin-Horth, Université Laval, Local 1242, Quebec, Canada (Eds.)

Ecological Genomics

Ecology and the Evolution of Genes and Genomes

Researchers in the field of ecological genomics aim to determine how a genome or a population of genomes interacts with its environment across ecological and evolutionary timescales. Ecological genomics is trans-disciplinary by nature. Ecologists have turned to genomics to be able to elucidate the mechanistic bases of the biodiversity their research tries to understand. Genomicists have turned to ecology in order to better explain the functional cellular and molecular variation they observed in their model organisms. We provide an advanced-level book that covers this recent research and proposes future development for this field. A synthesis of the field of ecological genomics emerges[...]

Features

Researchers in the field of ecological genomics aim to determine how a genome or a population of genomes interacts with its environment across ecological and evolutionary timescales. Ecological genomics is trans-disciplinary by nature. Ecologists have turned to genomics to be able to elucidate the mechanistic bases of the biodiversity their research tries to understand. Genomicists have turned to ecology in [...]

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.- 3. Revisiting Mortimer's genome renewal hypothesis: heterozygosity, homothallism, and the potential for adaptation in yeast.- 4. Ecological genomics of adaptation and speciation in Fungi.- 5. Integrating phenotypic plasticity within an ecological genomics framework: recent insights from the genomics, evolution, ecology, and fitness of plasticity.- 6.[...]

Fields of interest

Molecular Ecology; Gene Function; Evolutionary Biology; Bioinformatics; Microbial Genetics and Genomics; Animal Genetics and Genomics

Target groups

Graduate

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7346-2

Hardcover

2014. X, 378 p. 85 illus., 57 illus. in color. (Advances in Experimental Medicine and Biology, Vol. 781)
ISBN 978-94-007-7346-2

Due: November 30, 2013

X. Cheng, Y. Luo, University of Oklahoma, Norman, USA; B. Li, Fudan University, Shanghai, China, People's Republic; C. Fang, Fudan University, Shanghai, China, People's Republic (Eds.)

Ecology in the Yangtze River Estuary

The Yangtze River estuary is a system where geological, biological, and socioeconomic processes actively interplay. The Yangtze River carries about 5 billion tons of sediment to the estuary from upstream each year, providing rich substrates for biological activities and alluvial processes. An exotic plant species, *Spartina alterniflora* was intentionally introduced to the region in 1979, and has aggressively invaded the Yangtze River estuary and coastal China. The biological invasion alters plant and animal biodiversity and ecosystem processes. In addition, the Yangtze River estuary is close to Shanghai, one of the most economically active cities in China and the world. Fast economic[...]

Features

The Yangtze River estuary is a system where geological, biological, and socioeconomic processes actively interplay. The Yangtze River carries about 5 billion tons of sediment to the estuary from upstream each year, providing rich substrates for biological activities and alluvial processes. An exotic plant species, *Spartina alterniflora* was intentionally introduced to the region in 1979, and has aggressively [...]

Contents

Part I: Overview on the Yangtze River Estuary.- Abiotic Processes in the Yangtze River Estuary.- Historical Changes in the Yangtze River Estuary.- Part II. Biodiversity: Plant and Vegetation.- Plankton.- Benthos in the Yangtze Estuary with Emphasis on Benthic Fauna in Salt Marshes.- Fish and Fisheries.- Waterbirds and their Habitats in the Yangtze River Estuary.- Part III. Ecological Processes: Leaf and Canopy Processes of Three Dominant YRE Plant Species.- Plant Productivity and Ecosystem Carbon Cycles in Yangtze River Estuary Wetlands.- Soil Biogeochemical Processes in the Yangtze[...]

Fields of interest

Ecology; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Ecosystems; Nature Conservation; Environmental Management; Biodiversity

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-0-387-76769-7

Hardcover

2014. Approx. 290 p. 122 illus., 32 illus. in color. (Ecological Studies, Vol. 1001)
ISBN 978-0-387-76769-7

Due: January 24, 2014

T.K. Lim

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, Begoniaceae, 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, [...]

Features

This book continues as volume 7 of a multi-compendium on Edible Medicinal and Non-Medicinal Plants. It covers plants with edible flowers whose floral parts including the stalk and flower nectar are eaten as conventional or functional food and may provide a source of food colorant, additive or nutraceuticals. This volume covers plant species with edible flowers from families Acanthaceae to [...]

Contents

Introduction.- Amaryllidaceae.- Apocynaceae.- Asclepiadaceae.- Asparagaceae.- Asteraceae.- Balsaminaceae.- Begoniaceae.- Bignoniaceae.- Brassicaceae.- Cactaceae.- Calophyllaceae.- Caprifoliaceae.- Caryophyllaceae.- Combretaceae.- Convolvulaceae.- Costaceae.- Doryanthaceae.- Fabaceae.

Fields of interest

Protein Science; Agriculture; Biomedicine (general); Medicine (general); Biodiversity; Chemistry (general)

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7394-3

Hardcover

2014. XII, 1055 p. 229 illus. in color.
ISBN 978-94-007-7394-3

Due: October 31, 2013

R. Lira, Universidad Nacional Autónoma, Los Reyes Iztacala, Mexico; A. Casas, Universidad Nacional Autónoma, Morelia, Mexico (Eds.)

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.

Leading scholars and key research groups in Mexico discuss essential topics as well as contributions from international research groups that have conducted studies on ethnobotany and domestication of plants in the region. Such a convocation will produce an interesting discussion about future investigation and conservation of regional human cultures, genetic resources, and cultural and ecological processes that are critical for global sustainability.

Features

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.

Leading scholars and key research groups in Mexico discuss essential topics as well as contributions from international research groups that have conducted studies on [...]

Contents

Origins and Development of Mexican Ethnobotany.- Ethnobotany in México: Historical Trends and Development of Scientific Approaches.- Cosmos, Corpus, and Praxis: An Integrated Approach of the Study of Plants, Ecosystems, and Societies.- Ethnobotany and Mexican Biocultural Patrimony.- Ethnobotanical and Ecological Studies of Plant Populations.- Ethnobotanical and Ecological studies of Communities and Ecosystems.- Domestication as an Continuing Process: From Populations to Landscape.- Domestication of Annual Plants.- Domestication of Perennial Plants.- Useful plants of Mexico.- Medicinal [...]

Fields of interest

Plant Sciences; Plant Genetics and Genomics; Plant Systematics / Taxonomy / Biogeography; Plant Breeding / Biotechnology; Plant Ecology; Biodiversity

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-6668-0

Hardcover

2014. 900 p. 100 illus., 40 illus. in color. (Ethnobiology)
ISBN 978-1-4614-6668-0

Due: December 31, 2013

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

Faunal Heritage of Rajasthan, India

Conservation and Management of Vertebrates

This is the first ever monumental and scientific documentation of the faunal wealth of the Indian Desert state of Rajasthan. This volume, the second of two, provides a comprehensive picture of the conservation efforts undertaken to prevent further degradation of the condition of Rajasthan's faunal wealth. A scholarly contribution to the field of knowledge, it provides novel and vital information on wildlife preservation initiatives in India's largest state. Broadly falling under the Indo-Malaya Ecozone, the three major biomes of Rajasthan include deserts and xeric shrublands, tropical and subtropical dry broadleaf forests, and tropical and subtropical moist broadleaf forests. The [...]

Features

This is the first ever monumental and scientific documentation of the faunal wealth of the Indian Desert state of Rajasthan. This volume, the second of two, provides a comprehensive picture of the conservation efforts undertaken to prevent further degradation of the condition of Rajasthan's faunal wealth. A scholarly contribution to the field of knowledge, it provides novel and vital information on wildlife [...]

Contents

Part I. Faunal Conservation as a Pragmatic Approach: Aspects and Challenges.- In Situ and Ex Situ Conservation: Protected Area network and Zoos of Rajasthan.- 2. Climate and Other Environmental Factors influencing Faunal Ecology of Rajasthan.- 3. Impact of altered Land Use Pattern on Small Mammalian Diversity of Hilly Tracts of Rajasthan, India.- 4. Threats to Faunal Diversity of the Aravalli Hills with Special Reference to Kumbhalgarh Wildlife Sanctuary.- 5. Faunal Ecology and Conservation of the Great Indian Desert.- 6. Planning Conservation for Chambal River Basin taking Gharial [...]

Fields of interest

Conservation Biology / Ecology; Animal Ecology; Biodiversity; Fish & Wildlife Biology & Management

Target groups

Graduate

Type of publication

Contributed volume

More on www.springer.com/978-3-319-01344-2

Hardcover

2013. XXXI, 525 p. 208 illus., 184 illus. in color.
ISBN 978-3-319-01344-2

Due: October 31, 2013

R. Aseeva, State Fire Academy, Moscow, Russian Federation;
B. Serkov, State Fire Academy, Moscow, Russian Federation; A.
Sivenkov, State Fire Academy, Moscow, Russian Federation

Fire Behavior and Fire Protection in Timber Buildings

This volume describes fire behavior and fire protection of timbers in outdoors and indoors application mainly in construction industry. The Authors' novel approach considers the relationship between various species and age of timbers and its fire behavior at different thermal and fire loads. Quantitative data of ignition speed and flame propagation as well as generation of heat, smoke and toxic products are discussed. Analysis of fire resistance of various types of building materials based on timber of different species as well as the novel data on the effect of natural and accelerated aging of timbers on its fire behavior are discussed. The main practical methods of fire protection[...]

Features

This volume describes the modern data on fire behavior and fire protection of timber in outdoors and indoors application mainly in construction industry. The book discusses the most important topics of that area of science and engineering such as: Specificity of structure and properties of different timber species; Pyrolysis and oxidative decomposition of timber; The ignition of timber; Heat [...]

Contents

Introduction.- Part 1 Behavior of timber at high temperature heating and fire.- Chapter 1: Specificity of structure and properties of different timber species.- 1.1. Macro- and microstructure of deciduous and coniferous timber species.- 1.2 Biological and genetic aspects of timber species diversity.- 1.3 Density and moisture of timber species.- 1.4 Thermal and physical properties of timber species.- 1.5 Effect of heating on mechanical properties of timber.- Chapter 2: Pyrolysis and oxidative decomposition of timber.- 2.1 Mechanism and macrokinetics of pyrolysis of timer.- 2.2[...]

Fields of interest

Wood Science & Technology; Security Science and Technology; Materials Science (general); Building Materials

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7459-9

Hardcover

2014. XXII, 262 p. 83 illus., 10 illus. in color. (Springer Series in Wood Science)
ISBN 978-94-007-7459-9

Due: November 30, 2013

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 understorey. 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

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 understorey. Accompanied by other early eudicot lineages, this reflects [...]

Contents

Introduction to Malpighiales.- Balanopaceae.- Caryocaraceae.- Centroplacaceae.- Chrysobalanaceae.- Ctenolophonaceae.- Dichapetalaceae.- Elatinaceae.- Erythroxylaceae.- Euphorbiaceae.- Euphroniaceae.- Goupiaceae.- Humiriaceae.- Irvingiaceae.- Ixonanthaceae.- Linaceae.- Lophopyxidaceae.- Medusagynaceae.- Ochnaceae.- Pandaceae.- Putranjivaceae.- Quiinaceae.- Rhizophoraceae.- Trigoniaceae.- Violaceae.- Addition to Peridiscaceae.- General References.- Index.

Fields of interest

Plant Systematics / Taxonomy / Biogeography;
Plant Anatomy / Development; Plant Genetics and Genomics; Biodiversity

Target groups

Research

Type of publication

Handbook

More on www.springer.com/978-3-642-39416-4

Hardcover

2014. XII, 380 p. 73 illus. (The Families and Genera of Vascular Plants, Vol. 11)
ISBN 978-3-642-39416-4

Due: November 30, 2013

K. Sagheb Talebi, Research Inst. of Forests and Rangelands, Tehran, Iran; T. Sajedi, University of British Columbia, Vancouver, Canada; M. Pourhashemi, Research Inst. of Forests and Rangelands, Tehran, Iran

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. Each chapter contains a table for introducing the English and Botanical names of the plant species mentioned in the chapter. The information presented in this book is based on personal experiences and results of research projects of the authors, as[...]

Features

Iran has a special position in the northern hemisphere because of its rich vegetation and plant diversity, in particular because of its role as a connecting bridge between Europe and Asia. Hence, forests of Iran are a treasure from our natural history in hands of the present generation, but unfortunately the forests of Iran are not that well-known internationally. Forests, as the richest and complex [...]

