

Frontlist 2014 Quarter 1

Lifesciences



Earth Sciences

M. Bostenaru Dan, Ion Mincu University, Bucharest, Romania; I. Armas, University of Bucharest, Bucharest, Romania; A. Goretti, Seismic and Volcanic Risk Office, Rome, Italy (Eds.)

Earthquake Hazard Impact and Urban Planning

The classical field dealing with earthquakes is called "earthquake engineering" and considered to be a branch of structural engineering. In projects dealing with strategies for earthquake risk mitigation, urban planning approaches are often neglected. Today interventions are needed on a city, rather than a building, scale. This work deals with the impact of earthquakes, including also a broader view on multihazards in urban areas. Uniquely among other works in the field, particular importance is given to urban planning issues, in conservation of heritage and emergency management. Multicriteria decision making and broad participation of those affected by disasters are included.

Features

The classical field dealing with earthquakes is called "earthquake engineering" and considered to be a branch of structural engineering. In projects dealing with strategies for earthquake risk mitigation, urban planning approaches are often neglected. Today interventions are needed on a city, rather than a building, scale. This work deals with the impact of earthquakes, including also a broader view on [...]

Contents

Part I: Urban hazard, exposure and vulnerability.- Part II: Earthquake risk assessment.- Part III: Risk management.- Part IV Impact and Decision making tools.

Fields of interest

Natural Hazards; Environmental Management; Landscape, Regional and Urban Planning

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7980-8

Hardcover

2014. I, 199 p. 155 illus., 100 illus. in color. (Environmental Hazards)

ISBN 978-94-007-7980-8

Due: January 31, 2014

S. Buhl, Meteorite Recon, Hamburg, Germany; D. McColl

Henbury Craters and Meteorites

Their Discovery, History and Study

In 1931, the cluster of craters at Henbury Cattle Station south of Alice Springs in Central Australia was one of the first places on Earth where a group of impact structures could definitely be linked to the fall of iron meteorites. It was also the first place where radial rays and loops of ejected rock material, comparable to those seen around craters on the Moon, were observed. As such it was one of the primary observation sites associated with the science of meteoritics in its infancy. In this work the authors present previously unpublished documents covering early research at the Henbury site, provide an extended data set on the distribution of meteoritic material at Henbury[...]

Features

In 1931, the cluster of craters at Henbury Cattle Station south of Alice Springs in Central Australia was one of the first places on Earth where a group of impact structures could definitely be linked to the fall of iron meteorites. It was also the first place where radial rays and loops of ejected rock material, comparable to those seen around craters on the Moon, were observed. As such it was one of the [...]

Contents

Early Pioneers.- Alderman's Survey.- Iron Harvest.- "Meteorite in a Crater".- Bedford's Morphological Studies.- Geography & Topography.- Henbury Metallurgy.- McColl's Distribution Map.- Atmospheric Breakup.- Fragmentation on Impact.- Henbury Impactites.- Other Holocene Impacts.- Kamil Crater.- Whitecourt Crater.- Henbury: Re-Evaluation Of Evidence.- Henbury in the Aboriginal Tradition And Culture.- Dating of the Impact and Total Known Weight.- The Present Crater Reserve.

Fields of interest

Geology; Historical Geology; Extraterrestrial Physics, Space Sciences; Popular Science in Astronomy

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03954-1

Softcover

2014. 168 p. 125 illus., 87 illus. in color. (GeoGuide)
ISBN 978-3-319-03954-1

Due: February 28, 2014

N. Diodato, Met European Research Observatory, Benevento, Italy; G. Bellocchi (Eds.)

Storminess and Environmental Change

Climate Forcing and Responses in the Mediterranean Region

This book describes recent developments in the modeling of hydro-climatological processes in time and space. The topic brings together a wide range of disciplines, such as climatology, hydrology, geomorphology and ecology, with examples of problems and related modeling approaches. Parsimonious hydro-climatological models hold the potential to simulate the combined effects of rainfall intensity and distribution patterns in the absence of precipitation records for short time intervals (e.g. daily to sub-hourly) and over large areas (e.g. regional to continental). In this book, we show how the principle of parsimony can be followed without sacrificing depth in seeking to understand a[...]

Features

This book describes recent developments in the modeling of hydro-climatological processes in time and space. The topic brings together a wide range of disciplines, such as climatology, hydrology, geomorphology and ecology, with examples of problems and related modeling approaches. Parsimonious hydro-climatological models hold the potential to simulate the combined effects of rainfall intensity and [...]

Contents

Introduction.- Extreme rainfalls in the Mediterranean area.- Rainfalls and storm erosivity.- Finding simplicity in storm erosivity modelling.- Characteristics of flash-flood regimes in the Mediterranean region.- Spatial pattern probabilities exceeding critical threshold of annual mean storm-erosivity in Euro-Mediterranean areas.- Landscape scales of erosive storm hazard across the Mediterranean region.- Monthly erosive storm hazard within river basins of the Campania Region, Southern Italy.- Storm-erosivity modelling for addressing hydrological effectiveness in France.- Modelling[...]

Fields of interest

Natural Hazards; Meteorology; Earth System Sciences; Simulation and Modeling; Geographical Information Systems / Cartography

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7947-1

Hardcover

2014. XIV, 389 p. 118 illus., 75 illus. in color. (Advances in Natural and Technological Hazards Research, Vol. 39)
ISBN 978-94-007-7947-1

Due: January 31, 2014

P. Gattinoni, Politecnico di Milano, Milano, Italy; E. Pizzarotti, Pro Iter S.r.l., Milan, Italy; L. Scesi, Politecnico di Milano, Milan, Italy

Engineering Geology for Underground Works

The construction of tunnels involves the resolution of various complex technical problems depending on the geological and geological-environmental context in which the work fits. Only a careful analysis of all the geological and geological-environmental issues and a correct reconstruction of the conceptual model can lead to optimal design solutions from all points of view (including financial) and ensure the safety of workers during the construction and users in the operation phase. It was therefore felt that there was a need to collect in one volume the state of current knowledge about all the geological and environmental issues related to the construction of underground works the [...]

Features

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Contents

Introduction.- Geological and geomechanical problems in underground works design and construction.- Environmental-geological problems due to underground works.- Geological conceptual models for underground works design.- Underground excavation analysis.- Groundwater influence.- Geological risk management.- Risk mitigation and control.- Ground-structure interaction.- Monitoring.

Fields of interest

Environmental Science and Engineering; Natural Hazards; Geoengineering, Foundations, Hydraulics; Quality Control, Reliability, Safety and Risk

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-94-007-7849-8

Hardcover

2014. I, 207 p. 488 illus., 170 illus. in color.
ISBN 978-94-007-7849-8

Due: February 5, 2014

B.C. Glavovic, Massey University, Palmerston North, New Zealand; G.P. Smith, University of North Carolina at Chapel Hill, Chapel Hill, USA (Eds.)

Adapting to Climate Change

Lessons from Natural Hazards Planning

This book identifies lessons learned from natural hazard experiences to help communities plan for and adapt to climate change. Written by leading experts, the case studies examine diverse experiences, from severe storms to sea-level related hazards, droughts, heat waves, wildfires, floods, earthquakes and tsunamis, in North America, Europe, Australasia, Asia, Africa and Small Island Developing States. The lessons are grouped according to four imperatives: (i) Develop collaborative governance networks; (ii) build adaptive capabilities; (iii) invest in pre-event planning; and (iv) the moral imperative to undertake adaptive actions that advance resilience and sustainability."A[...]

Features

This book identifies lessons learned from natural hazard experiences to help communities plan for and adapt to climate change. Written by leading experts, the case studies examine diverse experiences, from severe storms to sea-level related hazards, droughts, heat waves, wildfires, floods, earthquakes and tsunamis, in North America, Europe, Australasia, Asia, Africa and Small Island Developing States. The [...]

Contents

Section 1: Climate change adaptation: Theory and practice.- Section 2: The nature of disasters and the role natural hazards planning in building resilient communities.- Section 3: Lessons from disaster experience.

Fields of interest

Natural Hazards; Climate Change Impacts; Climate Change Management and Policy

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8630-0

Hardcover

2014. X, 340 p. 61 illus., 55 illus. in color. (Environmental Hazards)
ISBN 978-94-017-8630-0

Due: February 28, 2014

V. Gorokhovski

Effective Parameters of Hydrogeological Models

Geological models used in predictive hydrogeological modeling are not exact replicas of the objects they represent: many details related to structures and properties of the objects remain unknown. Those details may considerably affect simulation results. A provable evaluation of the uncertainty of hydrogeological and solute transport simulations are almost impossible. In this book the author describes how to obtain the best-possible results in simulations, based on the available data and predefined criteria that are turned into transforming mechanisms. The latter are mathematical expressions for evaluating model parameters supporting effective simulations. Examples of the mechanisms[...]

Features

Geological models used in predictive hydrogeological modeling are not exact replicas of the objects they represent: many details related to structures and properties of the objects remain unknown. Those details may considerably affect simulation results. A provable evaluation of the uncertainty of hydrogeological and solute transport simulations are almost impossible. In this book, the author describes how to [...]

Contents

From the Contents: Introduction.- Engineering Approach.- Geostatistical Approach.- Model Identification.- Transformation of Geological Objects' Properties into Effective Model Parameters.- Examples of Liner Transforming Mechanisms.- Examples of Non-Linear Transforming Mechanisms.- Evaluation of Transforming Mechanisms.- Inverse Problems and Transforming Mechanisms.- Convection Solute Transport through Porous Media.

Fields of interest

Hydrogeology; Hydrology / Water Resources; Engineering Design; Geotechnical Engineering & Applied Earth Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03568-0

Hardcover

2014. XXI, 182 p. 68 illus., 35 illus. in color. (Springer Hydrogeology)
ISBN 978-3-319-03568-0

Due: December 31, 2013

J. Guex, Université de Lausanne, Lausanne, Switzerland

Quantitative Biochronology

A Graph Theoretical Approach

Fields of interest

Geology; Paleontology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-10337-7

Hardcover

2015. Approx. 200 p. 200 illus. in color. With online files/update. (Lecture Notes in Earth Sciences, Vol. 130)
ISBN 978-3-642-10337-7

Due: December 29, 2014

R. Hekinian

Sea Floor Exploration

Scientific Adventures Diving into the Abyss

The author participated 38 expeditions including the first manned-submersible project to explore the Mid-Atlantic Ridge. This book provides a comprehensive overview of the past 45 years of sea floor exploration. It summarizes the mineralogical and petrological composition of sea floor rocks, ocean floor volcanism in relation with the geological setting as well as the discovery of hydrothermal activity and related to metalliferous deposits. Topics covered include the creation of the sea floor, its fracture zones and the structural setting of subduction zones.

Features

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Contents

Introduction.- The birth of planet Earth.- Man's penetration into the abysses.- Sea floor rocks.- Earth's mantle melting and volcanism.- Hydrothermal activity and metalliferous deposits.- Oceanic ridges: Sea floor creation.- Fracture zones.- Voyage to Antarctica region.- Hotspots.- Subduction zones.

Fields of interest

Oceanography; Geology

Target groups

Popular/general

Type of publication

Monograph

More on www.springer.com/978-3-319-03202-3

Hardcover

2014. XV, 370 p. 115 illus. (Springer Oceanography)
ISBN 978-3-319-03202-3

Due: January 31, 2014

L. Hottinger, D. Bassi, University of Ferrara, Ferrara, Italy (Ed.)

Paleogene larger rotaliid foraminifera from the western and central Neotethys

This book provides a representative assessment of the state of the art of research on Paleogene rotaliid larger foraminifera. It gives an overview of the current understanding of systematics of this group and, in particular, of its biostratigraphic importance and palaeobiogeography. The senior author of the work, late Prof Hottinger, a leading scientist in the field, both from a systematic and applied side, presents in this book his most recent advances. The foraminiferal family Rotaliidae is a traditional group used frequently which plays an important role for petroleum exploration in the biostratigraphy and palaeobiogeography of Paleogene shallow water deposits in the Middle East.[...]

Features

This book provides a representative assessment of the state of the art of research on Paleogene rotaliid larger foraminifera. It gives an overview of the current understanding of systematics of this group and, in particular, of its biostratigraphic importance and palaeobiogeography. The senior author of the work, late Prof Hottinger, a leading scientist in the field, both from a systematic and applied side, [...]

Contents

Introduction.- Rotaliid shell architecture and the palaeodiversity of the Lockhartia Sea.- The system of the Rotaliidae, an overview.- Subfamily Rotaliinae Ehrenberg, 1839.- New subfamily Redmondiniinae.- New subfamily Lockhartiinae.- New subfamily Kathiniinae.- New subfamily Daviesiniinae.- Some taxa that are or remain excluded from the family Rotaliidae.- Rotaliid taxa with uncertain affinities.

Fields of interest

Paleontology; Biogeosciences; Economic Geology; Fossil Fuels (incl. Carbon Capture)

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-02852-1

Hardcover

2014. 200 p. 123 illus.
ISBN 978-3-319-02852-1

Due: April 11, 2014

A. Hunt, R. Ewing, Iowa State University, Ames, USA; B. Ghanbarian, Wright State University, Dayton, USA

Percolation Theory for Flow in Porous Media

This monograph presents, for the first time, a unified and comprehensive introduction to some of the basic transport properties of porous media, such as electrical and hydraulic conductivity, air permeability and diffusion. The approach is based on critical path analysis and the scaling of transport properties, which are individually described as functions of saturation. At the same time, the book supplies a tutorial on percolation theory for hydrologists, providing them with the tools for solving actual problems. In turn, a separate chapter serves to introduce physicists to some of the language and complications of groundwater hydrology necessary for successful modeling. The[...]

Features

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Contents

Percolation Theory: Topology and Structure.- Properties Relevant for Transport and Transport Applications.- Porous Media Primer for Physicists.- Fractal Models of Porous Media.- Specific Examples of Critical Path Analysis.- Hydraulic and Electrical Conductivity: Conductivity Exponents and Critical Path Analysis.- Other Transport Properties of Porous Media.- Pressure Saturation Curves and the Critical Volume Fraction for Percolation: Accessibility Function of Percolation Theory.- Applications of the Correlation Length: Scale Effects on Flow.- Applications of the Cluster Statistics.- [...]

Fields of interest

Hydrogeology; Statistical Physics, Dynamical Systems and Complexity; Geoenvironment, Foundations, Hydraulics; Numerical and Computational Physics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03770-7

Softcover

2014. XX, 400 p. 188 illus., 15 illus. in color. (Lecture Notes in Physics, Vol. 880)
ISBN 978-3-319-03770-7

Due: February 28, 2014

N. Kaneko, Yokohama National University, Yokohama, Japan; S. Yoshiura, Yokohama National University, Yokohama, Japan; M. Kobayashi, Yokohama National University, Yokohama, Japan (Eds.)