Contents

Preface.- Introduction.- 1. Euxino-Hyrcanian province; Caspian and Arasbaran regions.- 2. Irano-Turanian region.- 3. Sahro-Sindian region.

Fields of interest

Forestry; Ecology; Forestry Management; Plant Ecology; Nature Conservation; Ecosystems

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7370-7

Hardcover

2014. VIII, 144 p. 92 illus., 55 illus. in color. (Plant and Vegetation, Vol. 10)
ISBN 978-94-007-7370-7

Due: October 31, 2013

R. Tuberosa, University of Bologna, Bologna, Italy; A. Graner, IPK, Gatersleben, Germany; E. Frison, Bioversity International, Rome, Italy (Eds.)

Genomics of Plant Genetic Resources

Volume 1. Managing, sequencing and mining genetic resources

Our lives and well being intimately depend on the exploitation of the plant genetic resources available to our breeding programs. Therefore, more extensive exploration and effective exploitation of plant genetic resources are essential prerequisites for the release of improved cultivars. Accordingly, the remarkable progress in genomics approaches and more recently in sequencing and bioinformatics offers unprecedented opportunities for mining germplasm collections, mapping and cloning loci of interest, identifying novel alleles and deploying them for breeding purposes. This book collects 48 highly interdisciplinary articles describing how genomics improves our capacity to characterize[...]

Features

The future of food security will increasingly rely on more extensive exploration and effective exploitation of plant genetic resources. The remarkable progress in plant genomics, sequencing and bioinformatics offers unprecedented opportunities for mining germplasm collections, mapping and cloning loci of interest, identifying novel alleles and deploying them for breeding purposes. Genomics [..]

Contents

Managing genetic resources.- Building a global plant genetic resources system.- Genomic Approaches to Encouraging the Development of New Cro Varieties through the Granting of Intellectual Property Protection: A Perspective from the Private Sector.- The Use of Molecular Marker Data to Assist in the Determination of Essentially Derived Varieties.- Application of molecular markers in spatial analysis to optimize in situ conservation of plant genetic resources.- Historical and prospective applications of 'quantitative genomics' in utilising germplasm resources.- Platforms and approaches to[...]

Fields of interest

Life Sciences (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7571-8

Hardcover

2014. I, 885 p. 90 illus. in color.

ISBN 978-94-007-7571-8

Due: October 31, 2013

R. Tuberosa, University of Bologna, Bologna, Italy; A. Graner, E. Frison, Bioversity, Rome, Italy (Eds.)

Genomics of Plant Genetic Resources

Volume 2. Crop productivity, food security and nutritional quality

Our lives and well being intimately depend on the exploitation of the plant genetic resources available to our breeding programs. Therefore, more extensive exploration and effective exploitation of plant genetic resources are essential prerequisites for the release of improved cultivars. Accordingly, the remarkable progress in genomics approaches and more recently in sequencing and bioinformatics offers unprecedented opportunities for mining germplasm collections, mapping and cloning loci of interest, identifying novel alleles and deploying them for breeding purposes. This book collects 48 highly interdisciplinary articles describing how genomics improves our capacity to characterize[...]

Features

The future of food security will increasingly rely on more extensive exploration and effective exploitation of plant genetic resources. The remarkable progress in plant genomics, sequencing and bioinformatics offers unprecedented opportunities for mining germplasm collections, mapping and cloning loci of interest, identifying novel alleles and deploying them for breeding purposes. Genomics [..]

Contents

Harnessing plant genetic diversity for enhancing crop production and its sustainability.- Genetics and genomics of flowering time regulation in sugar beet.- Mining the genus Solanum for increasing disease resistance.- Dissection of potato complex traits by linkage and association genetics as basis for developing molecular diagnostics in breeding programs.- Introgression libraries with wild relatives of crops.- High-throughput phenomics tools for interactions of barley with fungal pathogens.- Genomics of low-temperature tolerance for an increased sustainability of wheat and barley[...]

Fields of interest

Plant Genetics and Genomics; Plant Breeding / Biotechnology; Biodiversity; Agriculture; Plant Sciences; Plant Pathology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7574-9

Hardcover

2014. Approx. 400 p. 60 illus. in color.

ISBN 978-94-007-7574-9

Due: November 30, 2013

B.A. Horwitz, Technion – Israel Inst. of Technology, Haifa, Israel; P.K. Mukherjee, Central Institute for Cotton Research, Nagpur, India; M. Mukherjee, Central Institute for Cotton Research, Nagpur, India; C.P. Kubicek (Eds.)

Genomics of Soil- and Plant-Associated Fungi

This volume addresses the similarities and also the differences in the genomes of soil saprophytes, symbionts, and plant pathogens by using examples of fungal species to illustrate particular principles. It analyzes how the specific interactions with the hosts and the influence of the environment may have shaped genome evolution. The relevance of fungal genetic research and biotechnological applications is shown for areas such as plant pathogenesis, biomass degradation, litter decomposition, nitrogen assimilation, antibiotic production, mycoparasitism, energy, ecology, and also for soil fungi turning to human pathogens. In addition to the model organisms *Neurospora* and *Aspergillus*[...]

Features

This volume addresses the similarities and also the differences in the genomes of soil saprophytes, symbionts, and plant pathogens by using examples of fungal species to illustrate particular principles. It analyzes how the specific interactions with the hosts and the influence of the environment may have shaped genome evolution. The relevance of fungal genetic research and biotechnological applications is [..]

Contents

Genomic contributions to the study of soil and plant-interacting fungi.- Fungal genomics for energy and environment.- Advancement of functional genomics of a model species of *Neurospora* and its use for ecological genomics of soil fungi.- Major Plant Pathogens of the Magnaporthaceae Family.- *Aspergillus* - Genomics of a cosmopolitan fungus.- *Trichoderma* – genomic aspects of mycoparasitism and biomass degradation.- *Fusarium oxysporum*: A "moving" view of pathogenicity.- Genomics and spectroscopy provide novel insights into the mechanisms of litter decomposition and nitrogen assimilation by[...]

Fields of interest

Microbial Genetics and Genomics; Plant Pathology; Applied Microbiology; Soil Science & Conservation

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-39338-9

Hardcover

2013. XII, 388 p. 42 illus., 25 illus. in color. (Soil Biology, Vol. 36)

ISBN 978-3-642-39338-9

usually dispatched within 3 to 5 business days

P.W. West, School of Environment, Science and, Lismore, Australia

Growing Plantation Forests

This book describes the scientific principles that are used throughout the world to ensure the rapid, healthy growth of forest plantations. As the population of the world increases so does the amount of wood people use. Large areas of natural forests are being cleared every year and converted to other uses. Almost as large an area of plantation forests is being established annually to replace those lost natural forests. Eventually, plantations will produce a large proportion of the wood used around the world for firewood, building, the manufacture of paper and bioenergy. Forest plantations can also provide various environmental benefits including carbon storage, rehabilitation of[...]

Features

This book describes the scientific principles that are used throughout the world to ensure the rapid, healthy growth of forest plantations. As the population of the world increases so does the amount of wood people use. Large areas of natural forests are being cleared every year and converted to other uses. Almost as large an area of plantation forests is being established annually to replace those lost [...]

Contents

Plantation Forests.- Biology of Plantation Growth.- Growth Rates and Wood Quality.- Choosing the Species and Site.- Establishment.- Nutrient Management.- Stand Density and Initial Spacing.- Thinning.- Pruning.- Pests.- Diseases.- Tree Breeding.- 13 Mixed-Species Plantations.- Silviculture and Sustainability.

Fields of interest

Forestry Management; Forestry; Tree Biology; Wood Science & Technology

Target groups

Professional/practitioner

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-3-319-01826-3

Hardcover

2014. XII, 329 p. 44 illus., 15 illus. in color.
ISBN 978-3-319-01826-3

Due: November 30, 2013

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-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. Recently, the steady-state concentrations of H₂S have[...]

Features

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 [...]

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; Medical Biochemistry; Pharmacology / Toxicology; Neurosciences

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-7091-1549-7

Hardcover

2013. IX, 207 p. 39 illus., 23 illus. in color.
ISBN 978-3-7091-1549-7

usually dispatched within 3 to 5 business days

P. Ahmad, Sri Pratap College, Srinagar, India; M.R. Wani, Govt. Degree College (Boys), Anantnag, India; M.M. Azooz, South Valley University, Qena, Egypt; L.-S.P. Tran, RIKEN Center for Sustainable, Yokohama, Japan (Eds.)

Improvement of Crops in the Era of Climatic Changes

Volume 1

Current trends in population growth hint that global food production is unlikely to gratify future demands under predicted climate change scenarios unless the rates of crop improvement are accelerated. Crop production faces numerous challenges, due to changing environmental conditions and evolving needs for new plant-derived materials. These challenges come at a time when the plant sciences are witnessing remarkable progress in understanding fundamental processes of plant growth and development. Drought, heat, cold and salinity are among the major abiotic stresses that often cause a series of morphological, physiological, biochemical and molecular alterations which adversely affect[...]

Features

Current trends in population growth hint that global food production is unlikely to gratify future demands under predicted climate change scenarios unless the rates of crop improvement are accelerated. Crop production faces numerous challenges, due to changing environmental conditions and evolving needs for new plant-derived materials. These challenges come at a time when the plant sciences are witnessing [...]

Contents

Citrus Rootstocks for Improving the Horticultural Performance and Physiological Responses under Constraining Environments.- Role of Silicon in Enrichment of Plant Nutrients and Protection from Biotic and Abiotic Stresses.- Transgenic Approaches for Phytoextraction of Heavy Metals.- Using an Allometric Model for the Accumulation of Mineral Nutrients in Crops Under Saline-Water Stress: A Field Experience in Fertigation.- Control of Biotic and Abiotic Stresses in Cultivated Plants by the Use of Biostimulant Microorganisms.- Cyclic Nucleotides and Nucleotide Cyclases in Plants under[...]

Fields of interest

Plant Sciences; Plant Physiology; Plant Breeding / Biotechnology; Plant Biochemistry; Cell Biology; Earth System Sciences

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8829-3

Hardcover

2014. X, 418 p. 30 illus., 19 illus. in color.
ISBN 978-1-4614-8829-3

Due: November 30, 2013

P. Ahmad, Sri Pratap College, Srinagar, India; M.R. Wani, Govt. Degree College (Boys), Anantnag, India; M.M. Azooz, South Valley University, Qena, Egypt; L.-S.P. Tran, RIKEN Center for Sustainable, Yokohama, Japan (Eds.)

Improvement of Crops in the Era of Climatic Changes

Volume 2

Nearly 70% of people suffering from hunger live in rural areas, therefore the most relevant work in plant science is on increasing agricultural productivity. This is a key factor in reducing the number of those suffering from hunger. This challenge comes at a time when the plant sciences are witnessing remarkable progress in understanding fundamental processes of plant growth and development. However, at the same time the growth rate of global crops is declining quickly. This emphasizes the urgency of finding better ways to translate the new advances in plant science into concrete successes in agricultural production. A fairly big gap exists among scientists between fundamental theory[...]

Features

Nearly 70% of people suffering from hunger live in rural areas, therefore the most relevant work in plant science is on increasing agricultural productivity. This is a key factor in reducing the number of those suffering from hunger. This challenge comes at a time when the plant sciences are witnessing remarkable progress in understanding fundamental processes of plant growth and development. However, at [...]

Contents

Improving nutrient deficiency tolerance in rice.- Ozone stress in Plants: Present scenario and future prospects.- Stomatal responses to drought stress.- Brassica and heavy metal stress.- Chickpea and abiotic stress.- Molecular breeding for improving abiotic stress tolerance in rice.- Soil pollutants: effects and approaches to detoxification including Phytoremediation.- Recent advances in rapid and sensitive screening for abiotic stress tolerance.- Drought tolerance in plants: Biochemical and Molecular Approach.- Induced Mutations for the Improvement of Pulse Crops with Special[...]

Fields of interest

Plant Sciences; Plant Physiology; Plant Breeding / Biotechnology; Plant Biochemistry; Cell Biology; Earth System Sciences

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8823-1

Hardcover

2014. 300 p.
ISBN 978-1-4614-8823-1

Due: December 31, 2013

B. Hedwig, University of Cambridge, Cambridge, United Kingdom (Ed.)

Insect Hearing and Acoustic Communication

This volume provides a comprehensive selection of recent studies addressing insect hearing and acoustic communication. The variety of signalling behaviours and hearing organs makes insects highly suitable animals for exploring and analysing signal generation and hearing in the context of neural processing, ecology, evolution and genetics. Across a variety of hearing species like moths, crickets, bush-crickets, grasshoppers, cicadas and flies, the leading researchers in the field cover recent scientific progress and address key points in current research, such as: How can we approach the evolution of hearing in insects and what is the developmental and neural origin of the[...]

Features

This volume provides a comprehensive selection of recent studies addressing insect hearing and acoustic communication. The variety of signalling behaviours and hearing organs makes insects highly suitable animals for exploring and analysing signal generation and hearing in the context of neural processing, ecology, evolution and genetics. Across a variety of hearing species like moths, crickets, [...]

Contents

Introduction.- Evolutionary and Phylogenetic Origins of Tympanal Hearing Organs in Insects.- Hearing and Sensory Ecology of Acoustic Communication in Bladder Grasshoppers.- Auditory Parasitoid Flies Exploiting Acoustic Communication of Insects.- Adaptive Sounds and Silences: Acoustic Anti-Predator Strategies in Insects.- Acoustic Communication in the Nocturnal Lepidoptera.- Cicada Acoustic Communication.- Towards an Understanding of the Neural Basis of Acoustic Communication in Crickets.- Neural Processing in the Bush-Cricket Auditory Pathway.- Evolution of Call Patterns and Pattern[...]

Fields of interest

Invertebrates; Animal Genetics and Genomics; Neurobiology; Biophysics and Biological Physics; Acoustics

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-40461-0

Hardcover

2014. V, 222 p. 68 illus., 22 illus. in color. (Animal Signals and Communication, Vol. 1)
ISBN 978-3-642-40461-0

Due: November 30, 2013

K.A. Pitt, Griffith University, Griffith, Australia; C.H. Lucas, University of Southampton, Southampton, United Kingdom (Eds.)

Jellyfish Blooms

Jellyfish are one of the most conspicuous animals in our oceans and are renowned for their propensity to form spectacular blooms. The unique features of the biology and ecology of jellyfish that enable them to bloom also make them successful invasive species and, in a few places around the world, jellyfish have become problematic. As man increasingly populates the world's coastlines, interactions between humans and jellyfish are rising, often to the detriment of coastal-based industries such as tourism, fishing and power generation. However we must not lose sight of the fact that jellyfish have been forming blooms in the oceans for at least 500 million years, and are an essential[...]

Features

Jellyfish are one of the most conspicuous animals in our oceans and are renowned for their propensity to form spectacular blooms. The unique features of the biology and ecology of jellyfish that enable them to bloom also make them successful invasive species and, in a few places around the world, jellyfish have become problematic. As man increasingly populates the world's coastlines, interactions between [...]

Contents

Chapter 1. Introduction.- Part I Ecology of jellyfish blooms.- Chapter 2. What are jellyfish and thaliaceans and why do they bloom?.- Chapter 3. Non-indigenous marine jellyfish: invasiveness, invisibility and impacts.- Chapter 4. Bloom and bust: why do blooms of jellyfish collapse?.- Chapter 5. Ecological and societal benefits of jellyfish.- Chapter 6. Living with jellyfish: management and adaptation strategies.- Part II Case studies.- Chapter 7. Population fluctuations of jellyfish in the Bering Sea and their ecological role in this productive shelf ecosystem.- Chapter 8. The giant[...]

Fields of interest

Freshwater & Marine Ecology; Animal Ecology; Invertebrates; Environmental Management; Applied Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7014-0

Hardcover

2014. X, 316 p. 78 illus., 52 illus. in color.
ISBN 978-94-007-7014-0

Due: October 31, 2013

A. Baici, University of Zurich, Zurich, Switzerland

Kinetics of Enzyme-Modifier Interactions

Theory and Diagnosis of Inhibition and Activation Mechanisms

The monograph will not cover the fundamentals of enzyme kinetics because this topic is already treated in excellent books. However, basic theories will be shortly introduced in the first chapter as a prerequisite for the applications following in the successive chapters. The second/third chapter(s) will cover the statistical evaluation of kinetic data and numerical integration methods. The treatment of enzyme-modifier interactions will unify inhibition and activation (classical and tight-binding), with emphasis on allosteric regulation, for which there is a growing interest in pharmacological applications. Physiologically and pharmacologically relevant 'slow' interactions between[...]

Features

The monograph will not cover the fundamentals of enzyme kinetics because this topic is already treated in excellent books. However, basic theories will be shortly introduced in the first chapter as a prerequisite for the applications following in the successive chapters. The second/third chapter(s) will cover the statistical evaluation of kinetic data and numerical integration methods. The treatment of [..]

Fields of interest

Enzymology; Protein-Ligand Interactions; Computer Applications in Life Sciences; Biophysics and Biological Physics

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-3-7091-1401-8

Hardcover

2014. Approx. 400 p.
ISBN 978-3-7091-1401-8

Due: November 15, 2013

S. Gupta, N. Nadarajan, Indian Institute of Pulses Research, Kanpur, India; D.S. Gupta (Eds.)

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. Role of functional genomics and importance of bioinformatics tools in present day genomics and molecular breeding research is also discussed in detail. Use of molecular tools for nutritional fortification of grain legume is briefly presented. A chapter also been contributed on fungal disease resistance to[...]

Features

Legumes in the Omic Era provides a timely review of recent advances in legume genomics research and application. In this post-genomic era, enormous amounts of biological information is available that 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. [...]

Contents

Ch. 1. Legumes in Omic Era: Retrospects and Prospects Ch. 2. Advances in Functional Genomics in Legumes.- Ch. 3. Advances in Soybean Genomics.- Ch. 4. Advances in Chickpea Genomics.- Ch. 5. Advances in Pigeonpea Genomics.- Ch. 6. Advances in Lentil Genomics.- Ch. 7. Advances in Cowpea Improvement and Genomics.- Ch. 8. Advances in Greengram and Blackgram Genomics.- Ch. 9. Common Bean Genomics and its Applications in Breeding Programs.- Ch. 10. Pulses biofortification in genomic era: multidisciplinary opportunities and challenges.- Ch. 11. Towards Enriching Genomic Resources in Legumes.- [...]

Fields of interest

Plant Sciences; Plant Breeding / Biotechnology; Plant Genetics and Genomics; Plant Anatomy / Development

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8369-4

Hardcover

2013. XIV, 600 p. 24 illus., 21 illus. in color.
ISBN 978-1-4614-8369-4

Due: October 31, 2013

R. Rozzi, Sub-Antarctic Biocultural Conservation P, Denton, USA; S.T.A. Pickett, C. Palmer, Texas A&M University, College Station, USA; J.J. Armesto, Pontificia Universidad Católica, Santiago, Chile; J.B. Callicott, University of North Texas, Denton, USA (Eds.)

Linking Ecology and Ethics for a Changing World

Values, Philosophy, and Action

To comprehensively address the complexities of current socio-ecological problems involved in global environmental change, it is indispensable to achieve an integration of ecological understanding and ethical values. Contemporary science proposes an inclusive ecosystem concept that recognizes humans as components. Contemporary environmental ethics includes eco-social justice and the realization that as important as biodiversity is cultural diversity, inter-cultural, inter-institutional, and international collaboration requiring a novel approach known as biocultural conservation. Right action in confronting the challenges of the 21st century requires science and ethics to be seamlessly[...]

Features

Ecological sciences have informed environmental ethics from its inception as a scholarly pursuit in the 1970s—so much so that we now have ecological ethics, Deep Ecology, and ecofeminism. Throughout the 20th century, however, most ecologists remained enthralled by the myth that science is value-free. Closer study of science by philosophers reveals that metaphors are inescapable and cognitively [...]

Contents

I. Integrating philosophy and ecology: Biocultural interfaces.- II. Ecological worldviews: aesthetic, metaphors, and conservation.- III. Environmental Philosophy: ethics, epistemology, justice.- IV. Ecosystems: science, values, and action.- Index.

Fields of interest

Ecology; Ethics; Climate Change; Nature Conservation; Philosophy of Science; Biodiversity

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7469-8

Hardcover

2014. XIV, 378 p. 38 illus., 28 illus. in color. (Ecology and Ethics, Vol. 1)

ISBN 978-94-007-7469-8

Due: December 31, 2013

D.P. Chaudhary, Indian Agricultural Research Institute, New Delhi, India; S. Kumar, Natl Bureau of Plant Genetic Resources, New Delhi, India; S. Singh, Indian Agricultural Research Institute, New Delhi, India (Eds.)

Maize: Nutrition Dynamics and Novel Uses

Maize is a globally important crop mainly utilized as feed, food and raw material for diverse industrial applications. Among cereals, it occupies third place after rice and wheat and is a staple food for a large segment of population worldwide particularly in the Asian as well as African countries. This monogram discusses various aspects of nutritional quality of maize such as quality protein maize which has been considered as most significant discovery in enhancing nutritional quality of cereals in terms of increasing the concentration of essential amino acids. The biochemistry of starch which is an important industrial product of maize has been discussed in detail. Further, the role[...]

Features

Maize is a globally important crop mainly utilized as feed, food and raw material for diverse industrial applications. Among cereals, it occupies third place after rice and wheat and is a staple food for a large segment of population worldwide particularly in the Asian as well as African countries. This monogram discusses various aspects of nutritional quality of maize such as quality protein maize which has [...]

Contents

Section A: Introductory chapter.- 1. Nutritive value of maize: Improvements, applications and constraints.- Section B: Protein quality of maize.- 2 Breeding challenges and perspectives in developing and promoting quality protein maize germplasm.- 3 Maize protein quality and its improvement- development of quality protein maize (QPM) in India.- 4 Molecular interventions for enhancing the protein quality of maize.- Section C: Nutritional quality of maize.- 5 Maize: Grain structure, composition, milling and starch characteristics.- 6 Oil improvement in maize: potential and[...]

Fields of interest

Agriculture; Plant Biochemistry; Protein Science; Climate Change; Food Science

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-81-322-1622-3

Hardcover

2014. X, 159 p. 27 illus., 17 illus. in color.
ISBN 978-81-322-1622-3

Due: November 30, 2013

I. Faridah-Hanum, A. Latiff, K.R. Hakeem, Universiti Putra Malaysia, Selangor, Malaysia; M. Ozturk, Ege University, Izmir, Turkey (Eds.)

Mangrove Ecosystems of Asia

Status, Challenges and Management Strategies

The book provides an up-to-date account of mangrove forests from Asia, together with restoration techniques, and the management requirements of these ecosystems to ensure their sustainability and conservation. All aspects of mangroves and their conservation are critically re-examined. The book is divided into three sections presenting the distribution and status of mangrove ecosystems in Asia, the challenges they are facing, their issues and opportunities, and the management strategies for their conservation.

Features

Mangrove ecosystems occur in the inter-tidal region between sea and land in tropical and sub-tropical latitudes and provide important ecosystem goods and services. These forests help stabilize shorelines and reduce the devastating impact of natural disasters such as tsunamis and hurricanes. They serve as breeding and nursing grounds for marine species, and are sources of food, medicine, fuel, and building [...]

Contents

Chapter 1: Mangrove Ecosystems of Malaysia: Status, Challenges and Management Strategies.- Chapter 2: Distribution and Rarity of Rhizophoraceae in Peninsular Malaysia.- Chapter 3: Distribution and Current Status of Mangrove Forests in Indonesia.- Chapter 4: Mangrove Forests in Thailand.- Chapter 5: Philippines' Mangrove Ecosystem: Status, Threats and Conservation.- Chapter 6: Distribution, Characteristics and Economic Importance of Mangrove Forests in Iran.- Chapter 7: Plant Diversity and Forest Structure of the Three Protected Areas (Wildlife Sanctuaries) of Bangladesh Sundarbans:[...]

Fields of interest

Ecosystems; Forestry; Forestry Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8581-0

Hardcover

2013. I, 557 p. 148 illus., 133 illus. in color.
ISBN 978-1-4614-8581-0

Due: October 31, 2013

U.P. Albuquerque, Universidade Federal Rural de, Recife, Brazil; L.V.F. Cruz da Cunha, Universidade Católica de Pernambuco, Recife, Brazil; R.F.P. Lucena, Universidade Federal da Paraíba, Areia, Brazil; R.R.N. Alves, Universidade Estadual da Paraíba, Campina Grande, Brazil (Eds.)