Sustainable Living with Environmental Risks

We are not free from environmental risks that accompany the development of human societies. Modern economic development has accelerated environmental pollution, caused loss of natural habitats, and modified landscapes. These environmental changes have impacted natural systems: water and heat circulation, nutrient cycling, and biodiversity. These changes in natural systems degrade ecosystem services and subsequently increase environmental risks for humans. Environmental risks, therefore, are not only human health risks by pollution, climatic anomalies, and natural disasters, but also degradation of ecosystem services on which most people are relying for their lives. We cannot entirely[...]

Features

We are not free from environmental risks that accompany the development of human societies. Modern economic development has accelerated environmental pollution, caused loss of natural habitats, and modified landscapes. These environmental changes have impacted natural systems: water and heat circulation, nutrient cycling, and biodiversity. These changes in natural systems degrade ecosystem services and [...]

Contents

Managing Environmental Risks and Promoting Sustainability: Science Advancement and Leadership Development.- Biodiversity Agriculture Supports Human Populations.- Conservation and Sustainable Management of Soil Biodiversity for Agricultural Productivity.- Conservation Tillage Assessment For Mitigating Greenhouse Gas Emission In Rain-fed Agro-Ecosystem.- Improving Biodiversity in Rice Paddy Fields to Promote Land Sustainability.- Agroforestry Models for Promoting Effective Risk Management and Building Sustainable Communities.- Managing Environmental Risks and Promoting Sustainability:[...]

Fields of interest

Earth System Sciences; Environmental Management; Sustainable Development

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-4-431-54803-4

Softcover

2014. 300 p. 90 illus., 70 illus. in color.
ISBN 978-4-431-54803-4

Due: March 19, 2014

A.K. Khudoley, St. Petersburg State University, St. Petersburg, Russian Federation; A.M. Nikishin, Moscow State University, Moskva, Russian Federation

Geology of Russia

The Geology of Russia and Adjacent Areas overviews and synthesizes a wealth of recent isotopic, geochemical, seismic, paleomagnetic, stratigraphic, structural and other studies carried out by Russian and international research teams over the past few decades. Numerous illustrations and tables provide easy access to a huge amount of new geochemical and geophysical data as well as the latest geological mapping of Russia. The volume will provide researchers and graduated students with broad, up-to-date information on geology, mineral deposit and hydrocarbon potential, and the tectonic evolution of northern Eurasia.

Features

The Geology of Russia and Adjacent Areas overviews and synthesizes a wealth of recent isotopic, geochemical, seismic, paleomagnetic, stratigraphic, structural and other studies carried out by Russian and international research teams over the past few decades. Numerous illustrations and tables provide easy access to a huge amount of new geochemical and geophysical data as well as the latest geological [...]

Contents

Tectonic overview.- East European Craton (Russian part).- Timan-Pechora sedimentary basin and Timan fold and thrust belt.- Western Siberia sedimentary basin.- Scythian sedimentary basin.- Sub-Caspian sedimentary basin.- Caucasus fold and thrust belt.- Uralin fold and thrust belt.- Fold and thrust belts of Altai and Tien-Shan.- Siberian Craton.- Verkhoyansk and Alazeya fold and thrust belts.- Taimyr-Severnaya Zemlya fold and thrust belt.- Yenisey fold and thrust belt.- Fold and thrust belts of Central Asia.- Fold and thrust belts of the Pacific rim.- Overview of metallogeny of [...]

Fields of interest

Geology; Geoecology / Natural Processes; Physical Geography; Economic Geology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-05102-9

Hardcover

2014. 410 p. 90 illus., 60 illus. in color. (Regional Geology Reviews)
ISBN 978-3-642-05102-9

Due: January 29, 2014

P. LISS, M.T. Johnson, University of East Anglia, Norwich, United Kingdom (Eds.)

Ocean-Atmosphere Interactions of Gases and Particles

The oceans and atmosphere interact through various processes, including the transfer of momentum, heat, gases and particles. In this book leading international experts come together to provide a state-of-the-art account of these exchanges and their role in the Earth-system, with particular focus on gases and particles. Chapters in the book cover: i) the ocean-atmosphere exchange of short-lived trace gases; ii) mechanisms and models of interfacial exchange (including transfer velocity parameterisations); iii) ocean-atmosphere exchange of the greenhouse gases carbon dioxide, methane and nitrous oxide; iv) ocean atmosphere exchange of particles and v) current and future data collection[...]

Features

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Contents

Chapter 1: Short-lived trace gases in the surface ocean and the atmosphere.- Chapter 2: Transfer across the air-sea interface.- Chapter 3: Air-sea interactions of natural long-lived greenhouse gases (CO₂, N₂O, CH₄) in a changing climate.- Chapter 4: Ocean-Atmosphere interactions of particles.- Chapter 5: Perspectives and Integration in SOLAS science.

Fields of interest

Earth System Sciences; Environmental Chemistry; Climatology; Marine & Freshwater Sciences

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-25642-4

Hardcover

2014. XLV, 315 p. 181 illus., 162 illus. in color. (Springer Earth System Sciences)
ISBN 978-3-642-25642-4

Due: January 31, 2014

I. Manakos, Information Technologies Institute, Thessaloniki, Greece; M. Braun, University of Erlangen-Nürnberg, Erlangen, Germany (Eds.)

Land Use and Land Cover Mapping in Europe

Practices & Trends

Land use and land cover (LULC) as well as its changes (LUCC) are an interplay between bio-geophysical characteristics of the landscape and climate as well as the complex human interaction including its different patterns of utilization superimposed on the natural vegetation. LULC is a core information layer for a variety of scientific and administrative tasks (e.g. hydrological modelling, climate models, land use planning). In particular in the context of climate change with its impacts on socio-economic, socio-ecologic systems as well as ecosystem services precise information on LULC and LUCC are mandatory baseline datasets required over large areas. Remote sensing can provide such[...]

Features

Land use and land cover (LULC) as well as its changes (LUCC) are an interplay between bio-geophysical characteristics of the landscape and climate as well as the complex human interaction including its different patterns of utilization superimposed on the natural vegetation. LULC is a core information layer for a variety of scientific and administrative tasks (e.g. hydrological modelling, climate models, land [...])

Contents

Remote Sensing in support of the geo-information in Europe.- Global land cover mapping: Current status and future trends.- The users' role in the current European land monitoring context.- Towards an European land cover monitoring service and high-resolution layers.- CORINE Land Cover and land cover change products.- European Area Frame Sampling based on Very High Resolution image.- European forest monitoring approaches.- The European Urban Atlas.- A review of modern approaches to classification of remote sensing data.- Recent advances in remote sensing change detection – a review.- [...]

Fields of interest

Earth Sciences (general); Environment (general); Remote Sensing / Photogrammetry; Statistics (general); Geography (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7968-6

Hardcover

2014. X, 424 p. 106 illus., 78 illus. in color. (Remote Sensing and Digital Image Processing, Vol. 18)
ISBN 978-94-007-7968-6

Due: March 2014

M. Maugeri, C. Soccodato, Associazione Geotecnica Italiana, Rome, Italy (Eds.)

Earthquake Geotechnical Engineering Design

Pseudo-static analysis is still the most-used method to assess the stability of geotechnical systems that are exposed to earthquake forces. However, this method does not provide any information about the deformations and permanent displacements induced by seismic activity. Moreover, it is questionable to use this approach when geotechnical systems are affected by frequent and rare seismic events. Incidentally, the peak ground acceleration has increased from 0.2-0.3 g in the seventies to the current value of 0.6-0.8 g. Therefore, a shift from the pseudo-static approach to performance-based analysis is needed. Over the past five years considerable progress has been made in Earthquake[...]

Features

Pseudo-static analysis is still the most-used method to assess the stability of geotechnical systems that are exposed to earthquake forces. However, this method does not provide any information about the deformations and permanent displacements induced by seismic activity. Moreover, it is questionable to use this approach when geotechnical systems are affected by frequent and rare seismic events. [...]

Contents

Spatially constrained inversion of surface wave data to build shear wave velocity models.- Site Classification and spectral amplification for seismic code provisions.- Sand Liquefaction observed during Recent earthquake and Basic Laboratory Studies on Aging effect.- Liquefaction In Tokyo Bay And Kanto Regions In The 2011 Great East Japan Earthquake.- Allowable settlement and inclination of houses defined after the 2011 Tohoku - Pacific Ocean Earthquake in Japan.- Seismic Performance of River Levees; Experience and Prediction.- Earthquake Performance Design of Dams using Destructive[...]

Fields of interest

Geotechnical Engineering & Applied Earth Sciences; Civil Engineering; Natural Hazards; Geoenvironment, Foundations, Hydraulics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03181-1

Hardcover

2014. X, 387 p. 302 illus., 212 illus. in color. (Geotechnical, Geological and Earthquake Engineering, Vol. 28)
ISBN 978-3-319-03181-1

Due: February 28, 2014

A. Melesse, Florida International University, Miami, USA; W. Abtew, South Florida Water Management District, West Palm Beach, USA; S.G. Setegn, Florida International University, BBC, North Miami, USA (Eds.)

Nile River Basin

Ecohydrological Challenges, Climate Change and Hydropolitics

The book provides a comprehensive overview of the hydrology of the Nile River, especially the ecohydrological degradation and challenges the basin is facing, the impact of climate change on water availability and the transboundary water management issues. The book includes analysis and approaches that will help provide different insights into the hydrology of this complex basin, which covers 11 countries and is home to over 300 million people. The need for water-sharing agreements that reflect the current situations of riparian countries and are based on equitable water-sharing principles is stressed in many chapters. This book explores water resource availability and quality and [...]

Features

The book provides a comprehensive overview of the hydrology of the Nile River, especially the ecohydrological degradation and challenges the basin is facing, the impact of climate change on water availability and the transboundary water management issues. The book includes analysis and approaches that will help provide different insights into the hydrology of this complex basin, which covers 11 countries [...]

Contents

Part I: Hydrology and Water Availability.- The Nile River Basin.- Streamflow Data Needs for Water Resources Management and Monitoring Challenges: A Case Study of Wami River Sub-basin in Tanzania.- Satellite Rainfall Products and their Reliability in the Blue Nile basin.- Africa-Wide Monitoring of Small Surface Water Bodies Using Multi-Source Satellite Data: A Monitoring System for FEWS NET.- Surface and Ground Water Resources of Ethiopia: Potentials and Challenges of Water Resources Development.- Land and Water in the Nile basin.- Part II: Soil erosion and Water Quality.- Soil Erosion [...]

Fields of interest

Hydrogeology; Hydrology / Water Resources; Physical Geography; Climate Change

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-02719-7

Hardcover

2014. I, 199 p. 227 illus., 172 illus. in color.
ISBN 978-3-319-02719-7

Due: February 28, 2014

A. Nickolaenko, National Academy of Sciences, Kharkov, Ukraine; M. Hayakawa, The University of Electro-Communications, Tokyo, Japan

Schumann Resonance for Tyros

Essentials of Global Electromagnetic Resonance in the Earth-Ionosphere Cavity

Schumann resonance has been studied for more than half a century. The field became popular among researchers of the terrestrial environment using natural sources of electromagnetic radiation—lightning strokes, primarily—and now many Schumann observatories have been established around the world. A huge number of publications can be found in the literature, the most recent collection of which was presented in a special Schumann resonance section of the journal *Radio Science* in 2007. The massive publications, however, impede finding information about how to organize measurements and start observations of global electromagnetic resonance. Relevant information is scattered throughout many [...]

Features

Schumann resonance has been studied for more than half a century. The field became popular among researchers of the terrestrial environment using natural sources of electromagnetic radiation—lightning strokes, primarily—and now many Schumann observatories have been established around the world. A huge number of publications can be found in the literature, the most recent collection of which was presented in a [...]

Contents

Introductory information.- Choosing a site and positioning of equipments.- Calibrating the antennas.- Spectra of continuous SR background.- Regular SR parameters.- Disturbances in SR.- Coherence of SR.- SR line splitting.- Transient events.- Inverse problem of SR.- SR and global temperature.- Signals in adjoining frequency bands.- Extraordinary ELF signals.- Supplementary material.

Fields of interest

Geophysics / Geodesy; Atmospheric Sciences; Statistical Physics, Dynamical Systems and Complexity

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-4-431-54357-2

Hardcover

2014. XI, 348 p. 148 illus., 135 illus. in color. (Springer Geophysics)
ISBN 978-4-431-54357-2

usually dispatched within 3 to 5 business days

G. Ohring (Ed.)

Climate Change in North America

This book describes thoroughly the North American Climate of the past 65 million years, with special emphasis on the last 21,000 years, as revealed by paleoclimatic observations and climate models. It analyzes weather observations over the past century to develop a picture of more recent climatic trends. It aims to explain how global climate models are used to simulate and project climate and presents the application of these models to reproduce recent climate variations and predict future North American climate.

Features

This book describes thoroughly the North American Climate of the past 65 million years, with special emphasis on the last 21,000 years, as revealed by paleoclimatic observations and climate models. It analyzes weather observations over the past century to develop a picture of more recent climatic trends. It aims to explain how global climate models are used to simulate and project climate, and presents the [...]

Contents

Introduction.- Paleoclimate.- Current Climate and Recent Trends.- Satellite Observations of North American Climate Change.- Global Climate Model Simulations of North America.- Downscaling of Climate Information.- Detection and Attribution of Climate Change in North America.

Fields of interest

Atmospheric Sciences; Climate Change; Physical Geography

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03767-7

Hardcover

2014. XII, 286 p. 86 illus. (Regional Climate Studies)
ISBN 978-3-319-03767-7

Due: January 31, 2014

N. Parmar, Ryerson University, Toronto, Canada; A. Singh, Lystek International Incorporation, Cambridge, Canada (Eds.)

Geomicrobiology and Biogeochemistry

Over the past 4 billion years, microorganisms have contributed to shaping the earth and making it more habitable for higher forms of life. They are remarkable in their metabolic diversity and their ability to harvest energy from oxidation and reduction reactions. Research on these microbiological processes has led to the newly evolving fields of geomicrobiology and biogeochemistry, linking the geosphere and the biosphere. This volume of the Soil Biology series provides an overview of the biogeochemical processes and the microorganisms involved, with an emphasis on the industrial applications. Topics treated include aspects such as bioremediation of contaminated environments, biomining, [...]

Features

Over the past 4 billion years, microorganisms have contributed to shaping the earth and making it more habitable for higher forms of life. They are remarkable in their metabolic diversity and their ability to harvest energy from oxidation and reduction reactions. Research on these microbiological processes has led to the newly evolving fields of geomicrobiology and biogeochemistry, linking the geosphere and [...]