Methods and Techniques in Ethnobiology and Ethnoecology

Humans represent just one of many species that constitute the planet's biodiversity. Nevertheless, as the dominant species, humans have been the primary agent of the transformation of natural spaces. Therefore, the study of human interactions, biodiversity, and the environment that surrounds them is a basic tool for understanding the factors that bind human societies to natural resources. Within this context, ethnobiology is a promising discipline that can play a key role as a mediator of dialogue between different academic disciplines and traditional knowledge, a union essential in enabling contextualized and sustainable alternatives to exploitative practices and biodiversity[...]

Features

Humans represent just one of many species that constitute the planet's biodiversity. Nevertheless, as the dominant species, humans have been the primary agent of the transformation of natural spaces. Therefore, the study of human interactions, biodiversity, and the environment that surrounds them is a basic tool for understanding the factors that bind human societies to natural resources. Within this [...]

Contents

Selection of Research Participants.- Methods and Techniques Used to Collect Ethnobiological Data.- Participatory Methods in Ethnobiological and Ethnoecological Research.- Oral History in Ethnobiology and Ethnoecology.- Procedures for Documentary Analysis in the Establishment of Ethnobiological Information.- Use of Visual Stimuli in Ethnobiological Research.- Methods in Research of Environmental Perception.- Methods for Data Collection in Medical Ethnobiology.- Introduction to Botanical Taxonomy.- Analysis of Vegetation in Ethnobotanical Studies.- Techniques for Collecting and Processing[...]

Fields of interest

Plant Sciences; Plant Ecology; Anthropology; Zoology; Plant Anatomy / Development

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8635-0

Hardcover

2014. X, 524 p. 53 illus., 18 illus. in color. (Springer Protocols Handbooks)
ISBN 978-1-4614-8635-0

Due: November 30, 2013

S.B. Chincholkar, North Maharashtra University, Jalgaon, India; L. Thomashow, Washington State University, Pullman, USA (Eds.)

Microbial Phenazines

Biosynthesis, Agriculture and Health

Microbial Phenazines: Biosynthesis, Agriculture and Health focuses on phenazines, a group of upwards of a hundred nitrogen-containing redox-active heterocyclic compounds of bacterial origin that have long attracted scientific interest because of their colorful pigmentation. Our understanding of these fascinating natural products and their role in human health and the environment has advanced rapidly in recent years, but we are only now beginning to be able to exploit the potential of these compounds in such fields as agriculture and medicine. This volume includes information on the biochemistry and genetics of phenazine synthesis, the physiological effects of phenazines, and methods[...]

Features

Microbial Phenazines: Biosynthesis, Agriculture and Health focuses on phenazines, a group of upwards of a hundred nitrogen-containing redox-active heterocyclic compounds of bacterial origin that have long attracted scientific interest because of their colorful pigmentation. Our understanding of these fascinating natural products and their role in human health and the environment has advanced rapidly [...]

Contents

The Biosynthesis of Phenazines.- Regulation of Phenazine Biosynthesis.- The Yin and Yang of Phenazine Physiology.- Phenazines and Bacterial Biofilms.- Fermentative production of bacterial phenazines.- Methods for Purification and Characterization of Microbial Phenazines.- Roles and Regulation of Phenazines in the Biological Control Strain *Pseudomonas chlororaphis* 30-84.- Role of Phenazine-1-carboxamide Produced by *Pseudomonas chlororaphis* PCL1391 in the Control of Tomato Foot and Root Rot.- Genomic Features and Regulation of Phenazine Biosynthesis in the Rhizosphere Strain *Pseudomonas*[...]

Fields of interest

Microbiology; Biochemistry; Plant Pathology; Pharmacology / Toxicology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-40572-3

Hardcover

2014. VI, 246 p. 129 illus., 20 illus. in color. ISBN 978-3-642-40572-3

Due: October 31, 2013

N.M. Allewell, University of Maryland, College Park, USA; L.O. Narhi, Amgen, Inc., Thousand Oaks, USA; I. Rayment, University of Wisconsin - Madison, Madison, USA (Eds.)

Molecular Biophysics for the Life Sciences

This volume provides an overview of the development and scope of molecular biophysics and in-depth discussions of the major experimental methods that enable biological macromolecules to be studied at atomic resolution. It also reviews the physical chemical concepts that are needed to interpret the experimental results and to understand how the structure, dynamics, and physical properties of biological macromolecules enable them to perform their biological functions. Reviews of research on three disparate biomolecular machines—DNA helicases, ATP synthases, and myosin—illustrate how the combination of theory and experiment leads to new insights and new questions.

Features

This volume of the series Biophysics for the Life Sciences focuses on the conceptual framework and major research tools of contemporary molecular biophysics. It is designed to enable non-specialists—both students and professionals in other fields—to understand how these approaches can be used across the biosciences and in medicine, agriculture, biotechnology, pharmaceutical development and other [...]

Contents

Introduction: Molecular Biophysics and the Life Sciences.- Structural, Physical, and Chemical Principles.- Part I. The Experimental Tools of Molecular Biophysics.- Optical Spectroscopic Methods for the Analysis of Biological Macromolecules.- Diffraction and Scattering of X-Rays and Neutrons.- Nuclear Magnetic Resonance Spectroscopy.- Electron Paramagnetic Resonance Spectroscopy.- Mass Spectrometry.- Single Molecule Methods.- Part II. Biological Macromolecules as Molecular Machines: Three Examples.- Helicase Unwinding at the Replication Fork.- Rotary Motor ATPases.- Biophysical[...]

Fields of interest

Biological Techniques; Biophysics and Biological Physics; Biotechnology; Spectroscopy and Microscopy; Pharmaceutical Sciences / Technology

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8547-6

Hardcover

2013. XII, 393 p. 132 illus., 70 illus. in color. (Biophysics for the Life Sciences, Vol. 6) ISBN 978-1-4614-8547-6

Due: October 31, 2013

H.-M. Shen, National University of Singapore, Singapore, Singapore; P. Vandenabeele, University of Ghent, Zwijnaarde, Belgium (Eds.)

Necrotic Cell Death

Starting with discussion of basic concepts and the molecular mechanisms of necrosis, this book looks first at several forms of necrotic cell death that have been identified, including necroptosis, autophagic cell death, and PARP-mediated cell death. As necrotic cell death is increasingly known to play a critical role in many physiological processes, the next chapters discuss its effect on metabolism, inflammation, immunity, and development. Necrotic cell death is closely implicated in human diseases like cancer, so the next chapters examine its relevance to human diseases, and final chapters cover methodologies for measuring necrosis. This book presents comprehensive coverage of[...]

Features

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. Keeping pace [...]

Contents

Necrotic cell death at a glance: concept, mechanisms and biological functions.- Necroptosis: 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.- Necrostatin, a necrosis inhibitor[...]

Fields of interest

Cell Cycle Analysis; Apoptosis; Oxidative Stress; Cell Biology

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8219-2

Hardcover

2014. Approx. 400 p. 14 illus. in color. (Cell Death in Biology and Diseases) ISBN 978-1-4614-8219-2

Due: February 2014

K.S. Murakami, The Pennsylvania State University, University Park, USA; M.A. Traksellis, University of Pittsburgh, Pittsburgh, USA (Eds.)

Nucleic Acid Polymerases

This book provides a review of the multitude of nucleic acid polymerases, including DNA and RNA polymerases from Archea, Bacteria and Eukaryota, mitochondrial and viral polymerases, and other specialized polymerases such as telomerase, template-independent terminal nucleotidyl transferase and RNA self-replication ribozyme. Although many books cover several different types of polymerases, no book so far has attempted to catalog all nucleic acid polymerases. The goal of this book is to be the top reference work for postgraduate students, postdocs, and principle investigators who study polymerases of all varieties. In other words, this book is for polymerase fans by polymerase [...]

Features

This book provides a review of the multitude of nucleic acid polymerases, including DNA and RNA polymerases from Archea, Bacteria and Eukaryota, mitochondrial and viral polymerases, and other specialized polymerases such as telomerase, template-independent terminal nucleotidyl transferase and RNA self-replication ribozyme. Although many books cover several different types of polymerases, no book so far has [...]

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 trypanosomes.- Translation in mitochondria and apicoplasts in Apicomplexa.- Translation in mitochondria in green algae and higher plants.- Translation in flowering plant [...]

Fields of interest

Enzymology; Nucleic Acid Chemistry; Gene Expression; Cell Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-39795-0

Hardcover

2014. X, 335 p. 76 illus., 53 illus. in color. (Nucleic Acids and Molecular Biology, Vol. 30)
ISBN 978-3-642-39795-0

Due: October 31, 2013

P. Vidhyasekaran, Tamil Nadu Agricultural University, Coimbatore, India

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's signature) of invading pathogens. The PAMP alarm/danger signals are perceived by plant pattern-recognition receptors (PRRs). The plant immune system uses several second messengers to encode information generated by the PAMPs and deliver the information downstream of PRRs to proteins which decode/interpret signals and initiate defense gene expression. This book describes the most fascinating [...]

Features

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's signature) of invading pathogens. The PAMP alarm/danger signals are perceived by plant pattern-recognition [...]

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 Cascades in Plant Innate Immunity.- 8. Phospholipids Signaling System in Plant Innate Immunity.- 9. Protein Phosphorylation and Dephosphorylation in Plant Immune Signaling Systems.- 10. Ubiquitin-Proteasome [...]

Fields of interest

Plant Pathology; Plant Physiology; Microbiology; Biotechnology; Agriculture

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7425-4

Hardcover

2014. XVII, 426 p. 52 illus. (Signaling and Communication in Plants, Vol. 21)
ISBN 978-94-007-7425-4

Due: September 30, 2013

V. Romanini, University of São Paulo, São Paulo, Brazil; E. Fernández, Linda Hall Library of Science & Techn., Kansas City, USA (Eds.)

Peirce and Biosemiotics:

A Guess at the Riddle of Life

This volume discusses the importance of Peirce's philosophy and theory of signs to the development of Biosemiotics, the science that studies the deep interrelation between meaning and life. Peirce considered semeiotic as a general logic part of a complex architectonic philosophy that includes mathematics, phenomenology and a theory of reality. The authors are Peirce scholars, biologists, philosophers and semioticians united by an interdisciplinary endeavor to understand the mysteries of the origin of life and its related phenomena such as consciousness, perception, representation and communication.

Features

This volume discusses the importance of Peirce's philosophy and theory of signs to the development of Biosemiotics, the science that studies the deep interrelation between meaning and life. Peirce considered semeiotic as a general logic part of a complex architectonic philosophy that includes mathematics, phenomenology and a theory of reality. The authors are Peirce scholars, biologists, philosophers and [...]

Contents

Introduction; V. Romanini, E. Fernández.- 1. The Intelligible Universe; N. Houser.- 2. The Continuity of Life: On Peirce's Objective Idealism; I.A. Ibrici.- 3. Peircian Semiotic Indeterminacy and Its Relevance for Biosemiotics; R. Lane.- 4. Peircian Habits, Broken Symmetries, and Biosemiotics; E. Fernández.- 5. Semeiotic Causation and the Breath of Life; M. Hulswit, V. Romanini.- 6. The Ineffable, the Individual, and the Intelligible: Peircian Reflections on the Innate Ingenuity of the Human Animal; V. Colapietro.- 7. Instinct and Abduction in the Peircian Informational Perspective:[...]

Fields of interest

Life Sciences (general); Philosophy of Biology; Interdisciplinary Studies; Pragmatism; Metaphysics; Humanities

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7731-6

Hardcover

2013. Approx. 250 p. 1 illus. (Biosemiotics, Vol. 11)
ISBN 978-94-007-7731-6

Due: December 24, 2013

E.R. Banerjee, University College of Science, Kolkata, India

Perspectives in inflammation biology

"Perspectives in Inflammation Biology" outlines detailed studies using preclinical murine models in Inflammation. The book is meant for academicians, industry persons, research scholars and students alike. The detailed perspective for a beginner and the exhaustive methodologies and analyses outlined, for the veteran researcher, makes this book a unique link between someone who is thinking of embarking on a study of inflammation and one who is delving deep into this area of specialization. The book deals with asthma and allergy as specific disease areas of inflammation of the lung, aseptic peritonitis as a disease of systemic inflammation and details how each role player in its[...]