Contents

Nagina Parmar and Ajay Singh: Geobiotechnology.- Nadine Loick and Christopher Weisener: Novel Molecular Tools to Assess Microbial Activity in Contaminated Environments.- Anu Kalia and Vir R. Parshad: Advanced Molecular and Microspectroscopy Toolbox for Deciphering Soil Diazotroph Diversity.- Megha K. Purohit, Vikram H. Raval, Satya P. Singh: Haloalkaliphilic bacteria - Molecular diversity and biotechnological applications.- Asha A. Juwarkar, Rashmi R. Misra and Jitendra K. Sharma: Recent Trends in Bioremediation.- Arvind Sinha, Rajeshwari Sinha and Sunil K. Khare: Heavy Metal [...]

Fields of interest

Biogeosciences; Microbiology; Applied Microbiology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-41836-5

Hardcover

2014. VIII, 302 p. 15 illus., 1 illus. in color. (Soil Biology, Vol. 39)

ISBN 978-3-642-41836-5

Due: January 31, 2014

H. Peng, Sun Yat-sen University, Guangzhou, China (P.R.); W. Eder, University of Munich, Munich, Germany

Danxiashan Global Geopark

This book presents of the most outstanding and beautiful red bed landscapes in the world, which in 2004 were included in UNESCO's "Global Geoparks Network", Danxiashan. Located in the Chinese Province of Guangdong, it is composed of natural elements such red rocks mainly from the Cretaceous age, green subtropical vegetation and blue waters. Furthermore, it is the name-giving region of the "Danxia landforms", a term which has gained scientific and popular acceptance in the past 80 years. Danxia, meaning red cloud glow, is an absolutely wonderful name for a geological and geomorphic phenomenon that is based on a long record of geological history, a distinct development of landscapes [...]

Features

This book presents of the most outstanding and beautiful red bed landscapes in the world, which in 2004 were included in UNESCO's "Global Geoparks Network", Danxiashan. Located in the Chinese Province of Guangdong, it is composed of natural elements such red rocks mainly from the Cretaceous age, green subtropical vegetation and blue waters. Furthermore, it is the name-giving region of the "Danxia landforms", [...]

Contents

Introduction to the Geopark Danxiashan.- Danxia landform.- Regional geographical background.- The Geo-tectonic and geological history.- Geomorphological feature.- Vegetation and animals.- Human history and culture.- The value of Danxiashan.- Danxiashan in comparison with other international 'red bed landscapes'.- Conservation of the Geopark Danxiashan.

Fields of interest

Geology; Physical Geography; Geoecology / Natural Processes

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-15903-9

Hardcover

2014. XV, 320 p. 100 illus. in color. (Geoheritage, Geoparks and Geotourism)

ISBN 978-3-642-15903-9

Due: July 29, 2014

K. Ptilakis, Aristotle Univ. of Thessaloniki, Thessaloniki, Greece; H. Crowley, European Centre for Training and, Pavia, Italy; A.M. Kaynia, Norwegian Geotechnical Inst (NGI), Oslo, Norway (Eds.)

SYNER-G: Typology Definition and Fragility Functions for Physical Elements at Seismic Risk

Buildings, Lifelines, Transportation Networks and Critical Facilities

Fragility functions constitute an emerging tool for the probabilistic seismic risk assessment of buildings, infrastructures and lifeline systems. The work presented in this book is a partial product of a European Union funded research project SYNER-G (FP7 Theme 6: Environment) where existing knowledge has been reviewed in order to extract the most appropriate fragility functions for the vulnerability analysis and loss estimation of the majority of structures and civil works exposed to earthquake hazard. Results of other relevant European projects and international initiatives are also incorporated in the book. In several cases new fragility and vulnerability functions have been [...]

Features

Fragility functions constitute an emerging tool for the probabilistic seismic risk assessment of buildings, infrastructures and lifeline systems. The work presented in this book is a partial product of a European Union funded research project SYNER-G (FP7 Theme 6: Environment) where existing knowledge has been reviewed in order to extract the most appropriate fragility functions for the vulnerability [...]

Contents

Preface.- 1 Introduction.- 2 Modeling and Propagation of Uncertainties.- 3 Evaluation of Existing Fragility Curves.- 4 Epistemic Uncertainty in Fragility Functions for European RC Buildings.- 5 Fragility Functions of Masonry Buildings.- 6 Fragility Functions of Electric Power Stations.- 7 Fragility Functions of Gas and Oil Networks.- 8 Fragility Functions of Water and Waste-Water Systems.- 9 Fragility Functions of Road and Railway Bridges.- 10 Fragility Functions of Highway and Railway Infrastructure.- 11 Fragility Functions of Harbor Elements.- 12 Component Fragilities and System [...]

Fields of interest

Geotechnical Engineering & Applied Earth Sciences; Civil Engineering; Natural Hazards; Geophysics / Geodesy

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7871-9

Hardcover

2014. IV, 430 p. 165 illus., 81 illus. in color. With online files/update. (Geotechnical, Geological and Earthquake Engineering, Vol. 27)

ISBN 978-94-007-7871-9

Due: January 31, 2014

J. Rabassa, CADIC-CONICET, Ushuaia, Argentina; C. Ollier, University of Western Australia, Nedlands, Australia (Eds.)

Gondwana Landscapes in southern South America

Argentina, Uruguay and southern Brazil

This book presents extensive and new information on the geomorphology of cratonic areas of southern South America. It includes valuable data relating to recurrent controversies in general geomorphology beyond the boundaries of South America and reveals the great need to integrate many different aspects of geomorphology in regional studies. With the focus on ancient landscapes and especially on planation surfaces it addresses the question of what processes could form such huge features, and how they can be preserved for so long. Many of the papers include maps of planation surfaces or other geomorphic units. The volume brings together an up-to-date, state-of-the-art collection of [...]

Features

This book presents extensive and new information on the geomorphology of cratonic areas of southern South America. It includes valuable data relating to recurrent controversies in general geomorphology beyond the boundaries of South America and reveals the great need to integrate many different aspects of geomorphology in regional studies. With the focus on ancient landscapes and especially on planation [...]

Contents

Introduction.- Some Concepts on Gondwana Landscapes: Long-term Landscape Evolution, Genesis, Distribution, and Age.- Some Principles in the Study of Planation Surfaces.- Planation Surfaces of the Gondwana Continents: Synthesis and Problems.- A Brief Review of the Development of Gondwana Landscape Studies in Africa, the Centre-piece of the Former Gondwana.- Modeling the Atmospheric Circulation and Climatic Conditions over Southern South America During the Late History of the Gondwana Super-Continent.- Gondwana Paleosurfaces in the State of Rio Grande Do Sul, Southern Brazil.- Ancient [...]

Fields of interest

Earth System Sciences; Physical Geography; Geology / Natural Processes

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7701-9

Hardcover

2014. XV, 498 p. 308 illus., 245 illus. in color. (Springer Earth System Sciences)
ISBN 978-94-007-7701-9

Due: February 28, 2014

V.V. Ryabov, Russian Academy of Sciences, Novosibirsk, Russian Federation; A.Y. Shevko, Russian Academy of Sciences, Novosibirsk, Russian Federation; M.P. Gora, Russian Academy of Sciences, Novosibirsk, Russian Federation

Trap Magmatism and Ore Formation in the Siberian Noril'sk Region

Volume 1. Trap Petrology

The basis of this investigation is the petrographic and geochemical understanding of principal igneous rock types of the Noril'sk region, in order to demonstrate that these data provide unique and self-evident solutions to the problems of petrogenesis and mineralization. The results of the investigations are presented in two volumes: the first includes mainly text and the second contains illustrations. In the first volume, the state of the main problems of the genesis of igneous rocks with reference to Traps and related ore deposits is discussed, as well as short petrological descriptions of igneous complexes in the region, the mineral and geochemical diversity of the rocks, and [...]

Features

The basis of this investigation is the petrographic and geochemical understanding of principal igneous rock types of the Noril'sk region, in order to demonstrate that these data provide unique and self-evident solutions to the problems of petrogenesis and mineralization. The results of the investigations are presented in two volumes: the first includes mainly text and the second contains [...]

Contents

Volume 1: Trap Petrology.- Principal issues surrounding the trap magmatism of the Siberian Platform.- Effusive and explosive complexes in the Noril'sk region.- Intrusive complexes of the Noril'sk region.- Mineralogy and geochemistry of traps.- Basalt magma differentiation as a source of variety in traps.- Conclusion.

Fields of interest

Geology; Mineral Resources; Mineralogy; Geochemistry

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-5021-0

Hardcover

2014. XX, 386 p. 169 illus., 39 illus. in color. (Modern Approaches in Solid Earth Sciences, Vol. 3)
ISBN 978-94-007-5021-0

Due: April 28, 2014

V.P. Sati, Mizoram University, Aizawl, India

Towards Sustainable Livelihoods and Ecosystems in Mountain Regions

Sustainable livelihoods and ecosystems are far-reaching and burning issues in the wake of high growth of population, low production and per ha yield of crops and depletion of biodiversity resources. Mountainous regions of the world are facing the menace of poverty, food insecurity and malnutrition. Further, tremendous growth in population and slow pace of development have together forced most of the population to live below poverty line. Traditionally depending upon cultivating subsistence crops for food requirement, the people living in mountainous region are unable to produce sufficient food grains to run their livelihood smoothly. The Himalayas is one of the world's biodiversity [...]

Features

Sustainable livelihoods and ecosystems are far-reaching and burning issues in the wake of high growth of population, low production and per ha yield of crops and depletion of biodiversity resources. Mountainous regions of the world are facing the menace of poverty, food insecurity and malnutrition. Further, tremendous growth in population and slow pace of development have together forced most of the population [...]

Contents

Geo-Environmental Setting.- Socio-Economy and Population Profile.- Sustainable Livelihoods: Diversification and Enhancement.- Livelihood Analysis.- Development of Tourism and Hydroelectricity.- Case Studies.- Mountain Ecosystem.- Sustainable Mountain Development: Challenges and Opportunities.

Fields of interest

Environmental Science and Engineering; Regional and Cultural Studies; Sustainable Development

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03532-1

Hardcover

2014. XVI, 201 p. 54 illus., 41 illus. in color. (Environmental Science)
ISBN 978-3-319-03532-1

Due: January 31, 2014

R. Shaw, Kyoto University, Kyoto, Japan (Ed.)

Community Practices for Disaster Risk Reduction in Japan

This book presents key lessons from community-based risk-reduction practices in Japan, a country that is often hit by disasters and that also has shown strong resilience in coping with those disasters. Japan has a strong governance system for disaster risk reduction. However, the Kobe earthquake of 1995 showed the importance of community involvement in disaster response as well as recovery. With several examples from different parts of Japan, the book elaborates on the importance of community-based risk reduction and the innovations required for sustaining some of the community approaches. The book has 13 chapters and is divided into three parts: (1) Evolution of community-based risk[...]

Features

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Contents

Disaster Risk Reduction and Community Approaches.- Kobe Earthquake: Turning Point of Community-based Risk Reduction in Japan.- Typhoon, Flood and Landslide Related Disasters in Japan: Role of Communities.- Social Capital in Disaster Recovery in Japan: An Overview.- Concepts and Approaches of School-centered Disaster Resilient Communities.- Building Disaster Resilient Community through Healthcare Networking.- Roles of Community Radio in Disaster Management: Reflections from Japan.- Community Development and Disaster Preparedness in a Depopulated Society: Case of Tosashimizu City, Kochi[...]

Fields of interest

Natural Hazards; Sustainable Development

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-4-431-54245-2

Hardcover

2014. X, 236 p. 57 illus., 38 illus. in color. (Disaster Risk Reduction)

ISBN 978-4-431-54245-2

Due: **January 31, 2014**

S. Siegesmund, Universität Göttingen, Göttingen, Germany; R. Sneath, Naturstein, Bauchemie und Bauphysik, Bamberg, Germany (Eds.)

Stone in Architecture

Properties, Durability

The weathering of historical buildings and, indeed, of monuments and sculptures of natural stone is a problem that has been encountered for hundreds of years. However a dramatic increase in deterioration in the structure of our built heritage has been observed during the past century. To understand the complex interaction that the stone in a building suffers with its near environment (the building) and the macro environment (the local climate and atmospheric conditions) requires an interdisciplinary approach and the application of many disciplines. Climate change over the next 100 years is likely to have a range of direct and indirect impacts on many natural and physical environments.[...]

Features

The weathering of historical buildings and, indeed, of monuments and sculptures of natural stone is a problem that has been encountered for hundreds of years. However, a dramatic increase in deterioration in the structure of our built heritage has been observed during the past century. To understand the complex interaction that the stone in a building suffers with its near environment (the building) and the [...]

Contents

Building Stones.- Physical and Mechanical Properties of Rocks.- Weathering and Deterioration.- Environment and Architectural Stone.- Characterisation of Stone Deterioration on Buildings.- Stone Conservation.

Fields of interest

Structural Geology; Geotechnical Engineering & Applied Earth Sciences; Building Materials

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-45154-6

Hardcover

2014. 580 p. 490 illus., 360 illus. in color.

ISBN 978-3-642-45154-6

Due: **February 17, 2014**

D.L. Tang, South China Sea Institute of Oceanology, Guangzhou, China (P.R.); G. Sui, Guangdong University of Foreign Studies, Guangzhou, China (P.R.) (Eds.)

Typhoon Impact and Crisis Management

Major natural hazards have sparked growing public concern worldwide. This book provides new information on Typhoon Impact and Crisis Management using satellite remote sensing technology, linking the natural sciences and social sciences in typhoon studies. It examines remote sensing observations of typhoons (hurricanes), typhoon impacts on the environment, typhoon impacts on marine ecosystems, typhoon impacts and global changes, typhoon (hurricane) impacts on economics, and crisis management for typhoon (hurricane) disasters.

Features

Major natural hazards have sparked growing public concern worldwide. This book provides new information on Typhoon Impacts and Crisis Management using satellite remote sensing technology, linking the natural sciences and social sciences in typhoon studies. It examines remote sensing observations of typhoons (Hurricanes), typhoon impacts on the environment, typhoon impacts on marine ecosystems, typhoon impacts [...]

Contents

Part I Remote Sensing Observations of Typhoon (Hurricane).- Part II Typhoon (Hurricane) Impacts on Environments.- Part III Typhoon (Hurricane) Impacts on Marine Ecosystem.- Part IV Typhoon (Hurricane) Impacts and Global Changes.- Part V Typhoon (Hurricane) Impacts on Economics.- Part VI Crisis Management for Typhoon (Hurricane) Disaster.

Fields of interest

Natural Hazards; Meteorology; Remote Sensing / Photogrammetry; Earth System Sciences; Oceanography; Marine & Freshwater Sciences

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-40694-2

Hardcover

2014. XXIII, 576 p. 198 illus., 158 illus. in color. (Advances in Natural and Technological Hazards Research, Vol. 40)

ISBN 978-3-642-40694-2

Due: **December 31, 2013**

Y. Tang, Tongji University, Shanghai, China (P.R.); J. Zhou, Tongji University, Shanghai, China (P.R.); X. Ren, Tongji University, Shanghai, China (P.R.); Q. Yang, Tongji University, Shanghai, China (P.R.)

Dynamic Response and Deformation Characteristic of Saturated Soft Clay under Subway Vehicle Loading

Involving several areas of geological engineering, geotechnical engineering and tunnel engineering, this book describes the soft soil deformation characteristics and dynamic responses induced by subway vibration load. Based on field monitoring and laboratory testing data, with both comprehensive micro and macroanalysis, the authors present dynamic characteristics and deformation settlement of saturated soft clay surrounding subway tunnels using dynamic and static methodology. Mechanism of deformation, failure in microstructure of soft clay soil, dynamic response, macro deformation and settlement are all discussed and analyzed thoroughly and systematically. Some of the research[...]

Features

Involving several areas of geological engineering, geotechnical engineering and tunnel engineering, this book describes the soft soil deformation characteristics and dynamic responses induced by subway vibration load. Based on field monitoring and laboratory testing data, with both comprehensive micro and macroanalysis, the authors present dynamic characteristics and deformation settlement of saturated soft [...]

Contents

Introduction.- Field test.- Laboratory tests.- Microstructure of soil.- Theoretical analysis and numerical simulation.- Settlement predictions for soil around subway tunnels.

Fields of interest

Geotechnical Engineering & Applied Earth Sciences; Civil Engineering; Transportation

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-41986-7

Distribution rights of the print version for China: Science Press Ltd., Beijing, China

Hardcover

Jointly published with Science Press Ltd., Beijing, China 2014. XXIII, 241 p. 130 illus., 82 illus. in color. (Springer Environmental Science and Engineering) ISBN 978-3-642-41986-7

Due: January 31, 2014

J. Tanimoto, Kyushu University, Kasuga, Japan

Mathematical Analysis of Environmental System

This book is for all graduate students who are specializing in any environmental issue and who wish to grasp the fundamentals of physics that are required in various fields of science and engineering. The book provides the structural concept of the system state equation and its dynamics, which can be applicable to numerical solutions in several important areas such as heat and mass transfer and fluid dynamics. As a first step, there is a description of how to solve a linear system by conducting an analysis of temperature distribution in an infinite soil as a practical example. This exercise helps readers to fully understand what time and space discretizations are, and how actual[...]

Features

This book is for all graduate students who are specializing in any environmental issue and who wish to grasp the fundamentals of physics that are required in various fields of science and engineering. The book provides the structural concept of the system state equation and its dynamics, which can be applicable to numerical solutions in several important areas such as heat and mass transfer and fluid [...]

Contents

Environmental Systems and Analysis Methods.- Linear Systems Analysis Methods.- Applications of Vector Matrix Operations.- Dynamics of Non-Linear Systems.

Fields of interest

Earth System Sciences; Environmental Physics; Renewable and Green Energy

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-4-431-54621-4

Softcover

2014. X, 128 p. 94 illus., 84 illus. in color. ISBN 978-4-431-54621-4

Due: January 31, 2014

T. Zhou, Y. Yu, Y. Liu, B. Wang (Eds.)

Flexible Global Ocean-Atmosphere-Land System Model

A Modeling Tool for the Climate Change Research Community

Coupled climate system models are of central importance for climate studies. A new model known as FGOALS (the Flexible Global Ocean-Atmosphere-Land System model), has been developed by the Sate Key Laboratory of Numerical Modeling for Atmospheric Sciences and Geophysical Fluid Dynamics, Institute of Atmospheric Physics, Chinese Academy of Sciences (LASG/IAP, CAS), a first-tier national geophysical laboratory. It serves as a powerful tool, both for deepening our understanding of fundamental mechanisms of the climate system and for making decadal prediction and scenario projections of future climate change. "Flexible Global Ocean-Atmosphere-Land System Model: A Modeling Tool for the[...]

Features

Coupled climate system models are of central importance for climate studies. A new model known as FGOALS (the Flexible Global Ocean-Atmosphere-Land System model), has been developed by the Sate Key Laboratory of Numerical Modeling for Atmospheric Sciences and Geophysical Fluid Dynamics, Institute of Atmospheric Physics, Chinese Academy of Sciences (LASG/IAP, CAS), a first-tier national geophysical [...]

Contents

From the Contents: Part I FGOALS Components for CMIP5.- Introduction.- Spectral Atmospheric General Circulation Model - Version 2: SAMIL2.- Part II Model Evaluation and Analyses.- Overview of FGOALS contribution to international climate modeling community.- Long-term trends of two versions of FGOALS.- Part III Model Development and Improvements beyond CMIP5.- High resolution LICOM.- High resolution H-GAMIL.- High resolution SAMIL3.- Atmospheric Chemistry Model.

Fields of interest

Earth System Sciences; Meteorology; Climatology; Geophysics and Environmental Physics; Climate Change

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-41800-6

Hardcover

2014. XVI, 483 p. 176 illus., 152 illus. in color. (Springer Earth System Sciences) ISBN 978-3-642-41800-6

usually dispatched within 3 to 5 business days

Environment

Z. An, Chinese Academy of Sciences, Xian, China (P.R.) (Ed.)

Late Cenozoic Climate Change in Asia

Loess, Monsoon and Monsoon-arid Environment Evolution

This book is the first of its kind on environmental change research devoted to monsoon-arid environment evolution history and its mechanism involved. Capturing the most prominent features of Asian climate and environmental changes, it gives a comprehensive review of the Asian Monsoon records providing evidence for spatial and temporal climatic and environmental changes across the Asian continent since the Late Cenozoic. The dynamics underlying these changes are explored based on various bio-geological records and in particular based on the evidence of loess, speleothems as well as on mammal fossils. The Asian monsoon-arid climate system which quantifies the controlling mechanisms of [...]

Features

This book is the first of its kind on environmental change research devoted to monsoon-arid environment evolution history and its mechanism involved. Capturing the most prominent features of Asian climate and environmental changes, it gives a comprehensive review of the Asian Monsoon records providing evidence for spatial and temporal climatic and environmental changes across the Asian continent since the Late [...]

Contents

Chapter 1. Introduction.- Chapter 2. Chinese Loess and the East Asian monsoon.- Chapter 3. Asian monsoon variability recorded in other archives.- Chapter 4. Asian dust, eolian iron and black carbon--connections to climate and paleoclimate.- Chapter 5. Mammalian evolution in Asia linked to climate changes.- Chapter 6. Late Cenozoic climate change in monsoon-arid Asia and global changes.

Fields of interest

Climate Change; Structural Geology; Paleontology; Atmospheric Sciences; Biogeosciences; Geoecology / Natural Processes

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7816-0

Hardcover

2014. I, 492 p. 336 illus., 215 illus. in color. (Developments in Paleoenvironmental Research, Vol. 16)
ISBN 978-94-007-7816-0

Due: January 31, 2014

A.A. Ansari, University of Tabuk, Tabuk, Saudi Arabia; S.S. Gill (Eds.)

Eutrophication: Causes, Consequences and Control

Volume 2

Eutrophication continues to be a major global challenge and the problem of eutrophication and availability of freshwater for human consumption is an essential ecological issue. The global demand for water resources due to increasing population, economic developments, and emerging energy development schemes has created new environmental challenges for global sustainability. Accordingly, the area of research on eutrophication has expanded considerably in recent years. Eutrophication, acidification and contamination by toxic substances are likely to pose increasing threats to freshwater resources and ecosystems. The consequences of anthropogenic-induced eutrophication of freshwaters are [...]

Features

Eutrophication continues to be a major global challenge, and the problem of eutrophication and availability of freshwater for human consumption is an essential ecological issue. The global demand for water resources due to increasing population, economic developments, and emerging energy development schemes has created new environmental challenges for global sustainability. Accordingly, the area of research on [...]

Contents

1. Eutrophication: Challenges and Solutions.- 2. Eutrophication: Global Scenario and Local Threat to Dynamics of Aquatic Ecosystems.- 3. Effects of Eutrophication.- 4. The Economics of Eutrophication.- 5. Eutrophication of Lakes.- 6. Lake Eutrophication and Plankton Food Webs.- 7. Environmental Impacts of Tourism on Lakes.- 8. Eutrophication in the Great Lakes of the Chinese Pacific Drainage Basin: Changes, Trends and Management.- 9. Photoautotrophic Productivity in Eutrophic Ecosystems.- 10. Seasonal and Spatial Nutrient Dynamics in Saronikos Gulf: The Impact of Sewage Effluents from [...]

Fields of interest

Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Water Quality / Water Pollution; Freshwater & Marine Ecology; Plant Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7813-9

Hardcover

2014. XI, 262 p. 90 illus., 29 illus. in color.
ISBN 978-94-007-7813-9

usually dispatched within 3 to 5 business days

M. Behnassi, Ibn Zohr University of Agadir, Agadir, Morocco; S.A. Shahid, International Center for Biosaline Agric, Dubai, United Arab Emirates; N. Mintz-Habib, University of Cambridge, Cambridge, United Kingdom (Eds.)

Science, Policy and Politics of Modern Agricultural System

Global Context to Local Dynamics of Sustainable Agriculture

This book arises from a 2011 international conference entitled Climate Change, Agri-Food, Fisheries and Ecosystems: Reinventing Research, Innovation, and Policy Agendas for an Environmentally and Socially-Balanced Growth (ICCAFFE2011), organized by the North-South Center for Social Sciences (NRCS) in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Germany and the Institute for Research and Development (IRD), France. Coverage focuses on the agricultural sector and helps improve understanding of the relationships between agriculture and the environment and between human communities and nature, so as to sustainably manage agricultural [...]

Features

This book arises from a 2011 international conference entitled Climate Change, Agri-Food, Fisheries and Ecosystems: Reinventing Research, Innovation, and Policy Agendas for an Environmentally and Socially-Balanced Growth (ICCAFFE2011), organized by the North-South Center for Social Sciences (NRCS) in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Germany and the [...]

Contents

Preface.- Acknowledgements.- List of Contributors.- List of Figures.- List of Tables.- List of Abbreviations and Acronyms.- Part I Sustainable Agricultural Development Face to Environmental, Economic and Social Dynamics.- 1 Agricultural and food System - Global Change Nexus: Dynamics and Policy Implications.- 2 Challenges facing the macroeconomic policy for sustainable development in agriculture (based on the model of organic agriculture in Bulgaria).- 3 Environmentally sound and commercially sustainable agricultural development in Nigeria.- 4 Some socio-economic factors affecting [...]

Fields of interest

Soil Science & Conservation; Agriculture; Climate Change Impacts; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Sustainable Development; Biodiversity

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7956-3

Hardcover

2014. I, 346 p. 79 illus., 66 illus. in color.
ISBN 978-94-007-7956-3

Due: January 31, 2014

H.-P. Blume, Christian-Albrechts-Universität zu Kiel, Kiel, Germany; G.W. Brümmer, University of Bonn, Bonn, Germany; R. Horn, Kiel University, Kiel, Germany; E. Kandeler, Universität Hohenheim, Stuttgart, Germany; I. Kögel-Knabner, TU München, Freising, Germany; R. Kretschmar, ETH Zürich, Zuerich, Switzerland; P. Schad, Technische Universität München, Freising, Germany; K. Stahr, Universität Hohenheim, Stuttgart, Germany; B.-M. Wilke, TU Berlin, Berlin, Germany

Soil Science

The soils are fundamental to our existence, delivering water and nutrients to plants, that feed us. But they are in many ways in danger and their conservation is therefore a most important focus for science, governments and society as a whole. A team of world recognised researchers have prepared this first English edition based on the 16th European edition.

• The precursors and the processes of soil development • The physical, biological and chemical properties of soils • Nutrients and Pollutants • The various soil classifications with the main focus on the World Reference Base for Soil Resources (WRB) • The most important soils and soil landscapes of the world • Soil Evaluation[...]

Features

The soils are fundamental to our existence, delivering water and nutrients to plants, that feed us. But they are in many ways in danger and their conservation is therefore a most important focus for science, governments and society as a whole. A team of world recognised researchers have prepared this first English edition based on the 16th European edition. • The precursors and the processes of [...]

Fields of interest

Soil Science & Conservation; Geochemistry; Physical Geography

Target groups

Research

Type of publication

Graduate/advanced undergraduate textbook

More on www.springer.com/978-3-642-30941-0

Hardcover

2014. Approx. 550 p. 260 illus., 160 illus. in color. ISBN 978-3-642-30941-0

Due: February 28, 2014

A. Celletti, Università di Roma Tor Vergata, Roma, Italy; U. Locatelli, Università di Roma Tor Vergata, Roma, Italy; T. Ruggeri, Università di Bologna, Roma, Italy; E. Strickland, Università di Roma Tor Vergata, Roma, Italy (Eds.)

Mathematical Models and Methods for Planet Earth

In 2013 several scientific activities have been devoted to mathematical researches for the study of planet Earth. The current volume presents a selection of the highly topical issues presented at the workshop "Mathematical Models and Methods for Planet Earth", held in Roma (Italy), in May 2013. The fields of interest span from impacts of dangerous asteroids to the safeguard from space debris, from climatic changes to monitoring geological events, from the study of tumor growth to sociological problems. In all these fields the mathematical studies play a relevant role as a tool for the analysis of specific topics and as an ingredient of multidisciplinary problems. To investigate these[...]

Features

In 2013 several scientific activities have been devoted to mathematical researches for the study of planet Earth. The current volume presents a selection of the highly topical issues presented at the workshop "Mathematical Models and Methods for Planet Earth", held in Roma (Italy), in May 2013. The fields of interest span from impacts of dangerous asteroids to the safeguard from space debris, from climatic [...]

Contents

1 Christiane Rousseau: "Mathematics of Planet Earth". - 2 Laure Saint-Raymond: "The role of boundary layers in the large-scale ocean circulation". - 3 Paolo Dai Pra: "Noise-induced periodicity: some stochastic models for complex biological systems". - 4 Andrea Tosin: "Kinetic equations and stochastic game theory for social systems". - 5 Luigi Preziosi: "Using mathematical modelling as a virtual microscope to support biomedical research". - 6 Adriano Barra: "Ferromagnetic models for cooperative behavior: Revisiting Universality in complex phenomena". - 7 Ettore Perozzi: "The Near Earth[...]"

Fields of interest

Math. Appl. in Environmental Science; Earth Sciences (general); Climate Change Impacts; Climate (general); Mathematical Methods in Physics

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-319-02656-5

Hardcover

2014. X, 174 p. (Springer INdAM Series, Vol. 6) ISBN 978-3-319-02656-5

Due: January 31, 2014

Y. Chen, Chinese Academy of Sciences, Xinjiang, China (P.R.) (Ed.)

Water Resources Research in Northwest China

This book examines the possible impacts of climate change on hydrology and water resources in the arid region of Northwest China, which is one of the world's largest arid places. The first chapter offers an introductory discussion of the physical geography and socioeconomic conditions in the region. Part two discusses climate system and hydrologic system changes and implications of these changes in relation to potential evapotranspiration, the hydrological cycle and the spatiotemporal variations of the snow cover and glaciers through remote sensing, geographic information systems and statistical analysis. The third part of the book focuses on the model description and experimental[...]