Features

"Perspectives in Inflammation Biology" outlines detailed studies using preclinical murine models in Inflammation. The book is meant for academicians, industry persons, research scholars and students alike. The detailed perspective for a beginner and the exhaustive methodologies and analyses outlined, for the veteran researcher, makes this book a unique link between someone who is thinking of embarking on a [...]

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 I. Role of integrin $\alpha 4$ (VLA- Very Late Antigen 4) and integrin $\beta 2$ (CD18) in a pulmonary inflammatory and a systemic disease model using genetic[...]

Fields of interest

Cell Biology; Stem Cells; Microbial Ecology; Cytokines and Growth Factors; Biological Techniques; Animal Models

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-81-322-1577-6

Hardcover

2014. XIX, 143 p. 66 illus., 15 illus. in color.
ISBN 978-81-322-1577-6

Due: October 31, 2013

S.K. Panguluri, University of South Florida, Tampa, USA; A.A. Kumar, ICRISAT, Patancheru, India (Eds.)

Phenotyping for Plant Breeding

Applications of Phenotyping Methods for Crop Improvement

Plant phenotyping is the thorough assessment of plant traits such as growth, development, adaptation, yield, quality, tolerance, resistance, architecture, and the basic measurement of individual quantitative parameters that form the basis for understanding of traits. Genetic approaches to understand plant growth and development have always benefited from phenotyping techniques that are simple, rapid and measurable in units. The forward genetics approach is all about understanding the trait inheritance using the phenotypic data and in most cases it is the mutant phenotypes that formed the basis for understanding of gene functions. With rapid advancement of genotyping techniques, high[...]

Features

Plant phenotyping is the thorough assessment of plant traits such as growth, development, adaptation, yield, quality, tolerance, resistance, architecture, and the basic measurement of individual quantitative parameters that form the basis for understanding of traits. Genetic approaches to understand plant growth and development have always benefited from phenotyping techniques that are simple, rapid and [...]

Contents

1. Phenotyping Rice for Molecular Plant Breeding, MS Madhav, GS Laha, AP Padmakumari, N Somasekhar, SK Mangrauthia, BC Viraktamath.- 2. Phenotyping in Wheat Breeding, Govindan Velu, Ravi Prakash Singh.- 3. Phenotyping in sorghum [Sorghum bicolor (L.) Moench], Are Ashok Kumar, Hari C Sharma, Rajan Sharma, Michael Blummel, P Sanjana Reddy, Belum VS Reddy.- 4. Chickpea Phenotyping, Ali Saeid, SK Panguluri.- 5. Phenotyping for Groundnut (Arachis hypogaea L.) Improvement, P Janila, SN Nigam.- 6. Phenotyping of Tomato, Amolkumar U Solanke, P Ananda Kumar.

Fields of interest

Plant Breeding / Biotechnology; Plant Sciences; Plant Genetics and Genomics; Plant Anatomy / Development

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8319-9

Hardcover

2013. XI, 211 p. 14 illus., 12 illus. in color.
ISBN 978-1-4614-8319-9

Due: October 31, 2013

P. Ahmad, Sri Pratap College, Srinagar, India; M.R. Wani, Govt. Degree College (Boys), Anantnag, India (Eds.)

Physiological Mechanisms and Adaptation Strategies in Plants Under Changing Environment

Volume 1

The global population is growing at an alarming rate and is anticipated to reach about 9.6 billion by the end of 2050. Addressing the problem of food scarcity for budding population vis-à-vis environmental changes is the main challenge plant biologists face in the contemporary era. Plant growth and productivity are scarce in many areas of the world due to a wide range of environmental stresses. The productive land is dwindling progressively by various natural and anthropogenic means that lead to enormous crop losses worldwide. Plants often experience these stresses and have the ability to withstand them. However, when the stress exceeds the normal tolerance level, plants accumulate[...]

Features

The global population is growing at an alarming rate and is anticipated to reach about 9.6 billion by the end of 2050. Addressing the problem of food scarcity for budding population vis-à-vis environmental changes is the main challenge plant biologists face in the contemporary era. Plant growth and productivity are scarce in many areas of the world due to a wide range of environmental stresses. The [...]

Contents

Mechanisms and Adaptation of Plants to Environmental Stresses: A Case of Woody Species.- Drought Tolerance: Roles of Organic Osmolytes, Growth Regulators and Mineral Nutrients.- Influencing the Product Quality by Applying Drought Stress during the Cultivation of Medicinal Plants.- Water Scarcity and Water Stress in Agriculture.- Biotechnology for Drought and Salinity Tolerance of Crops.- Effect of Salinity on Plants and the Role of Arbuscular Mycorrhizal Fungi and Plant Growth Promoting Rhizobacteria in Alleviation of Salt Stress.- Cash Crop Halophytes-The Ecologically and Economically[...]

Fields of interest

Plant Sciences; Plant Physiology; Plant Breeding / Biotechnology; Plant Biochemistry; Cell Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8590-2

Hardcover

2013. X, 608 p. 68 illus., 42 illus. in color.
ISBN 978-1-4614-8590-2

Due: October 31, 2013

L.C. Foxcroft, P. Pyšek, Academy of Sciences of the Czech Republic, P. Pruhonice, Czech Republic; D.M. Richardson, Stellenbosch University, Matieland, South Africa; P. Genovesi, ISPRA, Rome, Italy (Eds.)

Plant Invasions in Protected Areas

Patterns, Problems and Challenges

This book is the first comprehensive global review of all aspects of alien plant invasions in protected areas. It provides insights into advances in invasion ecology emanating from work in protected areas, and the link to locally relevant management support for protected areas. The book provides in-depth case studies, illuminating interesting and insightful knowledge that can be shared across the global protected area network. The book includes the collective understanding of 80 ecologists and managers to extract as much information as possible that will support the long-term management of protected areas, and the biodiversity and associated ecosystem services they maintain. "This[...]"

Features

This book is the first comprehensive global review of all aspects of alien plant invasions in protected areas. It provides insights into advances in invasion ecology emanating from work in protected areas, and the link to locally relevant management support for protected areas. The book provides in-depth case studies, illuminating interesting and insightful knowledge that can be shared across the global [...]"

Contents

Part I Setting the Scene: Impacts, Processes and Opportunities.- Part II Regional Patterns: Mapping the Threats from Plant Invasions in Protected Areas.- Part III Managing Invasions in Protected Areas: from Prevention to Restoration.- Part IV Conclusion.

Fields of interest

Biodiversity; Conservation Biology / Ecology; Plant Ecology; Nature Conservation; Applied Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7749-1

Hardcover

2014. X, 636 p. 80 illus., 42 illus. in color. (Invading Nature - Springer Series in Invasion Ecology, Vol. 7) ISBN 978-94-007-7749-1

Due: November 30, 2013

M. McCann, Purdue University, West Lafayette, USA; M. Buck-eridge, University of Campinas, Sao Paulo, Brazil; N. Carpita, Purdue University, West Lafayette, USA (Eds.)

Plants and BioEnergy

A country's vision for developing renewable and sustainable energy resources is typically propelled by three important drivers – security, cost, and environmental impact. The U.S. currently accounts for a quarter of the world's total oil consumption, with domestic demands necessitating – at an ever growing cost – a net import of more than 50% of the oil used in this country. At the same time, Brazil, because of its forward thinking on energy strategy, is today energy independent. As emerging economies around the world increase their petroleum use by large margins and as large fractions of that new consumption are necessarily supplied from unstable parts of the world, the inevitable[...]"

Features

A country's vision for developing renewable and sustainable energy resources is typically propelled by three important drivers – security, cost, and environmental impact. The U.S. currently accounts for a quarter of the world's total oil consumption, with domestic demands necessitating – at an ever growing cost – a net import of more than 50% of the oil used in this country. At the same time, Brazil, because [...]"

Contents

Part I. Economics of Bioenergy Chapter 1. Advanced Biofuels: Economic Uncertainties, Policy Options, and Land Use Impacts.- Chapter 2. The prospects of first generation ethanol in developing countries.- Chapter 3. Can energy policy drive sustainable land use? Lessons from Biofuels Policy Development over the Last Decade.- Chapter 4. Algae Farming and its Bio-products.- Part II. Biomass Biology.- Chapter 5. Regional gene pools for restoration, conservation, and genetic improvement of prairie grasses.- Chapter 6. Mining Genetic Diversity of Sorghum as a Bioenergy Feedstock.- Chapter 7.[...]"

Fields of interest

Plant Sciences; Plant Biochemistry; Plant Genetics and Genomics

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9328-0

Hardcover

2014. XIII, 373 p. 57 illus., 45 illus. in color. (Advances in Plant Biology, Vol. 4) ISBN 978-1-4614-9328-0

Due: November 30, 2013

J. Yamagiwa, Kyoto University, Kyoto, Japan; L. Karczmarski, The University of Hong Kong, Shek O, Hong Kong/P.R.China (Eds.)

Primates and Cetaceans

Field Research and Conservation of Complex Mammalian Societies

In this book, the editors present a view of the socioecology of primates and cetaceans in a comparative perspective to elucidate the social evolution of highly intellectual mammals in terrestrial and aquatic environments. Despite obvious differences in morphology and eco-physiology, there are many cases of comparable, sometimes strikingly similar patterns of sociobehavioral complexity. A number of long-term field studies have accumulated a substantial amount of data on the life history of various taxa, foraging ecology, social and sexual relationships, demography, and various patterns of behavior: from dynamic fission–fusion to long-term stable societies; from male-bonded to[...]"

Features

In this book, the editors present a view of the socioecology of primates and cetaceans in a comparative perspective to elucidate the social evolution of highly intellectual mammals in terrestrial and aquatic environments. Despite obvious differences in morphology and eco-physiology, there are many cases of comparable, sometimes strikingly similar patterns of sociobehavioral complexity. A number of long-term [...]"

Contents

Part 1: Social Ecology.- 1 How ecological conditions affect the abundance and social organization of folivorous monkeys.- 2 Dusky dolphins: Flexibility in foraging and social strategies.- 3 Socioecological flexibility of gorillas and chimpanzees.- 4 You are what you eat: Foraging specializations and their influence on the social organization and behaviour of killer whales.- 5 Japanese macaques: Habitat-driven divergence in social dynamics.- 6 Shark Bay bottlenose dolphins: A case study for defining and measuring sociality.- Part 2: Life History and Social Evolution.- 7 Female[...]"

Fields of interest

Zoology; Behavioural Sciences; Animal Ecology; Evolutionary Biology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-4-431-54522-4

Hardcover

2014. XII, 470 p. 60 illus., 27 illus. in color. (Primate Monographs) ISBN 978-4-431-54522-4

Due: October 31, 2013

L.K. Marsh, Global Conservation Institute, Santa Fe, USA; S. Chapman (Eds.)

Primates in Fragments

Complexity and Resilience

This book is number two in a series for Primates in Fragments. In this volume, ten years after the first, we continue to address issues regarding primates within a fractured landscape. There are seven sections based on specific categories of primates in fragments. In the Introductory section, authors discuss the issues surrounding primates in remnant habitats as well as encourage discussion about what we mean by fragmentation on a landscape scale. In the Long-Term and Regional Studies section, authors present information on changes that have occurred during longer studies as well as changes that have occurred over regions. In the Landscape, Metapopulations and the Matrix section, [...]

Features

This book is number two in a series for Primates in Fragments. In this volume, ten years after the first, we continue to address issues regarding primates within a fractured landscape. There are seven sections based on specific categories of primates in fragments. In the Introductory section, authors discuss the issues surrounding primates in remnant habitats as well as encourage discussion about what we mean [...]

Contents

Section I: Introduction.- 1. Because Conservation Counts: Primates and Fragmentation.- 2. Assessing Habitat Fragmentation Effects for Primates: The Importance of Evaluating Questions at the Correct Scale.- Section II: Long-term and Regional Studies.- 3. One Hundred Years of Solitude: Effects of Long-Term Forest Fragmentation on the Primate Community of Java, Indonesia.- 4. A Region-Wide Review of Mesoamerican Primates: Prioritizing for Conservation.- 5. Primates of the Biological Dynamics of Forest Fragments Project: A History.- 6. Lessons From Los Tuxtlas: 30 Years of Research Into[...]