Features

This book examines the possible impacts of climate change on hydrology and water resources in the arid region of Northwest China, which is one of the world's largest arid places. The first chapter offers an introductory discussion of the physical geography and socioeconomic conditions in the region. Part two discusses climate system and hydrologic system changes, and implications of these changes in relation [...]

Contents

1 Exordium.- 2 Climate System in Northwest China.- 3 Hydrologic system in Northwest China.- 4 Response of Run-off to Climate Change.- 5 Glacier change and its impact on water resources.- 6 Spatiotemporal Variation of Snow Cover from Space in Northern Xinjiang.- 7 Change of potential evaporation and its implications to water cycle.- 8 The nonlinear hydro-climatic process: a case study of the Tarim headwaters, NW China.- 9 Climate change scenarios and the impact on runoff.- 10 Changes in extreme hydrological events.- 11 Water resources management.- Index.

Fields of interest

Sustainable Development; Hydrology / Water Resources; Physical Geography; Meteorology; Climatology; Environmental Science and Engineering

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8016-2

Hardcover

2014. I, 328 p. 184 illus., 45 illus. in color. ISBN 978-94-017-8016-2

Due: February 28, 2014

G. Duca, Academy of Sciences of Moldova, Chisinau, Moldova (Ed.)

Management of Water Quality in Moldova

This book deals with water management, one of the most challenging issues of contemporary society. Research and innovation in the field of water management must address certain fundamental aspects: access to water, water quality, water treatment, trans-boundary effect of water, etc. A comprehensive analysis was performed in a national research program of Moldova, entitled "Research and management of water quality". The main goal of the research program was to create and improve the legal, scientific and methodological, technological basis and sustainable development of water, implementation of modern technologies in water supply, treatment and reuse. Other priorities include expansion[...]

Features

This book deals with water management, one of the most challenging issues of contemporary society. Research and innovation in the field of water management must address certain fundamental aspects: access to water, water quality, water treatment, trans-boundary effect of water, etc. A comprehensive analysis was performed in a national research program of Moldova, entitled "Research and management of water [...]

Contents

Water Structure and Quality.- Integrated Water Management in the Republic of Moldova.- Water Structure, Quantum Nature of Hydrogen Bonds and Diffusion of Water Molecules in Chloride Aqueous Solutions.- Electrochemical Solar Cells Based on Pigments.- The Opportunity of Recognition of the Right to Water as a Fundamental Human Right.- Argumentation of Hygienic Indicators of Water Quality.- Surface Water.- Chemical Composition of Right Bank Tributaries of Nistru River and their General Impact.- Hydrobiocenosis State of the Prut River in the Sculeni-Giurgulesti Sector.- Flood Wave Modeling[...]

Fields of interest

Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Water Policy / Water Governance / Water Management; Water Quality / Water Pollution; Geophysics and Environmental Physics; Landscape, Regional and Urban Planning; Water Industry/Water Technologies

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-02707-4

Hardcover

2014. VIII, 204 p. 151 illus., 67 illus. in color. (Water Science and Technology Library, Vol. 69)
ISBN 978-3-319-02707-4

Due: December 31, 2013

G.R. Guntenspergen, USGS Patuxent Wildlife Research Center, Laurel, USA (Ed.)

Application of Threshold Concepts in Natural Resource Decision Making

Natural resource managers face a complex decision-making environment characterized by the potential occurrence of rapid and abrupt ecological change. These abrupt changes are poorly accommodated by traditional natural resource planning and decision-making processes. As recognition of threshold processes has increased, contemporary models of ecological systems have been modified to better represent a broader range of ecological system dynamics. Key conceptual advances associated with the ideas of non-linear responses, the existence of multiple ecological stable states and critical thresholds are more likely the rule than the exception in ecological systems. Once an ecological threshold[...]

Features

Scientists and managers have largely abandoned classic models that assume natural systems are in equilibrium and recognize the importance of understanding interactions between, and among, biotic and abiotic factors in ecosystems, and how these interactions lead to complexities that should be factored into natural resource management decisions. Even though the existence of ecological thresholds is becoming [...]

Contents

Threshold Concepts: Implications for the Management of Natural Resources.- Thresholds for conservation and management: structured decision making as a conceptual framework.- Identifying objectives and alternative actions to frame a decision problem.- Optimization in Natural Resources Conservation.- Application of Threshold Concepts to Ecological Management Problems: Occupancy of Golden Eagles in Denali National Park, Alaska.- Monitoring for threshold-dependent decisions.- Applying Threshold Concepts to Conservation Management of Dryland.- Using Natural Range of Variation to Set Decision[...]

Fields of interest

Environmental Management; Applied Ecology; Monitoring / Environmental Analysis

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4899-8040-3

Hardcover

2014. I, 481 p. 85 illus., 37 illus. in color.
ISBN 978-1-4899-8040-3

Due: February 28, 2014

H. Kitazato, Japan Agency for Marine-Earth Science, Yokosuka, Japan; J. Bernhard, Woods Hole Oceanographic Institution, Woods Hole, USA (Eds.)

Approaches to Study Living Foraminifera

Collection, Maintenance and Experimentation

Foraminiferal cultures now serve as tools for researching biological, environmental, and geological topics. However, the biological backgrounds, in particular the natural histories of foraminifera, largely remain unclear. It is also true that the different techniques used in different cultures are a setback to fully understanding the subject. Taken together, these factors prevent progress in experimental approaches to foraminiferal studies. This book aims to share and exchange knowledge between researchers from different cultures, and the book should interest not only foraminiferal researchers but also scientists who are working with marine organisms to explore questions in relation[...]

Features

Foraminiferal cultures now serve as tools for researching biological, environmental, and geological topics. However, the biological backgrounds, in particular the natural histories of foraminifera, largely remain unclear. It is also true that the different techniques used in different cultures are a setback to fully understanding the subject. Taken together, these factors prevent progress in experimental [...]

Contents

The Propagule Method as an Experimental Tool in Foraminiferal Ecology.- The Natural Laboratory of Algal Symbiont-bearing benthic Foraminifera: Studying Individual Growth and Population Dynamics in the Sublittoral.- Methods for Estimating Individual Growth of Foraminifera Based on Chamber Volumes.- Changing Investigation Perspectives: Methods and Applications of Computed Tomography on Larger Benthic Foraminifera.- Protein Analysis in Large Benthic Foraminifera.- Molecular Assessment of Benthic Foraminiferal Diversity.- FLEC-TEM: Using Microscopy to Correlate Ultrastructure with Life[...]

Fields of interest

Monitoring / Environmental Analysis; Biogeosciences; Freshwater & Marine Ecology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-4-431-54387-9

Hardcover

2014. XV, 183 p. 79 illus., 44 illus. in color. (Environmental Science)
ISBN 978-4-431-54387-9

Due: January 31, 2014

H. Komiyama, Mitsubishi Research Institute, Inc., Tokyo, Japan

Beyond the Limits to Growth

New Ideas for Sustainability from Japan

At a time when contemporary challenges seem to many to be insurmountable, this book offers an optimistic view of the future and provides a road map for societies to get there. Drawing upon extensive research and many years as a thought leader in environmental and sustainability issues in Japan and internationally, Hiroshi Komiyama analyzes the most pressing challenges to the attainment of sustainability of economically advanced nations and argues forcefully for Japan to lead them out of the present dilemma through active promotion of creative consumer and societal demand. He shows how an active industry–government–academic partnership can provide the environment needed to promote such[...]

Features

At a time when contemporary challenges seem to many to be insurmountable, this book offers an optimistic view of the future and provides a road map for societies to get there. Drawing upon extensive research and many years as a thought leader in environmental and sustainability issues in Japan and internationally, Hiroshi Komiyama analyzes the most pressing challenges to the attainment of sustainability of [...]

Contents

1 "Diffusive Demand" and "Creative Demand". - 2 The 21st Century Paradigm and the Role of Information Technology. - 3 "Vision 2050" as the Rescue of a "Limited Earth". - 4 Finding a Way Out Through Creative Demand, I. - 5 Finding a Way Out Through Creative Demand, II. - 6 Toward the Realization of a "Platinum Society".

Fields of interest

Sustainable Development; Energy Policy, Economics and Management; Energy Efficiency (incl. Buildings); Climate Change Management and Policy; Renewable and Green Energy; Environmental Engineering / Biotechnology

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-4-431-54558-3

Hardcover

Original Japanese edition published by Toyo Keizai Inc., Tokyo, 2011
2014. XXIX, 103 p. 30 illus., 25 illus. in color. (Science for Sustainable Societies)
ISBN 978-4-431-54558-3

Due: December 31, 2013

K. Lei, Environmental Protection Bureau, Macau, China (P.R.); S. Zhou, South China University of Technology, Guangzhou, China (P.R.); Z. Wang, The University of Macau, Macau, China (P.R.)

Ecological Energy Accounting for a Limited System

General Principles and a Case Study of Macao

This book builds on the analyses of Eugene and Howard Odum and introduces the concept of systems ecology. Ecological energy accounting represents a breakthrough because it allows researchers to integrate man-made capital and natural capital so that human and natural concerns can be addressed using a consistent system of units. This book develops an energy accounting model that is suitable for describing urban systems, thereby providing a comprehensive picture of those systems. To make the theory concrete, the authors use China's Macao Special Administrative Region as a case study, and compare the results for Macao with those of other urban ecosystems around the world in the fields of [...]

Features

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Contents

From the Contents: Emergy Synthesis and Ecological Energy Accounting. - Emergy Synthesis for Eco-economic Systems of Macao. - Emergy analysis for tourism systems: principles and a case study for Macao. - Ecological energy accounting for the gambling sector: a case study in Macao. - Emergy Synthesis of Waste Treatment in Macao. - Per capita Resource Consumption and Resource Carrying Capacity: a Comparison of the Sustainability of 17 Mainstream Countries.

Fields of interest

Environmental Management; Energy Policy, Economics and Management; Energy Economics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-45169-0

Distribution rights in China: Science Press Ltd

Hardcover

2014. XII, 200 p. 66 illus. (Springer Environmental Science and Engineering)
ISBN 978-3-642-45169-0

Due: March 28, 2014

E. Lichtfouse, INRA, UMR1347 Agroécologie, Dijon, France; J. Schwarzbauer, RWTH Aachen, Aachen, Germany; D. Robert, Université de Lorraine, Saint-Avold, France (Eds.)

Pollutant Diseases, Remediation and Recycling

Pollution has no borders. This popular 70's saying from early ecologists is surprisingly still true nowadays despite overwhelming scientific evidence and public awareness of the occurrence of artificial toxic substances in water, food, air, living organisms and the environment. This book presents advanced reviews on pollutant occurrence, transfer, toxicity and remediation. The chapter on school air quality by Dambruoso et al. highlights the overlooked health issue of airborne pollutants in buildings. Children are particularly threatened because they spend 90% of their time indoors, even in summer. The chapter on industrial wastewater pollutants by Dsikowitzky and Schwarzbauer reviews [...]

Features

Pollution has no borders. This popular 70's saying from early ecologists is surprisingly still true nowadays despite overwhelming scientific evidence and public awareness of the occurrence of artificial toxic substances in water, food, air, living organisms and the environment. This book presents advanced reviews on pollutant occurrence, transfer, toxicity and remediation. The chapter on school air quality by [...]

Contents

1. School air quality: pollutants, monitoring and toxicity. - 2. Organic contaminants from industrial wastewaters: identification, toxicity and fate in the environment. - 3. Fly ash pollutants, treatment and recycling. - 4. Organotin compounds from snails to humans. - 5. Surfactants: chemistry, toxicity and remediation. - 6. Cadmium, lead, thallium: occurrence, neurotoxicity and histopathological changes of the nervous system. - 7. Lead, arsenic, cadmium, mercury: occurrence, toxicity and diseases. - 8. Plants as monitors of lead air pollution. - 9. Carcinogenic nitrosamines: remediation by [...]

Fields of interest

Environmental Chemistry; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Ecotoxicology; Atmospheric Protection / Air Quality Control / Air Pollution; Neurochemistry

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-319-02386-1

Hardcover

2013. XIV, 556 p. 110 illus., 72 illus. in color. (Environmental Chemistry for a Sustainable World, Vol. 4)
ISBN 978-3-319-02386-1

Due: January 31, 2014

A. Malik, Aligarh Muslim University, Aligarh, India; E. Grohmann, R. Akhtar, International Institute of Health Manage, New Delhi, India (Eds.)

Environmental Deterioration and Human Health

Natural and anthropogenic determinants

This book discusses the natural and anthropogenic determinants of the environment and their impact on human health. It throws light on the perspectives of climate change with case studies from Australia, India, Italy, and Latin America. Themes covered are ecology of antibiotic resistant microorganisms, pesticide and heavy metal (arsenic) problems in natural environment; molecular advances in understanding of microbial interactions; ecological studies of human/animal health and diseases; food security, technological developments and more. The various chapters incorporate both theoretical and applied aspects and may serve as baseline information for future research through which[...]

Features

This book discusses the natural and anthropogenic determinants of the environment and their impact on human health. It throws light on the perspectives of climate change with case studies from Australia, India, Italy, and Latin America. Themes covered are ecology of antibiotic resistant microorganisms, pesticide and heavy metal (arsenic) problems in natural environment; molecular advances in [...]

Contents

Part I: Environmental Quality Deterioration and Health.- Part II: Pollution and Health.- Part III: Climate Change and Health.- Part IV Water Quality, Exposure and Health.

Fields of interest

Environmental Health; Agriculture; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7889-4

Hardcover

2014. XV, 421 p. 45 illus., 35 illus. in color. ISBN 978-94-007-7889-4

Due: December 31, 2013

S. Rannow, Leibniz Institute of Ecological Urban, Dresden, Germany; M. Neubert, Leibniz Institute of Ecological Urban, Dresden, Germany (Eds.)

Managing Protected Areas in Central and Eastern Europe Under Climate Change

Beginning with an overview of data and concepts developed in the EU-project HABIT-CHANGE, this book addresses the need for sharing knowledge and experience in the field of biodiversity conservation and climate change. There is an urgent need to build capacity in protected areas to monitor, assess, manage and report the effects of climate change and their interaction with other pressures. The contributors identify barriers to the adaptation of conservation management, such as the mismatch between planning reality and the decision context at site level. Short and vivid descriptions of case studies, drawn from investigation areas all over Central and Eastern Europe, illustrate both the[...]

Features

Beginning with an overview of data and concepts developed in the EU-project HABIT-CHANGE, this book addresses the need for sharing knowledge and experience in the field of biodiversity conservation and climate change. There is an urgent need to build capacity in protected areas to monitor, assess, manage and report the effects of climate change and their interaction with other pressures. The contributors [...]

Contents

Preface.- Acknowledgements.- Chapter 1 – Natural Heritage at Risk by Climate Change.- Chapter 2 – Climate Change in Central and Eastern Europe.- Chapter 3 – Effects of Climate Change on the Hydrological Cycle in Central and Eastern Europe.- Chapter 4 – Potential impacts of climate change on protected habitats.- Chapter 5 – Climate Change impact modelling cascade - Benefits and limitations for.- Chapter 6 – Indicators for Monitoring Climate Change-Induced Effects on Habitats – a.- Chapter 7 – Remote Sensing-based Monitoring of Potential Climate-induced Impacts on Habitats.- Chapter 8 – [...]

Fields of interest

Climate Change; Nature Conservation; Fish & Wildlife Biology & Management; Landscape, Regional and Urban Planning; Applied Ecology

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7959-4

Hardcover

2014. XIV, 310 p. 75 illus., 37 illus. in color. (Advances in Global Change Research, Vol. 58) ISBN 978-94-007-7959-4

Due: January 31, 2014

D. Rutz, WIP - Renewable Energies, Munich, Germany; R. Janssen, WIP - Renewable Energies, Munich, Germany (Eds.)

Socio-Economic Impacts of Bioenergy Production

Around the world, many countries are increasing efforts to promote biomass production for industrial uses including biofuels and bio-products such as chemicals and bio-plastic. Against a backdrop of lively public debate on sustainability, bioenergy yields both positive and negative impacts upon a variety of environmental and socio-economic issues. These include property rights, labor conditions, social welfare, economic wealth, poverty reduction and more. This book discusses the issues and impacts of bioenergy, taking into account the local and regional framework under which bioenergy is produced, touching upon educational level, cultural aspects, the history and economics of the[...]

Features

Around the world, many countries are increasing efforts to promote biomass production for industrial uses including biofuels and bio-products such as chemicals and bio-plastic. Against a backdrop of lively public debate on sustainability, bioenergy yields both positive and negative impacts upon a variety of environmental and socio-economic issues. These include property rights, labor conditions, social [...]

Contents

Preface.- 1. Socio-economic impact assessment tools.- 2. Indicators for socio-economic sustainability assessment.- 3. Test auditing of socio-economic indicators for biofuel production.- 4. Linkages between socio-economic and environmental impacts of bioenergy.- 5. Socio-economic impacts of biofuels on land use change.- 6. The effects of bioenergy production on food security.- 7. Socio-economic impacts of sweet sorghum in temperate and tropical regions.- 8. The use of soybean by-products as a bio-fuel: the Argentine case.- 9. Socio-economic impacts of palm oil and biodiesel: the case of[...]

Fields of interest

Sustainable Development; Renewable and Green Energy; Social Sciences (general); Environment (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-319-03828-5

Hardcover

2014. I, 332 p. 70 illus. in color. ISBN 978-3-319-03828-5

Due: February 28, 2014

W. Schröder, Universität Vechta, Vechta, Germany; G. Schmidt, Universität Vechta, Vechta, Germany

Modelling Potential Malaria Spread in Germany by Use of Climate Change Projections

A Risk Assessment Approach Coupling Epidemiologic and Geostatistical Measures

This book investigates the spatial distribution of potential temperature-driven malaria transmissions, using the basic reproduction rate (R0) to model the reproduction of the malaria pathogen *Plasmodium vivax*. The authors mapped areas at risk of an outbreak of tertian malaria in the federal state of Lower Saxony (pre-study) and for whole Germany (main-study) by means of geostatistics for past (1947-2007) and future periods. Projections based on predicted monthly mean air temperature data derived from the IPCC and regionally discriminated by two regional climate models (REMO, WettReg) for the country-wide study.

Features

One of the most troubling and dangerous effects of climate warming is the potential for new outbreaks of vector-borne diseases – in humans as well as livestock – that had previously been eradicated, or at least effectively suppressed. One such threat is malaria. Although it is often believed to be restricted to the tropics and developing countries, climate change could bring malaria back to Europe, [...]

Contents

1. Background and Goals.- 2. Case Study 1: Modelling Potential Transmission Gates of Malaria Tertiana in Lower Saxony.- 3. Case Study 2: Modelling Potential Transmission Gates of Malaria Tertiana in Germany.- 4. Conclusions and Outlook.

Fields of interest

Climate Change; Climate Change Impacts; Parasitology; Epidemiology; Biogeosciences

Target groups

Graduate

Type of publication

Brief

More on www.springer.com/978-3-319-03822-3

Softcover

2014. XIV, 57 p. 18 illus., 15 illus. in color. (SpringerBriefs in Environmental Science)
ISBN 978-3-319-03822-3

Due: January 31, 2014

K. Seemann, School of Tourism & Hospitality Management, Coffs Harbour, Australia; M. Parnell, Greensynergy Consulting, Coffs Harbour, Australia; D. Marinova, Curtin Sustainability Policy Institute, Fremantle, Australia

Greening Frankenstein

Innovation for Sustainability

This book aims to publish a new message and novel ideas into the literature that links design, technology and sustainability. We are aiming, through research and critical exposition, to articulate new conceptual tools to describe and critique the made world. The book targets policy, professional and academic audiences concerned with sustainability culture and practice. Through practical illustrations and our body of research we will offer alternative narratives for how we ought think about the meanings of the labels we use to define the made world (our Frankenstein) and how our 'Frankenstein' is systemically part of us and part of ecology by design and by nature. We will reveal to the[...]

Features

This book aims to publish a new message and novel ideas into the literature that links design, technology and sustainability. We are aiming, through research and critical exposition, to articulate new conceptual tools to describe and critique the made world. The book targets policy, professional and academic audiences concerned with sustainability culture and practice. Through practical illustrations and our [...]

Contents

Preface.- Part 1: The Technology Problematic.- 1. Technology: Society's Problem Child.- 2. Technology Perspectives.- 3. The Ethics of Technology.- Part 2: Greening Frankenstein.- 4. Technology and Ignorance.- 5. Technology as a Way of Knowing.- 6. Technology as Human Culture.- Part 3: With Technology, Purpose-and-Context is Everything.- 7. Technology: A Systems View.- 8. Technology and Social Change.- 9. Global Green Systems.- Part 4: Technacy Education - towards a Discipline of Applied Synthesis.- 10. Technacy: Understanding the Problem Child.- 11. Technacy Practice.- 12. Technacy[...]

Fields of interest

Environmental Law / Policy / Ecojustice; Interdisciplinary Studies; Technology Management; Epistemology; Professional and Vocational Education; Human Geography

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-94-007-2012-1

Hardcover

2014. 250p. 25 illus., 5 illus. in color.
ISBN 978-94-007-2012-1

Due: February 28, 2014

M.A. Shields, University of Aberdeen, Newburgh, United Kingdom; A.L.L. Payne, A&B Word Ltd, Halesworth, United Kingdom (Eds.)

Marine Renewable Energy Technology and Environmental Interactions

It is now widely recognized that there is a need for long-term secure and suitable sustainable forms of energy. Renewable energy from the marine environment, in particular renewable energy from tidal currents, wave and wind, can help achieve a sustainable energy future. Our understanding of environmental impacts and suitable mitigation methods associated with extracting renewable energy from the marine environment is improving all the time and it is essential that we be able to distinguish between natural and anthropocentric drivers and impacts. An overview of current understanding of the environmental implications of marine renewable energy technology is provided.

Features

It is now widely recognized that there is a need for long-term secure and suitable sustainable forms of energy. Renewable energy from the marine environment, in particular renewable energy from tidal currents, wave and wind, can help achieve a sustainable energy future. Our understanding of environmental impacts and suitable mitigation methods associated with extracting renewable energy from the marine [...]

Contents

1. An Introduction to Marine Renewable Energy.- 2. The physics and hydrodynamic setting of marine renewable energy.- 3. Baselines and monitoring methods for detecting impacts of hydrodynamic energy extraction on intertidal communities of rocky shores.- 4. Assessing the impact of wind farms in subtidal, exposed marine areas.- 5. The influence of fisheries exclusion and addition of hard substrata on fish and crustaceans.- 6. Marine renewable energy, electromagnetic (EM) fields and EM-sensitive animals.- 7. Seabirds and marine renewables: Are we asking the right questions?.- 8. Marine[...]

Fields of interest

Marine & Freshwater Sciences; Renewable and Green Energy; Freshwater & Marine Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8001-8

Hardcover

2014. I, 418 p. 38 illus., 9 illus. in color. (Humanity and the Sea)
ISBN 978-94-017-8001-8

Due: January 31, 2014

M.A. Sutton, Centre for Ecology and Hydrology, Penicuik, United Kingdom; K.E. Mason, Centre for Ecology and Hydrology, Penicuik, United Kingdom; L.J. Sheppard, Centre for Ecology and Hydrology, Penicuik, United Kingdom; H. Sverdrup, University of Lund, Lund, Sweden; R. Hauber, US Environmental Protection Agency, Washington, USA; W.K. Hicks, University of York, Heslington, York, United Kingdom (Eds.)

Nitrogen Deposition, Critical Loads and Biodiversity

This volume brings together extended reviews and papers of new scientific research on atmospheric nitrogen deposition impacts globally. While there is a wealth of evidence on the magnitude, components and effects of nitrogen deposition on floral biodiversity in Europe and North America, there is an obvious lack of information on impacts on above- and below-ground fauna, and all impacts in other parts of the world, with no clear overview of how the different strands of evidence fit together. This overall synthesis is targeted at the international conventions, but is equally readable for scientists, environmental managers, conservation agencies and policy makers. "This timely book[...]"

Features

This volume brings together extended reviews and papers of new scientific research on atmospheric nitrogen deposition impacts globally. While there is a wealth of evidence on the magnitude, components and effects of nitrogen deposition on floral biodiversity in Europe and North America, there is an obvious lack of information on impacts on above- and below-ground fauna, and all impacts in other parts of the [...]

Contents

Part I. Monitoring and modelling atmospheric nitrogen deposition.- Part II. Nitrogen impacts on terrestrial and aquatic Ecosystems.- Part III. Critical loads and levels approaches and regional upscaling.- Part IV. Nitrogen deposition, ecosystem services and policy development.- Part V. Conclusions and outlook.

Fields of interest

Atmospheric Protection / Air Quality Control / Air Pollution; Terrestrial Pollution; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Environmental Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7938-9

Hardcover

2014. I, 539 p. 177 illus., 82 illus. in color.
ISBN 978-94-007-7938-9

Due: January 31, 2014

S. Takahashi, Kyoto University, Sennan-gun, Japan (Ed.)

Radiation Monitoring and Dose Estimation of the Fukushima Nuclear Accident

This book provides comprehensive research findings related to the environmental monitoring of radiation, levels of radioactive nuclides in various environments and dose estimation in residents after the Fukushima nuclear power plant accident caused severe environmental contamination with radioactive nuclides. At the beginning of the book, a technical review written by a leading researcher of nuclear reactor technology explains what happened at the power plant. The review is followed by a commentary from a former member of the International Commission on Radiological Protection, providing the reader with easily understandable information about the concept of radiation dosage. In the[...]

Features

This book provides comprehensive research findings related to the environmental monitoring of radiation, levels of radioactive nuclides in various environments, and dose estimation in residents after the Fukushima nuclear power plant accident caused severe environmental contamination with radioactive nuclides. At the beginning of the book, a technical review written by a leading researcher of nuclear [...]

Contents

Part 1 Introduction.- 1 Outline of the Environmental Monitoring of TEPCO's Fukushima Daiichi Nuclear Power Plant Accident (Tomoyuki TAKAHASHI).- 2 Outline of the Radiation Dose Estimation of Residents After the Fukushima Daiichi Nuclear Power Plant Accident (Sentaro TAKAHASHI).- Part 2 Overview.- 3 Accident of Fukushima Daiichi Nuclear Power Plant: Sequences, FP Released, Lessons Learned (Jun SUGIMOTO).- 4 Some Comments on Dose Assessment for Members of the Public After the Fukushima Daiichi Nuclear Power Plant Accident (Jiro INABA).- Part 3 Radiation Survey of the Environment.- 5[...]

Fields of interest

Effects of Radiation / Radiation Protection; Environmental Health; Nuclear Energy; Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution; Nuclear Chemistry

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-4-431-54582-8

Hardcover

2014. X, 219 p. 79 illus., 45 illus. in color.
ISBN 978-4-431-54582-8

Due: January 31, 2014

J. Urquhart, The School of Science, Chatham, United Kingdom; T.G. Acott, University of Greenwich, Chatham, United Kingdom; D. Symes, University of Hull, Hull, United Kingdom; M. Zhao, Greenwich Maritime Institute Office, London, United Kingdom (Eds.)

Social Issues in Sustainable Fisheries Management

This volume is an interdisciplinary mix of perspectives and studies on social issues in fisheries from a diverse range of case studies and research disciplines. The case is made regarding the dearth of attention to socio-cultural considerations which to date have been largely treated as an externality of fisheries policy. It will be valuable to researchers and decision makers interested in understanding the social dimension of fisheries and provides a timely and relevant compilation of research and analysis on some of the critical socio-cultural issues facing fisheries management and fishing communities today.

Features

This volume is an interdisciplinary mix of perspectives and studies on social issues in fisheries from a diverse range of case studies and research disciplines. The case is made regarding the dearth of attention to socio-cultural considerations which to date have been largely treated as an externality of fisheries policy. It will be valuable to researchers and decision makers interested in understanding the [...]

Contents

Part I. Issues in Governance and Co-management.- Part II. Issues in Local Ecological Knowledge and Scientific Evidence.- Part III. Issues in Sustaining Fisher Livelihoods.- Part IV. Issues in Gender Roles.- Part V. Issues in Social Identity and Cultural Heritage.

Fields of interest

Sustainable Development; Human Geography; Fish & Wildlife Biology & Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7910-5

Hardcover

2014. I, 199 p. 46 illus., 10 illus. in color. (MARE Publication Series, Vol. 9)

ISBN 978-94-007-7910-5

Due: January 31, 2014

Geography

A. Abdul Rahman, Universiti Teknologi Malaysia, Skudai, Malaysia; P. Boguslawski, Universiti Teknologi Malaysia, Skudai, Malaysia; A. François, Technical University of Denmark, Copenhagen, Denmark; M.N. Said, Universiti Teknologi Malaysia, Skudai, Malaysia; K.M. Omar, Universiti Teknologi Malaysia, Skudai, Malaysia (Eds.)

Geoinformation for Informed Decisions

This book presents the latest research developments in geoinformation science, which includes all the sub-disciplines of the field, such as: geomatic engineering, GIS, remote sensing, digital photogrammetry, digital cartography, etc.