Fields of interest

Ecology; Anthropology; Evolutionary Biology; Zoology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8838-5

Hardcover

2013. XXII, 537 p. 120 illus., 84 illus. in color. (Developments in Primatology: Progress and Prospects)
ISBN 978-1-4614-8838-5

usually dispatched within 3 to 5 business days

S. Chakraborti, PhD, University of Kalyani, Nadia, India; N.S. Dhalla, St. Boniface Hosp. Research, Univ. of Ma, Winnipeg, Canada (Eds.)

Proteases in Health and Disease

In view of rapidly growing research in the deregulation of proteases and their impact in human health and diseases, this book will highlight existing and emerging research in this exciting area. In-depth critical state-of-the-art reviews will be written by established investigators on proteases dysfunctions associated with pathogenesis of different diseases that are known to occur due to deregulation of proteolytic systems. Multidisciplinary approaches demonstrating biochemical and signal transduction mechanisms associated with deregulation of proteases leading to manifestation of the diseases will be discussed. The book highlights the roles of both intracellular and extracellular [...]

Features

Proteases form one of the largest and most diverse families of enzymes known. Once considered primarily as "enzymes of digestion," it is now clear that proteases are involved in every aspect of cellular function. Members of the diverse families of proteases act to promote cellular proteolysis found in nature, and their deregulation may result in different pathophysiological conditions, such as tumor [...]

Contents

Part A: Molecular and Biochemical Aspects of Proteases.- 1. An Overview of Endoplasmic Reticulum Calpain System.- 2. Mitochondrial Calpains: Who, What, Where, When and Why?.- 3. Role of Calpains in Calmodulin Regulated Systems.- 4. Exercise and Matrix Metalloproteases: A Brief Overview.- 5. Regulation of Chondrocyte Matrix Metalloproteinase Gene Expression.- 6. Microbial Source of Fibrinolytic Protease and Its Biotechnological Potential.- 7. Aspartic Proteolytic Inhibitors Induce Cellular and Biochemical Alterations in Fungal Cells.- 8. Cysteine Proteases of Human Malaria Parasites.- 9. [...]

Fields of interest

Biochemistry; Cell Biology; Cell Physiology; Proteomics

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9232-0

Hardcover

2014. XV, 660 p. 82 illus., 35 illus. in color. (Advances in Biochemistry in Health and Disease, Vol. 7)
ISBN 978-1-4614-9232-0

Due: November 30, 2013

L. Hogle, University of Wisconsin - Madison, Madison, USA (Ed.)

Regenerative Medicine Ethics: Governing Research and Knowledge Practices

This book puts the ethics, policy and politics of stem cells into context in a way that helps readers understand why past and current issues have developed the way they have and what the implications are for their work going forward. It also addresses emerging issues as the field progresses towards clinical and industrial uses. While there is a superabundance of material on the ethics of embryo use and questions of embryonic "personhood," there is little that covers what practicing scientists and managers need to know in order to plan and execute responsible research. Furthermore, researchers funded by the NIH are required to have ethics training as a condition of the grant. As such, [...]

Features

Regenerative medicine is at a pivotal point. Innovations in the science and the rapid growth of translational medicine are transforming the field just as institutional arrangements are changing, making this an exciting yet unsettled time. Recent court cases and policy initiatives are creating crosscurrents that keep older issues from being settled while introducing new dilemmas. Current research propels [...]

Contents

Part I: Foresight, hindsight and peripheral vision: Navigating contemporary legal, ethical and Policy issues in Regenerative Medicine.- Contemporary dilemmas facing regenerative medicine researchers: an overview.- Characterizing International Stem Cell Research Niches.- Policies and practices to enhance multi-sectorial collaborations and commercialization of regenerative medicine.- The Patenting Landscape for Human Embryonic Stem Cells.- Repositories for Sharing Human Data in Stem Cell Research.- PART II: Research Integrity: Updates for Regenerative Medicine Researchers.- Beyond the[...]

Fields of interest

Regenerative Medicine/Tissue Engineering; Theory of Medicine / Bioethics; Stem Cells

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9061-6

Hardcover

2014. IV, 220 p. 2 illus. in color.
ISBN 978-1-4614-9061-6

Due: November 30, 2013

S. McClatchie, NOAA Fisheries Service, La Jolla, USA

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. This volume summarizes information of more than 60-year California Cooperative Oceanic Fisheries Investigation (CalCOFI). While providing a large bibliography, the intent was to extract themes relevant to current research rather than to prepare a compendious review of the literature. The work presents a useful review and [...]

Features

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. This volume summarizes information of [...]

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 & Marine Ecology; Marine & Freshwater Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7222-9

Hardcover

2014. XX, 235 p. 184 illus., 84 illus. in color. ISBN 978-94-007-7222-9

Due: October 31, 2013

S. Chakraborti, University of Kalyani, Kalyani, India; N.S. Dhalla, St. Boniface Hosp. Research, Univ. of Ma, Winnipeg, Canada (Eds.)

Role of Proteases in Cellular Dysfunction

It is now well known that proteases are found everywhere, in viruses and bacteria as well as in all human, animal and plant cells, and play a role in a variety of biological functions ranging from digestion, fertilization, development to senescence and death. Under physiological conditions the ability of proteases is regulated by endogenous inhibitors. However, when the activity of proteases is not regulated appropriately, disease processes can result, as seen in Alzheimer's disease, cancer metastasis and tumor progression, inflammation and atherosclerosis. Thus it is evident that there is an absolute need for a tighter control of proteolytic activities in different cells and [...]

Features

It is now well known that proteases are found everywhere, in viruses and bacteria as well as in all human, animal and plant cells, and play a role in a variety of biological functions ranging from digestion, fertilization, development to senescence and death. Under physiological conditions the ability of proteases is regulated by endogenous inhibitors. However, when the activity of proteases is not [...]

Contents

Part A: Proteases and Neural Disorders.- Role of Calpain in Immunobiology of Neurodegenerative Diseases.- Calpain Interactions with the Protein Phosphatase Calcineurin in Neurodegeneration.- Involvement of Caspases in Neurodegeneration and Stroke.- Matrix Metalloproteinases in Ischemia-Reperfusion Injury in Brain: Antioxidants as Rescuer.- The Role of Matrix Metalloproteinases in Neurovascular Injury.- The Role of Proteases in Embryonic Neural Crest Cells.- Part B: Proteases and Cancer.- Proteases and Cancer Development.- Matrix Metalloproteinase and its Inhibitors in Cancer [...]

Fields of interest

Proteomics; Cell Physiology; Receptors; Cancer Research; Neurosciences; Biomedicine (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9098-2

Hardcover

2014. XII, 520 p. 59 illus., 47 illus. in color. (Advances in Biochemistry in Health and Disease, Vol. 8) ISBN 978-1-4614-9098-2

Due: November 30, 2013

A. Farina, Urbino University, Urbino, Italy

Soundscape Ecology

Principles, Patterns, Methods and Applications

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. For this he intends to set the principles of this new discipline, to delineate the epistemic domain in which to develop [...]

Features

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 [...]

Contents

Preface.- 1. Soundscape & Landscape Ecologies.- 2. The Sonic Characters of the Landscapes.- 3. Bioacoustic Theories.- 4. Communication Theories.- 5. The Human Dimension of the Soundscape: from Individuals to Society.- 6. Sonic Patterns I: The Noise.- 7. Sonic Patterns II: The Choruses.- 8. Sonic Patterns III: Sounds and Vibrations from Soils.- 9. Methods.- 10. Applications.- Index.

Fields of interest

Behavioural Sciences; Landscape Ecology; Urban Ecology; Applied Ecology; Monitoring / Environmental Analysis; Nature Conservation

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7373-8

Hardcover

2014. XIII, 315 p. 113 illus., 40 illus. in color. ISBN 978-94-007-7373-8

Due: October 31, 2013

J.J. Boelens, University Medical Center Utrecht, Utrecht, Netherlands; R. Wynn, Royal Manchester Children's Hospital, Manchester, United Kingdom (Eds.)

Stem Cell Therapy in Lysosomal Storage Diseases

Stem Cell therapy for lysosomal diseases (LSDs) is developing rapidly. This volume discusses the history, current practice and future perspectives of stem cells in inborn errors of metabolism (IEM) and provides an international perspective on progress, limitations, and future directions (e.g. gene therapy, iPS, ES) in the field. Beginning with an overview of these diseases, the book covers the breadth of this topic from treatment options, bone marrow transplantation, and alternative treatment options, through long-term outcomes and future perspectives.

Features

Stem Cell therapy for lysosomal diseases (LSDs) is developing rapidly. This volume discusses the history, current practice and future perspectives of stem cells in inborn errors of metabolism (IEM) and provides an international perspective on progress, limitations, and future directions (e.g. gene therapy, iPS, ES) in the field. Beginning with an overview of these diseases, the book covers the breadth of this [...]

Contents

1. Lysosomal Diseases and Therapeutic Options: An Overview.- 2. Alternative Treatment Options: Enzyme Replacement and Small Molecule Therapies.- 3. Hematopoietic Cell Transplantation in Inborn Errors of Metabolism.- 4. Allogeneic Hematopoietic Stem Cell Transplantation in Lysosomal Storage Disorders: Long Term Neurodevelopmental and Somatic Outcome.- 5. Hematopoietic Stem Cell Gene Therapy for Lysosomal Storage Disorders: Expected Benefits and Limitations.- 6. Alternative Future Therapies for Lysosomal Storage Diseases: Embryonic Stem Cell- and Induced Pluripotent Stem Cell Therapy.- 7.[...]

Fields of interest

Stem Cells; Cell Biology; Human Genetics

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8356-4

Hardcover

2013. VII, 171 p. 6 illus., 3 illus. in color. (Stem Cell Biology and Regenerative Medicine)
ISBN 978-1-4614-8356-4

Due: October 31, 2013

K. Turksen, Ottawa Hospital Research Institute, Ottawa, Canada (Ed.)

Stem Cells: Current Challenges and New Directions

This volume looks at the state-of-the-science in stem cells, discusses the current challenges, and examines the new directions the field is taking. Dr. Turksen, editor-in-chief of the journal "Stem Cell Reviews and Reports," has assembled a volume of internationally-known scientists who cover topics that are both clinically and research-oriented. The contents range from sources of stem cells through their physiological role in health and disease, therapeutic applications in regenerative medicine, and ethics and society. An initial overview and a final summary bookend the contents into a cohesive and invaluable volume.

Features

This latest volume in Springer's Stem Cell Biology and Regenerative Medicine series looks at the state-of-the-science in stem cells, discusses the current challenges, and examines the new directions the field is taking. Dr. Turksen, Editor-in-Chief of the journal Stem Cell Reviews and Reports, has assembled a volume of internationally-known scientists who cover topics that are both research [...]

Contents

Myogenic Potential of Stem Cells: In Vivo Assessment.- Urine Derived Stem Cells: Biological Characterization and Potential Clinical Applications.- Immunoregulatory Properties of Mesenchymal Stem Cells: In Vitro and in Vivo.- Current Research on Stem Cells in Parkinson's Disease: Progress and Challenges.- Stem Cell Applications in Retinal Diseases.- Potential Use of Dental Stem Cells for Craniofacial Tissue Regeneration.- Pediatric Diseases and Stem Cells: Recent Advances and Challenges.- Stem Cell Therapy - From the Heart to the Periphery.- Stem Cells in Wound Healing.- Cancer Stem[...]

Fields of interest

Stem Cells; Cancer Research; Reproductive Medicine

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8065-5

Hardcover

2013. IX, 373 p. 23 illus., 21 illus. in color. (Stem Cell Biology and Regenerative Medicine, Vol. 33)
ISBN 978-1-4614-8065-5

**usually dispatched within 3 to 5 business days
October 31, 2013**

W.B. Campbell, Colegio de Postgraduados, Veracruz, Mexico; S. Lopez Ortiz, Colegio de Postgraduados, Veracruz, C.P., Mexico (Eds.)

Sustainable Food Production Includes Human and Environmental Health

Agroecology not only encompasses aspects of ecology, but the ecology of sustainable food production systems, and related societal and cultural values. To provide effective communication regarding status and advances in this field, connections must be established with many disciplines such as sociology, anthropology, environmental sciences, ethics, agriculture, economics, ecology, rural development, sustainability, policy and education, or integrations of these general themes so as to provide integrated points of view that will help lead to a sustainable construction of values. Such designs are inherently complex and dynamic, and go beyond the individual farm to include landscapes,[...]