Features

This book presents the latest research developments in geoinformation science, which includes all the sub-disciplines of the field, such as: geomatic engineering, GIS, remote sensing, digital photogrammetry, digital cartography, etc.

Contents

From the Contents: The interoperable Building Model of the European Union.- Object Oriented Multispectral Images Segmentation and Classification.- Reverse RTK Data Streaming for Low-Cost Landslide Monitoring.- An Alternative Technique for Landslide Inventory Modeling based on Spatial Pattern Characterization.- Development of A New D16 Algorithm for Single Flow Direction Model.

Fields of interest

Geographical Information Systems / Cartography; Remote Sensing / Photogrammetry; Natural Hazards

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03643-4

Hardcover

2014. 300 p. 150 illus. (Lecture Notes in Geoinformation and Cartography)
ISBN 978-3-319-03643-4

Due: April 16, 2014

J. Benveniste, European Space Agency/ESRIN, Roma, Italy; S. Vignudelli, Consiglio Nazionale delle Ricerche, Pisa, Italy; A.G. Kostianoy, Russian Academy of Sciences, Moscow, Russian Federation

Inland Water Altimetry

This book will bring an integrated view of the state-of-the art in the matter to the water scientists eager to add Radar Altimetry to their toolkit. It describes experience in application of satellite altimetry to the different inland seas, lakes and rivers in the World. It presents the principal problems related to the altimetry derived products in inland seas, lakes and rivers and ways of their improvement. This publication is based on numerous satellite and observational data collected and analyzed by the authors of the various chapters in the framework of a set of international projects, performed in Europe, Russia, USA, and China. The book will contribute both to the ongoing[...]

Features

This book will bring an integrated view of the state-of-the art in the matter to the water scientists eager to add Radar Altimetry to their toolkit. It describes experience in application of satellite altimetry to the different inland seas, lakes and rivers in the World. It presents the principal problems related to the altimetry derived products in inland seas, lakes and rivers and ways of their improvement. [...]

Fields of interest

Remote Sensing / Photogrammetry; Hydrology / Water Resources

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-22678-6

Hardcover

2014. 500p. 100 illus.
ISBN 978-3-642-22678-6

Due: March 28, 2014

J. Fiedler

Urbanisation, unlimited

A Thematic Journey

The book consists of a series of essays covering themes which are relevant to the process of urbanisation worldwide – such as dispersion, privatisation or vitality. With reference to each of the 15 themes, specific instances are displayed with one photo each and a description of anecdotal character. The instances are taken from Europe, the Middle East, Brazil, South Africa and the United States. The tone of the text is analytical, based on a post-voluntarist attitude, critical to both neoliberal policies and determinist planning traditions.

Features

The book consists of a series of essays covering themes which are relevant to the process of urbanisation worldwide – such as dispersion, privatisation or vitality. With reference to each of the 15 themes, specific instances are displayed with one photo each and a description of anecdotal character. The instances are taken from Europe, the Middle East, Brazil, South Africa and the United States. The tone of [...]

Contents

Wild Urbanism.- Introduction and Acknowledgements.- Abstraction.- Brazilianisation.- Convergence.- Dispersion.- Expansion.- Gentrification.- Hegemony.- Modernisation.- Privatisation.- Regulation.- Segregation.- Urban Space.- Vitality.- Afterword.- References.

Fields of interest

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

Target groups

Graduate

Type of publication

Monograph

More on www.springer.com/978-3-319-03586-4

Hardcover

2014. 190 p. 75 illus. in color.
ISBN 978-3-319-03586-4

Due: March 15, 2014

J. He

Creative Industry Districts

An Analysis of Dynamics, Networks and Implications on Creative Clusters in Shanghai

Since the late 1990s, there have been broad discussions concerning the rapid rise of the creative economy. Creative or cultural industry is seen as the new engine of the regional growth for both developed economies and emerging nations. At the point of transition in economy and society, China is recently striving to transform its economy from "made in China" towards "created in China". This book provides an insight into creative industries and spaces in Shanghai, which is the fastest growing megacity in China and the center of modern economic development on a global scale. Underpinned by new approaches from economic geography and urban studies, it deals with the new relations between [...]

Features

This book provides insight into creative industries and spaces in Shanghai, which is the fastest growing megacity in China and center of modern economic development on a global scale. Underpinned by new approaches from economic geography and urban studies, it deals with the new relations between the creative economy and urban environment in Shanghai. At the point of transition in economy and society, China [...]

Contents

Introduction.- From the New Economy to Creative City.- Characterizing Shanghai's Creative Industries and Districts.- Dynamics in Clustering of Creative Industries in Shanghai.- Network Analysis of Creative Clusters in Shanghai.- Impacts of Creative Industry Districts in Shanghai.- Discussion and Conclusions.

Fields of interest

Economic Geography; Regional Science; Landscape, Regional and Urban Planning

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-01975-8

Hardcover

2014. XIII, 197 p. 75 illus., 50 illus. in color. (Advances in Asian Human-Environmental Research)
ISBN 978-3-319-01975-8

usually dispatched within 3 to 5 business days

D. Malkinson, D. Czamanski, I. Benenson (Eds.)

Modeling of Land-Use and Ecological Dynamics

As cities are rapidly expanding and encroaching into agricultural and natural areas, a question of primary concern is how this expansion affects surrounding agriculture and natural landscapes. This book presents a wide spectrum of both theoretical and empirical approaches to simulation and assessment of landscape dynamics. The first part presents state-of-the-art modelling approaches pertaining to land-use changes entailed by the urban sprawl, at different spatial resolutions and temporal time scales. The second part is dedicated to case studies of the effects and consequences of the emerging urban-agriculture open space patterns.

Features

As cities are rapidly expanding and encroaching into agricultural and natural areas, a question of primary concern is how this expansion affects surrounding agriculture and natural landscapes. This book presents a wide spectrum of both theoretical and empirical approaches to simulation and assessment of landscape dynamics. The first part presents state-of-the-art modelling approaches pertaining to land-use [...]

Contents

Preface.- Introduction.- The Impact of Land-Use Policy on Urban Fringe Dynamics.- Long-Term Changes in Configuration of Agriculture and Natural Areas Around Cities in the Netherlands (1900 - 1990).- Investigating Land-Use Dynamics at the Periphery of a Fast-Growing City with Cellular Automata at Two Spatial Scales.- The Spatial Morphology of Oporto's Urban Fringe.- Vascular Plant Species Richness Patterns in Urban Environments - Case Studies from Hannover, Germany and Haifa, Israel.- Future Suburban Development and the Environmental Implications of Lawns: A Case Study in New England.[...]

Fields of interest

Landscape, Regional and Urban Planning; Regional Science; Nature Conservation; Simulation and Modeling; Ecosystems

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-40198-5

Hardcover

2013. VII, 193 p. 66 illus., 9 illus. in color. (Cities and Nature)
ISBN 978-3-642-40198-5

Due: December 31, 2013

M. Patterson, Kennesaw State University, Kennesaw, USA; N. Hoalst-Pullen, Kennesaw State University, Kennesaw, USA (Eds.)

The Geography of Beer

Regions, Environment, and Societies

This edited collection examines the various influences, relationships, and developments beer has had from distinctly spatial perspectives. The chapters explore the functions of beer and brewing from unique and sometimes overlapping historical, economic, cultural, environmental and physical viewpoints. Topics from authors – both geographers and non-geographers alike – have examined the influence of beer throughout history, the migration of beer on local to global scales, the dichotomous nature of global production and craft brewing, the neocalism of craft beers, and the influence local geography has had on beer's most essential ingredients: water, starch (malt), hops, and yeast. At the [...]

Features

From its roots in early civilizations to its modern role in globalization, the role of beer through time and space have influenced the culture, economics, and environments of what society has grown, produced, and consumed. This edited collection examines the various influences, relationships, and developments beer has had from distinctly spatial perspectives. The chapters explore the functions of beer [...]

Contents

Geographies of Beer.- Section 1: Regions.- The Geography of Beer in Europe from 1000 B.C. to A.D. 1000.- The Spatial Diffusion of Beer From Its Sumerian Origins to Today.- Mapping Unites States Breweries 1612 to 2011.- Local to National and Back Again: Beer, Wisconsin & Scale.- The World's Beer: The Historical Geography of Brewing in Mexico.- Geographic Appellations of Beer.- Section 2: Environment.- The Global Hop: An Agricultural Overview of the Brewer's Gold.- Sweetwater, Mountain Springs, and Great Lakes: A hydro-geography of beer brands.- A Taste of Place: Environmental Geographies[...]

Fields of interest

Economic Geography; Physical Geography; Human Geography; Regional and Cultural Studies; Food Science

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-94-007-7786-6

Hardcover

2014. X, 200 p. 70 illus., 50 illus. in color.
ISBN 978-94-007-7786-6

Due: March 28, 2014

L. Rivard, C. Hohner Rivard

Complex Terrain Mapping

Integrated Use of Stereo Air Photos and Satellite Images

A review of five major categories of morphogenetic terrain types meet the complex terrain criteria: landslides, field photos of slope failures, bedrocks, nonglacial surficial deposits, glacial and alpine-glacial, and periglacial. Interpretations are based on personal knowledge and available background materials. This monograph documents a concept of complex terrains with the use of 208 illustrations, including 64 analyzed and extensively commented examples of stereo-pair air photos and 64 related satellite images.

Features

A review of five major categories of morphogenetic terrain types meet the complex terrain criteria: landslides, field photos of slope failures, bedrocks, nonglacial surficial deposits, glacial and alpine-glacial, and periglacial. Interpretations are based on personal knowledge and available background materials. This monograph documents a concept of complex terrains with the use of 208 illustrations, including [...]

Contents

Preface.- Complex terrain.- Stereo air photos.- High resolution stereo satellite images.- Introduction.- Air photo layout format.- Regional setting satellite images.- Landslide types.- Field photos of slope failures.- Bedrock types.- Nonglacial surficial deposits.- Glacial and alpine-glacial types.- Periglacial types.

Fields of interest

Geographical Information Systems / Cartography; Geomorphology; Remote Sensing / Photogrammetry

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-3-319-02449-3

Hardcover

2014. 200 p. 230 illus., 100 illus. in color.
ISBN 978-3-319-02449-3

Due: April 15, 2014

H. Shimizu, A. Murayama (Eds.)

Basic and Clinical Environmental Approaches in Landscape Planning

Our societies need to solve difficult issues to attain sustainability. The main challenges include, among others, global warming, demographic change, an energy crisis, and loss of biodiversity. In tackling these issues, a holistic understanding of our living space is important. The field of landscape planning and design is at the core the holistic concept and it makes several contributions to achieving sustainability. First, landscape planning and design connects different spatial scales: from site to region to the planet. Second, it focuses on close interrelationships between human activities and nature. Third, it is concerned with people's values toward their surroundings. This book [...]

Features

Our societies need to solve difficult issues to attain sustainability. The main challenges include, among others, global warming, demographic change, an energy crisis, and loss of biodiversity. In tackling these issues, a holistic understanding of our living space is important. The field of landscape planning and design is at the core the holistic concept and it makes several contributions to achieving [...]

Contents

Cultural Landscape: What People Give Value to in Their Surroundings.- Landscape Perception in Japan and Germany.- New Trend of Landscape Planning & Design in Japan.- Possibility of Japanese Landscape Planning for Development Management.- Landscape Perception of the Residents in Nyu Village, Kushida-River.- Landscape Sequence of Kushida-River.- Social Perceptions of Wetlands and their Implications to Environmental Decision Making.- How can We Make Mandala of Landscape Issues on Kushida-River.- Issues on Clinical Environmental Approach in Multi-Scale, Participatory Landscape Planning.

Fields of interest

Landscape, Regional and Urban Planning; Sustainable Development; Monitoring / Environmental Analysis; Energy Policy, Economics and Management

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-4-431-54414-2

Hardcover

2014. XV, 126 p. 126 illus., 115 illus. in color. (Urban and Landscape Perspectives, Vol. 17)
ISBN 978-4-431-54414-2

Due: January 31, 2014

H. Tang, Chinese Academy of Agricultural Sciences, Beijing, China (P.R.); Z.-L. Li, Chinese Academy of Agricultural Sciences, Beijing, China (P.R.)

Quantitative Remote Sensing in Thermal Infrared

Theory and Applications

This book provides a comprehensive and advanced overview of the basic theory of thermal remote sensing and its application in hydrology, agriculture, and forestry. Specifically, the book highlights the main theory, assumptions, advantages, drawbacks, and perspectives of these methods for the retrieval and validation of surface temperature/emissivity and evapotranspiration from thermal infrared remote sensing. It will be an especially valuable resource for students, researchers, experts, and decision-makers whose interest focuses on the retrieval and validation of surface temperature/emissivity, the estimation and validation of evapotranspiration at satellite pixel scale, and the [...]

Features

This book provides a comprehensive and advanced overview of the basic theory of thermal remote sensing and its application in hydrology, agriculture, and forestry. Specifically, the book highlights the main theory, assumptions, advantages, drawbacks, and perspectives of these methods for the retrieval and validation of surface temperature/emissivity and evapotranspiration from thermal infrared remote sensing. [...]

Contents

Basic theory of quantitative remote sensing.- Radiometric calibration.- Emissivity retrieval.- LST retrieval.- Estimation of evapotranspiration.- Applications.- Future development and perspectives.

Fields of interest

Remote Sensing / Photogrammetry; Earth System Sciences; Hydrology / Water Resources; Agriculture; Geophysics and Environmental Physics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-42026-9

Hardcover

2014. X, 296 p. 70 illus., 40 illus. in color. (Springer Remote Sensing/Photogrammetry)
ISBN 978-3-642-42026-9

Due: December 31, 2013

Life Sciences

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

Physiological Mechanisms and Adaptation Strategies in Plants Under Changing Environment

Volume 2

Abiotic stress has a detrimental impact on the living organisms in a specific environment and constitutes a major constraint to global agricultural production. The adverse environmental conditions that plants encounter during their life cycle not only disturb their metabolic reactions, but also hamper their growth and development on cellular and whole plant levels. These conditions are of great concern, particularly for those countries whose economies primarily rely on agriculture. Under abiotic stresses, plants amalgamate multiple external stress cues to bring about a coordinated response and establish mechanisms to mitigate such stresses by triggering a cascade of events leading[...]

Features

Abiotic stress has a detrimental impact on the living organisms in a specific environment and constitutes a major constraint to global agricultural production. The adverse environmental conditions that plants encounter during their life cycle not only disturb their metabolic reactions, but also hamper their growth and development on cellular and whole plant levels. These conditions are of great [...]