Features

Issues In Agroecology approaches the complex panorama of interrelated topics that encompass agroecology by presenting internationally authoritative, comprehensive, and analytical reviews. Authors are invited and provide strong summaries and scholarly advances that serve as foundations for discussion leading to novel routes of research activity, application of management methodologies, and education [...]

Contents

Foreword.- Acknowledgements.- Biosketches of Editors and Contributing Authors.- Chapter 1: The Trading and Use of Agrochemicals.- The Rise of Agrochemicals and Their Benefits to Humanity.- 2. Problems Associated with Agrochemicals.- 3. Limiting Agrochemical Use - Integrated Pest Management.- Conclusions.- References.- Chapter 2: Critical Evaluation of Genetic Manipulation for Improved Productivity: Is This a Sustainable Agenda.- 1. Introduction: Agricultural Paradigms.- 2. Agriculture, Biotechnology and Biodiversity.- 3. Genetically Modified Crops, Biofuels and Sustainable Agriculture[...]

Fields of interest

Agriculture; Ecology; Environmental Management; Nature Conservation; Sustainable Development; Quality of Life Research

Target groups

Graduate

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7453-7

Hardcover

2014. XII, 235 p. 15 illus., 11 illus. in color. (Issues in Agroecology - Present Status and Future Prospectus, Vol. 3)
ISBN 978-94-007-7453-7

Due: November 30, 2013

R. Aroca (Ed.)

Symbiotic Endophytes

This Soil Biology volume examines our current understanding of the mechanisms involved in the beneficial effects transferred to plants by endophytes such as rhizobial, actinorhizal, arbuscular mycorrhizal symbionts and yeasts. Topics presented include how symbiosis starts on the molecular level; chemical signaling in mycorrhizal symbiosis; genomic and functional diversity of endophytes; nitrogen fixation; nutrient uptake and cycling; as well as plant protection against various stress conditions. Further, the use of beneficial microorganisms as biopesticides is discussed, particularly the application of Plant Growth Promoter Rhizobacteria (PGPR) in agriculture with the aim to increase yields.

Features

This Soil Biology volume examines our current understanding of the mechanisms involved in the beneficial effects transferred to plants by endophytes such as rhizobial, actinorhizal, arbuscular mycorrhizal symbionts and yeasts. Topics presented include how symbiosis starts on the molecular level; chemical signaling in mycorrhizal symbiosis; genomic and functional diversity of endophytes; nitrogen [...]

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[...]

Fields of interest

Agriculture; Plant Breeding / Biotechnology; Microbiology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-39316-7

Hardcover

2013. VIII, 348 p. 36 illus., 16 illus. in color. (Soil Biology, Vol. 37)

ISBN 978-3-642-39316-7

usually dispatched within 3 to 5 business days

H. Rai, Council for Scientific and, Lucknow, India; D.K. Upreti, Council for Scientific and, Lucknow, India (Eds.)

Terricolous Lichens in India

Volume 1: Diversity Patterns and Distribution Ecology

Terricolous lichens, a habitat specialist group of lichens play a vital role in maintenance and ecological stability of soil crusts with reference to their physical stability, hydrology and growth of soil microflora. Terricolous lichens in Indian lichenological studies haven't been taken up as a functional group. Terricolous Lichens in India, Volume 1: Diversity Patterns and Distribution Ecology is the first ever publication dealing with soil lichens of India. Divided into five chapters, this volume discusses the lichenological researches in India with reference to terricolous lichens, the altitudinal distribution patterns of terricolous lichens, comparative assessment of[...]

Features

Terricolous lichens, a habitat specialist group of lichens play a vital role in maintenance and ecological stability of soil crusts with reference to their physical stability, hydrology and growth of soil microflora. Terricolous lichens in Indian lichenological studies haven't been taken up as a functional group. Terricolous Lichens in India, Volume 1: Diversity Patterns and Distribution [...]

Contents

Lichenological studies in India with reference to terricolous lichens.- Distribution ecology of soil crust lichens in India: a comparative assessment with global patterns.- Terricolous lichens in Himalayas: patterns of species richness along elevation gradient.- Photobiont diversity in Indian Cladonia lichens, with special emphasis on the geographical patterns.

Fields of interest

Plant Sciences; Plant Biochemistry; Plant Anatomy / Development; Plant Physiology; Plant Genetics and Genomics

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-1-4614-8735-7

Hardcover

2013. I, 111 p. 15 illus., 8 illus. in color.

ISBN 978-1-4614-8735-7

Due: October 31, 2013

H. Rai, D.K. Upreti (Eds.)

Terricolous Lichens in India

Volume 2: Morphotaxonomic Studies

Terricolous lichens, a habitat specialist group of lichens play a vital role in maintenance and ecological stability of soil crusts with reference to their physical stability, hydrology and growth of soil microflora. Terricolous Lichens in India, Volume 2: Morphotaxonomic Studies is the first lichenological study of this functional group. Based upon extensive field collections and the investigation of approximately 4,500 specimens preserved in various national and international herbariums, Terricolous Lichens in India: Volume 2: Morphotaxonomic Studies focuses on the morphotaxonomy of terricolous lichens in India. Divided into two chapters, the first chapter describes the basics of[...]

Features

Terricolous lichens, a habitat specialist group of lichens play a vital role in maintenance and ecological stability of soil crusts with reference to their physical stability, hydrology and growth of soil microflora. Terricolous Lichens in India, Volume 2: Morphotaxonomic Studies is the first lichenological study of this functional group. Based upon extensive field collections and the investigation [...]

Contents

Terricolous Lichens of India: An introduction to Field Collection and Taxonomic Investigations.- Taxonomic Keys and Description.

Fields of interest

Plant Sciences; Plant Biochemistry; Plant Anatomy / Development; Plant Physiology; Plant Genetics and Genomics

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-3-319-02104-1

Hardcover

2013. I, 389 p. 58 illus. in color.

ISBN 978-3-319-02104-1

Due: October 31, 2013

B. Gardiner, INRA - Unité EPHYSE, Villenave d'Ornon, France; J. Barnett, P. Saranpää, Finnish Forest Res. Inst., Vantaa, Finland; J. Gril, Université Montpellier II, Montpellier CX 05, France (Eds.)

The Biology of Reaction Wood

The book is a fundamental reference source on reaction wood for wood scientists and technologists, plant biologists, silviculturists, forest ecologists, and anyone involved in the growing of trees and the processing of wood. It brings together our current understanding of all aspects of reaction wood, and is the first book to discuss both compression wood and tension wood. Trees produce reaction wood to maintain the vertical orientation of their stems and the optimum angle of each branch. They achieve this by laying down fibre cell walls in which differences in physical and chemical structure from those of normal fibres are expressed as differential stresses across the stem or branch. [...]

Features

The book is a fundamental reference source on reaction wood for wood scientists and technologists, plant biologists, silviculturists, forest ecologists, and anyone involved in the growing of trees and the processing of wood. It brings together our current understanding of all aspects of reaction wood, and is the first book to discuss both compression wood and tension wood. Trees produce [...]

Fields of interest

Wood Science & Technology; Forestry; Plant Physiology; Plant Anatomy / Development; Tree Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-10813-6

Hardcover

2014. X, 10 p. (Springer Series in Wood Science)
ISBN 978-3-642-10813-6

Due: January 20, 2014

S. Cook, University of Victoria, Victoria, Canada

The Forest of the Lacandon Maya

An Ethnobotanical Guide

The Forest of the Lacandon Maya: An Ethnobotanical Guide, with accompanying DVD, serves as a comprehensive guide to the botanical heritage of the northern Lacandon. Numbering fewer than 300 men, women, and children, this community is the most culturally conservative of the Mayan groups. Protected by their hostile environment, over many centuries they maintained autonomy from the outside forces of church and state, while they continued to draw on the forest for spiritual inspiration and sustenance. In The Forest of the Lacandon Maya: An Ethnobotanical Guide, linguist Suzanne Cook presents a bilingual Lacandon-English ethnobotanical guide to more than 450 plants in a tripartite [...]

Features

The Forest of the Lacandon Maya: An Ethnobotanical Guide, with accompanying DVD, serves as a comprehensive guide to the botanical heritage of the northern Lacandon. Numbering fewer than 300 men, women, and children, this community is the most culturally conservative of the Mayan groups. Protected by their hostile environment, over many centuries they maintained autonomy from the outside [...]

Contents

Introduction.- Language.- The Lacandon Rainforest.- The Role of Plants in Traditional Lacandon Culture.- Botanical Inventory.- Ethnographic Inventory.

Fields of interest

Plant Sciences; Plant Biochemistry; Plant Anatomy / Development; Plant Physiology; Plant Genetics and Genomics

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-1-4614-9110-1

Hardcover

2014. XII, 388 p. 368 illus., 328 illus. in color.
ISBN 978-1-4614-9110-1

Due: December 28, 2013

M. M., Indian Institute Horticultural Research, Bangalore, India; S. C., Indian Institute Horticultural Research, Hessaraghatta, India; N.K. S., Ind. Grassland and Fodder Research Inst., Dharwad, India

The Grape Entomology

Intensive and extensive cultivation of grapes (*Vitis vinifera* L.) leads to serious pest problem in vineyards in major grape growing areas of the world. Climatic conditions in India are favorable for high production of table and wine grapes, and thus also for incidence of variety of pests. These include the sucking insect pests namely thrips, hoppers, mealybugs etc., and beetle pests like stem borer, stem girdler, flea beetles, chafer beetles, shot hole borer and several lepidopteron, mites, nematodes and vertebrate pests. Pests of grapes in other countries relevant to Indian conditions are also dealt herewith since they may get introduced in India in future. Up to date information on [...]

Features

Intensive and extensive cultivation of grapes (*Vitis vinifera* L.) leads to serious pest problem in vineyards in major grape growing areas of the world. Climatic conditions in India are favorable for high production of table and wine grapes, and thus also for incidence of variety of pests. These include the sucking insect pests namely thrips, hoppers, mealybugs etc., and beetle pests like stem borer, stem [...]

Contents

1. Introduction.- 2. Grape cultivation.- 3. Pests.- 4. Pesticides used in grape pest management.- 5. Biopesticides and biocontrol agents used in vineyards.- 6. Pesticide residue management in grapes.- 7. Annexure.- 8 General precautions.- 6. Index.

Fields of interest

Agriculture; Entomology; Plant Ecology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-81-322-1616-2

Hardcover

2013. X, 211 p. 115 illus., 113 illus. in color.
ISBN 978-81-322-1616-2

Due: October 31, 2013

G. Gordh, USDA-APHIS, Raleigh, USA; S. McKirdy (Eds.)

The Handbook of Plant Biosecurity

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

The Handbook identifies all aspects of Regulatory Plant Biosecurity and discusses them from the standpoint of preventing the international movement of plant pests, diseases and weeds that negatively impact production agriculture, natural plant-resources and agricultural commerce.

Features

The Handbook is arranged in 23 chapters written by 85 world experts who systematically explain the substance of Plant Protection (Biosecurity). The Handbook is the first comprehensive treatment of regulations, policies and procedures used to protect domestic agriculture and natural resources from attack by invasive alien species via international trade and travel. Case studies explain complex regulatory [...]

Contents

Preface.- 1. An introduction to plant biosecurity: Past, present and future.- 2. The International Regulatory Framework.- 3. Domestic regulatory framework and invasive alien species in China.- 4. The Importance of Core Biological Disciplines in Plant Biosecurity.- 5. The Biosecurity Continuum and Trade: Pre-Border Operations.- 6. The Biosecurity Continuum and Trade: Border Operations.- 7. The Biosecurity Continuum and Trade: Tools for Post-Border Biosecurity.- 8. Agricultural Biosecurity Communications and Outreach.- 9. The Role of Pest Risk Analysis in Plant Biosecurity.- 10.[...]

Fields of interest

Entomology; Agriculture; Plant Pathology; Plant Sciences; Ecology; Fish & Wildlife Biology & Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7364-6

Hardcover

2014. XV, 760 p. 154 illus., 127 illus. in color. ISBN 978-94-007-7364-6

Due: November 30, 2013

A.A. Guglielme, Estación Experimental Agropecuaria Rafaela, Rafaela, Santa Fe, Argentina; R.G. Robbins, Armed Forces Pest Management Board, Silver Spring, USA; D.A. Apanaskevich, U.S. National Tick Collection, Statesboro, USA; T.N. Petney, Karlsruhe Institute of Technology, Karlsruhe, Baden-Württemberg, Germany; A. Estrada-Peña, University of Zaragoza, Zaragoza, Spain; I.G. Horak, University of Pretoria, Onderstepoort, Gauteng Province, South Africa

The Hard Ticks of the World

(Acari: Ixodida: Ixodidae)

This book has been designed to summarize current, essential information for every one of the world's 700+ hard tick species. Under each species name, we will cite the original description, followed by information on type depositories, known stages, distribution (by zoogeographic region and ecoregion), hosts, and human infestation (if any). Each species account will also include a list of salient references and, where necessary, remarks on systematic status. We envision eight chapters: six devoted to the major ixodid tick genera (Amblyomma, Dermacentor, Haemaphysalis, Hyalomma, Ixodes, Rhipicephalus), one covering eight minor genera (including two that are fossil), and a concluding [...]

Features

Hard ticks (family Ixodidae) are obligately blood-feeding ectoparasites of all classes of vertebrates except fishes. They occur worldwide and are preeminent among hematophagous arthropods for the variety of infectious agents that they transmit to humans and other animals. Because hard ticks have long been a focus of medical and veterinary research, the literature on this group is both voluminous and [...]

Contents

Introduction.- Part I – The Genus Ixodes.- Part II – THE GENUS Haemaphysalis.- Part III – THE GENUS Amblyomma.- Part IV – THE GENUS Rhipicephalus.- Part V – THE GENUS Dermacentor.- Part VI – THE GENUS Hyalomma.- Part VII – The Genera Anomalohimalaya, Bothriocroton, Cosmiomma, Compluriscutula, Cornupalpatum, Margaropus, Nosomma and Rhipicentor.- Part VIII – SYNOPSIS.- Ticks feeding on humans.- Distribution.- Hosts.- Species with broad distributions.- Type Depository Acronyms.

Fields of interest

Entomology; Invertebrates; Animal Systematics / Taxonomy / Biogeography; Parasitology; Animal Ecology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7496-4

Hardcover

2014. X, 716 p. 1 illus. in color. ISBN 978-94-007-7496-4

Due: October 31, 2013

M.J. Beilby, The University of New South Wales, Sydney, Australia; M.T. Casanova

The Physiology of Characean Cells

This book describes the unique characean experimental system, which provides a simplified model for many aspects of the physiology, transport and electrophysiology of higher plants. The first chapter offers a thorough grounding in the morphology, taxonomy and ecology of Characeae plants. Research on characean detached cells in steady state is summarised in Chapter 2, and Chapter 3 covers characean detached cells subjected to calibrated and mostly abiotic types of stress: touch, wounding, voltage clamp to depolarised and hyperpolarised potential difference levels, osmotic and saline stress. Chapter 4 highlights cytoplasmic streaming, cell-to-cell transport, gravitropism, cell walls and [...]

Features

This book describes the unique characean experimental system, which provides a simplified model for many aspects of the physiology, transport and electrophysiology of higher plants. The first chapter offers a thorough grounding in the morphology, taxonomy and ecology of Characeae plants. Research on characean detached cells in steady state is summarised in Chapter 2, and Chapter 3 covers characean detached [...]

Contents

The Charophyte Plant.- Detached Cells in Steady-State – Electrophysiology and Transport.- Electrophysiology of the Detached Cell Under Stress.- The Whole Plant and Cell-to-Cell Transport.

Fields of interest

Plant Physiology; Cell Biology; Biological Techniques; Biophysics and Biological Physics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-40287-6

Hardcover

2013. XIX, 193 p. 80 illus., 8 illus. in color. ISBN 978-3-642-40287-6

Due: October 31, 2013

A. Atangana, University of Alberta, Edmonton, Canada; D. Khasa, Université Laval, Quebec, Canada; S. Chang, University of Alberta, Edmonton, Canada; A. Degrande, World Agroforestry Centre, Yaounde, Cameroon

Tropical Agroforestry

Agroforestry is recognized as a sustainable land-use management in the tropics, as it provides environmental-friendly ecosystems; it also provides people with their every day need for food and cash. Since the recognition of agroforestry as a science, curricula have been developed for agroforestry programs for undergraduate and graduate trainings in Universities. Therefore, there is an urgent need to develop and make available educational material. This textbook strives to provide up-to-date information on tropical agroforestry to serve as educational material in the tropical context. The authoritative textbook of Nair (1993) on agroforestry was published 18 years ago, and before the[...]

Features

Agroforestry is recognized as a sustainable land-use management in the tropics, as it provides environmental-friendly ecosystems; it also provides people with their every day need for food and cash. Since the recognition of agroforestry as a science, curricula have been developed for agroforestry programs for undergraduate and graduate trainings in Universities. Therefore, there is an urgent need to develop [...]

Contents

Preface.- Acknowledgements.- Table of Contents.- List of Figures.- List of Tables.- Part I: Tropical Biomes, Land Use Issues and Introduction to Agroforestry Systems.- 1. Tropical biomes: classification and description.- 2. Major Land Use Issues in the Tropics, and the History of Agroforestry.- 3. Definitions and Classification of Agroforestry Systems.- 4. Major Agroforestry Systems of the Humid Tropics.- 5. Major Agroforestry Systems of the Semiarid Tropics.- 6. Participatory Domestication of New Crops using Agroforestry Techniques.- Part II: The Benefits and Services of Agroforestry[...]

Fields of interest

Forestry; Agriculture

Target groups

Upper undergraduate

Type of publication

Monograph

More on www.springer.com/978-94-007-7722-4

Hardcover

2014. I, 467 p. 107 illus., 27 illus. in color.

ISBN 978-94-007-7722-4

Due: November 30, 2013

M.A. Hayat, Kean University, Union, USA (Ed.)

Tumor Dormancy, Quiescence, and Senescence, Volume 2

Aging, Cancer, and Noncancer Pathologies

In this second volume in the series exploring Tumor Dormancy, Quiescence, and Cellular Senescence, discussion is focused on the role of tumor dormancy in diseases such as breast cancer, melanoma, prostate cancer, liver cancer and lung cancer. M. A. Hayat, the series editor, writes in the preface that little is known of factors regulating the transition of residual cancer into a dormant state or the subsequent reinitiation of growth. A majority of us, he says, have in situ tumors that may remain dormant or may progress into a lethal form of cancer; the former are prevented from recruiting their own blood supply. Section I covers Molecular Mechanisms, with chapters on the role of NAE[...]

Features

In this second volume in the series exploring Tumor Dormancy, Quiescence, and Cellular Senescence, discussion is focused on the role of tumor dormancy in diseases such as breast cancer, melanoma, prostate cancer, liver cancer and lung cancer. M. A. Hayat, the series editor, writes in the preface that little is known of factors regulating the transition of residual cancer into a dormant state or the [...]

Contents

Preface. I Molecular Mechanisms.- Asymmetric Dimethylarginine Accelerates Cellular Senescence.- Membrane-Derived Extracellular Vesicles from Endothelial Progenitor Cells Activate Angiogenesis.- Induction of P21-Dependent Senescence: Role of NAE Inhibitor MLN4924.- Regulation of the Novel Senescence Pathway by SKP2 E3 Ligase.- Oncogene-Induced Senescence: Role of Mitochondrial Dysfunction.- Interleukin- 6 induces Premature Senescence Involving Signal Transducer and Activator of Transcription 3 and Insulin-Like Growth Factor-Binding Protein 5.- A Role for the Nuclear Lamina Shape in Cell[...]

Fields of interest

Life Sciences (general); Biomedicine (general); Medicine (general)

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7725-5

Hardcover

2014. XX, 346 p. 49 illus., 32 illus. in color. (Tumor Dormancy and Cellular Quiescence and Senescence, Vol. 2)

ISBN 978-94-007-7725-5

Due: November 30, 2013

R.K. Horst, Cornell University, Ithaca, USA

Westcott's Plant Disease Handbook

Westcott's Plant Disease is a reference book on diseases which attack plants. Diseases of plants are found on most all plants including trees, shrubs, grasses, forage, fruits, vegetables, garden and greenhouse plants as well as native wild flowers and even weeds. Plant Disease Handbook identifies various types of diseases which are known to invade these plants located throughout North and South America. The recordings include diseases caused by fungi, bacteria, viruses, viroids and nematodes. Causal disease agents are described and illustrated in many cases and diseases and disease control measures are also discussed. A book such as this is never finished since new reports of diseases[...]

Features

Westcott's Plant Disease is a reference book on diseases which attack plants. Diseases of plants are found on most all plants including trees, shrubs, grasses, forage, fruits, vegetables, garden and greenhouse plants as well as native wild flowers and even weeds. The Plant Disease Handbook identifies various types of diseases which are known to invade these plants located throughout North and South America. [...]

Contents

Fraser Fir (Abis).- Root Rot (Phytophthora capsici).- Norway Maple (Acer platanoides).- Powdery Mildew (Sawadaii tulasnei).- Silver Maple (Acer saccharinum).- Bleeding Canker (Phytophthora cactorum and P. citricola).- White Snake-root (Ageratina altissima).- Chlorotic Spots and Mosaic (Ag CSV) (Umbravirus).- Creeping Bentgrass (Agrostis stolonifera).- Foliar Blight (Colletotrichum cereale).- Onion (Allium cepa).- Iris Yellow Spot Virus (Family Bunyaviridae, Genus Tospovirus).- Onion (Allium cepa).- Twister Disease (Colletotrichum gloeosporium).- Alder (Alnus tenuifolia).- Alder Dieback[...]

Fields of interest

Plant Pathology; Agriculture; Life Sciences (general); Science; Virology; Biological Microscopy

Target groups

Research

Type of publication

Handbook

More on www.springer.com/978-94-007-2140-1

Hardcover

2013. XXII, 826 p. 90 illus., 16 illus. in color.

ISBN 978-94-007-2140-1

usually dispatched within 3 to 5 business days

2013. XXII, 826 p. 90 illus., 16 illus. in color. eReference.

ISBN 978-94-007-2141-8

Online orders shipping within 2-3 days.

Hardcover

2013. XXII, 826 p. 90 illus., 16 illus. in color. Print + eReference.

ISBN 978-94-007-2142-5

Online orders shipping within 2-3 days.

J.A. Yeakley, Portland State University, Portland, USA; K. Maas-Hebner, Oregon State University, Corvallis, USA; R.M. Hughes (Eds.)

Wild Salmonids in the Urbanizing Pacific Northwest

Wild salmon, trout, char, grayling, and whitefish (collectively salmonids) have been a significant local food and cultural resource for Pacific Northwest peoples for millennia. The location, size, and distribution of urban areas along streams, rivers, estuaries, and coasts directly and indirectly alter and degrade wild salmonid populations and their habitats. Although urban and exurban areas typically cover a smaller fraction of the landscape than other land uses combined, they have profound consequences for local ecosystems, aquatic and terrestrial populations, and water quality and quantity.

Features

Wild salmon, trout, char, grayling, and whitefish (collectively salmonids) have been a significant local food and cultural resource for Pacific Northwest peoples for millennia. The location, size, and distribution of urban areas along streams, rivers, estuaries, and coasts have directly and indirectly altered and degraded wild salmonid populations and their habitats. Although urban and exurban areas [...]

Contents

Chapter 1. Introduction to Wild Salmonids in the Urbanizing Pacific Northwest (Yeakley).- Chapter 2. Global and Regional Context of Salmonids and Urban Areas (Yeakley, Hughes).- Chapter 3. Regulatory and Planning Approaches to Protecting Salmonids in Urbanizing Environments (Molina).- Chapter 4. Socio-Ecological Context of Salmonids in the City (Shandas).- Chapter 5. Urban Hydrology in the Pacific Northwest (Yeakley).- Chapter 6. Urbanization Impacts on Pacific Northwest Aquatic and Riparian Habitats (Maas-Hebner, Dunham).- Chapter 7. Fish Passage through Urban and Rural-Residential[...]

Fields of interest

Fish & Wildlife Biology & Management; Freshwater & Marine Ecology; Conservation Biology / Ecology; Urban Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-8817-0

Hardcover

2014. VIII, 286 p. 55 illus., 46 illus. in color.

ISBN 978-1-4614-8817-0

Due: November 30, 2013