Contents

Biochemical and Molecular Approaches for Drought Tolerance in Plants.- Heavy-Metal Attack on Freshwater Side: Physiological Defense Strategies of Macrophytes and Ecotoxicological Ops.- Secondary Metabolites and Environmental Stress in Plants: Biosynthesis, Regulation and Function.- Major Phytohormones under Abiotic Stress.- Nitric Oxide: Role in Plants under Abiotic Stress.- Brassinosteroids: Improving Crop Productivity and Abiotic Stress Tolerance.- Ethylene: Role in Plants under Environmental Stress.- Scenario of Climate Changes in the Context of Agriculture.- Importance of Protective[...]

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/978-1-4614-8599-5

Hardcover

2014. XVI, 394 p. 28 illus., 13 illus. in color.
ISBN 978-1-4614-8599-5

usually dispatched within 3 to 5 business days
December 31, 2013

H. Anazawa, S. Shimizu (Eds.)

Microbial Production

From Genome Design to Cell Engineering

Microbial production: From genome design to cell surface engineering affords a comprehensive review of novel technology and approaches being implemented for manufacturing microorganisms, written by specialists in both academia and industry. This book is divided into three sections: the first includes technology for improvement of fermentation strains and many supporting technologies and information; the second examines novel technology useful for analysis of cell activities, analyzing gene function, and designing genomes of producer strains; and finally, a discussion of the practical application of the techniques and success case studies in many fields of bio-production, such[...]

Features

In this book the reader will find an introduction and review of recent research and development of the technology for bio-production of manufacturing microorganisms, a field in which Japan leads the world. Presented here are novel concepts and technology for breeding fermentation strains as well as the analytical methodology for gene function and genome design of producer strains. Successful results [...]

Contents

Preface.- Part1: Minimum Genome Factory.- Chapter1 Creation of novel technology for extracellular protein production towards the development of *Bacillus subtilis* genome factories.- Chapter2 Minimum genome factories in *Schizosaccharomyces pombe*.- Chapter3 Minimum genome Factory of *E. coli*.- Part 2: Whole Genome Manipulation for Genome Design.- Chapter4 Efficient and accurate production of de novo designed gene clusters of large size by a novel *Bacillus subtilis* based BGM system.- Chapter5 Development and application of novel genome technology in *Saccharomyces cerevisiae*.- Chapter6[...]

Fields of interest

Microbial Genetics and Genomics; Applied Microbiology; Microbiology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-4-431-54606-1

Hardcover

2014. XV, 343 p. 116 illus., 32 illus. in color.
ISBN 978-4-431-54606-1

Due: February 28, 2014

S. Bellon, INRA, Avignon Cedex 09, France; S. Penvern, INRA, Avignon Cedex 09, France (Eds.)

Organic farming, prototype for sustainable agricultures

Stakeholders show a growing interest for organic food and farming (OF&F), which becomes a societal component. Rather than questioning whether OF&F outperforms conventional agriculture or not, the main question addressed in this book is how, and in what conditions, OF&F may be considered as a prototype towards sustainable agricultures. The book gathers 25 papers introduced in a first chapter. The first section investigates OF&F production processes and its capacity to benefit from the systems functioning to achieve higher self-sufficiency. The second one proposes an overview of organic performances providing commodities and public goods. The third one focuses on organics development[...]

Features

Various stakeholders have shown a growing interest in organic food and farming (OF&F), which has become a widespread issue at all levels of society. However, much debate still arises about the value of OF&F as a model for sustainable agriculture. Rather than questioning whether organic farming performs better or not than conventional farming, the main question addressed in this book is how and under [...]

Contents

Preface.- 1. Introduction: Organic food and Farming, Prototype for Sustainable Agriculture.- PART 1 – SYSTEM'S FUNCTIONING TO IMPROVE SELF-SUFFICIENCY.- 1.1 Organic Landcare and Fertility.- 2. Soil phosphorus (P) management in organic cropping systems: from current practices to avenues for a more efficient use of P resource.- 3. Intercropping – applying ecological principles for improved nitrogen use efficiency in organic farming systems.- 1.2 Crop Protection in Organic Farming.- 4. Regulatory framework for plant protection in organic farming.- 5. Conservation biocontrol: Principles and[...]

Fields of interest

Agriculture; Ecology; Sociology, general; Plant Sciences; Food Science; Veterinary Medicine

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7926-6

Hardcover

2014. I, 574 p.
ISBN 978-94-007-7926-6

Due: January 31, 2014

H. Bleckmann, University of Bonn, Bonn, Germany; J. Mogdans, S.L. Coombs (Eds.)

Flow Sensing in Air and Water

Behavioural, Neural and Engineering Principles of Operation

In this book, leading scientists in the fields of sensory biology, neuroscience, physics and engineering explore the basic operational principles and behavioral uses of flow sensing in animals and how they might be applied to engineering applications such as autonomous control of underwater or aerial vehicles. Although humans possess no flow-sensing abilities, countless aquatic (e.g. fish, cephalopods and seals), terrestrial (e.g. crickets and spiders) and aerial (e.g. bats) animals have flow sensing abilities that underlie remarkable behavioral feats. These include the ability to follow silent hydrodynamic trails long after the trailblazer has left the scene, to form hydrodynamic[...]

Features

In this book, leading scientists in the fields of sensory biology, neuroscience, physics and engineering explore the basic operational principles and behavioral uses of flow sensing in animals and how they might be applied to engineering applications such as autonomous control of underwater or aerial vehicles. Although humans possess no flow-sensing abilities, countless aquatic (e.g. fish, [...])

Contents

Part I: Spatio-Temporal Structure of Natural Aero- and Hydrodynamic Stimuli.- Natural Hydrodynamic Stimuli.- Laser-Based Optical Methods for the Sensory Ecology of Flow Sensing: From Classical PIV to Micro-PIV and Beyond.- Part II: Flow Sensing and Animal Behavior.- The Role of Flow and the Lateral Line in the Multisensory Guidance of Orienting Behaviours.- Hydrodynamic Perception in Seals and Sea Lions.- Hydrodynamic Imaging by Blind Mexican Cave Fish.- Flow Sensing in Sharks: Lateral Line Contributions to Navigation and Prey Capture.- The Slightest Whiff of Air: Airflow Sensing in[...]

Fields of interest

Neurobiology; Biophysics and Biological Physics; Zoology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-41445-9

Hardcover

2014. VIII, 601 p. 200 illus., 77 illus. in color. ISBN 978-3-642-41445-9

Due: January 31, 2014

T.A.L. Brevini, F. Gandolfi

Pluripotency in Domestic Animal Cells

This addition to the Springer Brief in Stem Cells series focuses on aspects related to the specific mechanisms that ensure and control pluripotency and cell commitment in domestic animal species. This topic is generating rapidly-increasing interest due to the great potential for domestic animal species to be used as intermediate biomedical models, between the mouse and the human. The Brief addresses why we need large animal models for regenerative medicine. It also describes early embryo development with a careful and specific analysis of the regulatory mechanisms driving cleavage, polarization and genome activation in domestic species. How pluripotency is compartmentalized in[...]

Features

This addition to the Springer Brief in Stem Cells series focuses on aspects related to the specific mechanisms that ensure and control pluripotency and cell commitment in domestic animal species. This topic is generating rapidly-increasing interest due to the great potential for domestic animal species to be used as intermediate biomedical models, between the mouse and the human. The Brief addresses why [...]

Contents

Early Embryo Development in Large Animals.- Syngamy and Spindle Formation.- Cleavage, compaction and blastulation.- Cell commitment.- Naive versus established epiblast.- Pluripotency in Domestic Animal Embryos.- Expression, restriction and interactions of molecules involved in the control of cell potency and commitment.- Species-specific and stage specific pluripotency markers.- Use of Large Animal Models for Regenerative Medicine.- Why do we need stem cell line from large animal species?.- What are the applications and potentials.- What are the limits?.

Fields of interest

Stem Cells; Embryology; Cell Biology; Reproductive Medicine

Target groups

Research

Type of publication

Brief

More on www.springer.com/978-1-4899-8052-6

Softcover

2013. VII, 46 p. 28 illus., 24 illus. in color. (SpringerBriefs in Stem Cells) ISBN 978-1-4899-8052-6

Due: January 31, 2014

H. Brumm, Max Planck Institute for Ornithology, Seewiesen, Germany (Ed.)

Animal Communication and Noise

The study of animal communication has led to significant progress in our general understanding of motor and sensory systems, evolution, and speciation. However, one often neglected aspect is that signal exchange in every modality is constrained by noise, be it in the transmission channel or in the nervous system. This book analyses whether and how animals can cope with such constraints, and explores the implications that noise has for our understanding of animal communication. It is written by leading biologists working on different taxa including insects, fish, amphibians, lizards, birds, and mammals. In addition to this broad taxonomic approach, the chapters also cover a wide array[...]

Features

The study of animal communication has led to significant progress in our general understanding of motor and sensory systems, evolution, and speciation. However, one often neglected aspect is that signal exchange in every modality is constrained by noise, be it in the transmission channel or in the nervous system. This book analyses whether and how animals can cope with such constraints, and explores the [...]

Contents

Introduction.- Signal Detection, Noise, and the Evolution of Communication.- Masking by Noise in Acoustic Insects: Problems and Solutions.- Effects of Noise on Sound Detection and Acoustic Communication in Fishes.- Anuran Acoustic Signal Production in Noisy Environments.- Avian Acoustic Signal Perception in Noisy Environments.- Avian Vocal Production in Noise.- Avian Sound Perception in Noise.- Effects of Noise on Acoustic Signal Production in Marine Mammals.- Effects of Noise on Sound Perception in Marine Mammals.- Noise in Visual Communication: Motion from Wind-Blown Plants.- Neural[...]

Fields of interest

Behavioural Sciences; Animal Physiology; Neurobiology; Evolutionary Biology; Noise Control

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-41493-0

Hardcover

2013. VIII, 453 p. 107 illus., 34 illus. in color. (Animal Signals and Communication, Vol. 2) ISBN 978-3-642-41493-0

Due: December 31, 2013

D. Chandra, Roswell Park Cancer Institute, Buffalo, USA (Ed.)

Mitochondria as Targets for Phytochemicals in Cancer Prevention and Therapy

This book highlights the importance of phytochemicals and mitochondria in cancer prevention and therapy. Recent scientific discoveries have identified that naturally occurring biologically active compounds (i.e. phytochemicals) target multiple steps of tumorigenesis leading to the inhibition or delay in cancer progression. Mitochondria, organelles within a cell, are a critical target for phytochemicals in regulating the initiation, promotion, and progression of cancer. The book is divided into three parts to better communicate the important findings related to phytochemicals and mitochondria in cancer research. The first part describes updates on environmental and genetic factors[...]

Features

Mitochondria as Targets for Phytochemicals in Cancer Prevention and Therapy has three major themes. Theme one describes the current knowledge on environmental and genetic factors that cause cancer initiation and progression, the role of mitochondria in regulating the process of carcinogenesis, and cell death pathways. Theme two focuses on the elucidation of key target proteins that could be exploited [...]

Contents

OxPhos Defects and Their Role in Cancer Initiation and Progression.- Estrogen Receptor-Tumor Suppressor Protein p53 Signaling Crosstalk as Potential Targets of Xenoestrogens.- Mitochondrial Regulation of Cell-Death.- Cell Death Inducing Mechanisms of Cancer Chemopreventive Agents.- Dietary Phytochemicals Target Cancer Stem Cells for Cancer Chemoprevention.- Basic and translational research on dietary phytochemicals and cancer prevention.- Mitochondrial Reactive Oxygen Species in Proapoptotic Effect of Promising Cancer Chemopreventive Phytochemicals.- Therapeutic action of[...]

Fields of interest

Cell Biology; Cancer Research; Apoptosis

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9325-9

Hardcover

2013. XI, 262 p. 24 illus., 15 illus. in color.
ISBN 978-1-4614-9325-9

Due: December 31, 2013

D. Cowan (Ed.)

Antarctic Terrestrial Microbiology

Physical and Biological Properties of Antarctic Soil Habitats

This book brings together many of the world's leading experts in the fields of Antarctic terrestrial soil ecology, providing a comprehensive and completely up-to-date analysis of the status of Antarctic soil microbiology. Antarctic terrestrial soils represent one of the most extreme environments on Earth. Once thought to be largely sterile, it is now known that these diverse and often specialized extreme habitats harbor a very wide range of different microorganisms. Antarctic soil communities are relatively simple, but not unsophisticated. Recent phylogenetic and microscopic studies have demonstrated that these communities have well established trophic structuring and play a significant[...]

Features

This book brings together many of the world's leading experts in the fields of Antarctic terrestrial soil ecology, providing a comprehensive and completely up-to-date analysis of the status of Antarctic soil microbiology. Antarctic terrestrial soils represent one of the most extreme environments on Earth. Once thought to be largely sterile, it is now known that these diverse and often specialized [...]

Contents

General Introduction.- Bacterial Community Structures of Antarctic Soils.- Fungal Diversity in Antarctic Soils.- Invertebrates.- What Do We Know About Viruses in Terrestrial Antarctica?.- Microbiology of Eutropic Soil.- Fell-field Soil Microbiology.- Biological Soil Crusts.- Lithic Habitats.- Microbial Ecology of Geothermal Habitats in Antarctica.- Microbial life in Antarctic Permafrost Environments.- Primary Production and Links to Carbon Cycling in Antarctic Soils.- Climate Change and Microbial Populations.- Threats to Soil Communities: Human Impacts.- Antarctic Climate and Soils.-[...]

Fields of interest

Microbial Ecology; Bacteriology; Microbial Genetics and Genomics; Geology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-45212-3

Hardcover

2014. V, 383 p. 62 illus., 47 illus. in color.
ISBN 978-3-642-45212-3

Due: January 31, 2014

T. Dickhaus, Humboldt University Berlin, Berlin, Germany

Simultaneous Statistical Inference

With Applications in the Life Sciences

This monograph will provide an in-depth mathematical treatment of modern multiple test procedures controlling the false discovery rate (FDR) and related error measures, particularly addressing applications to fields such as genetics, proteomics, neuroscience and general biology. The book will also include a detailed description how to implement these methods in practice. Moreover new developments focusing on non-standard assumptions are also included, especially multiple tests for discrete data. The book primarily addresses researchers and practitioners but will also be beneficial for graduate students.

Features

This monograph will provide an in-depth mathematical treatment of modern multiple test procedures controlling the false discovery rate (FDR) and related error measures, particularly addressing applications to fields such as genetics, proteomics, neuroscience and general biology. The book will also include a detailed description how to implement these methods in practice. Moreover, new developments focusing on [...]

Contents

The problem of simultaneous inference.- Part I General Theory.- Some theory of p-values.- Classes of multiple test procedures.- Simultaneous test procedures.- Stepwise rejective multiple tests.- Multiple testing and binary classification.- Multiple testing and model selection.- Software solutions for multiple hypotheses testing.- Part II From Genotype to Phenotype.- Genetic association studies.- Gene expression analyses.- Functional magnetic resonance imaging.- Part III Further Applications in the Life Sciences.- Further life science applications.

Fields of interest

Biostatistics; Statistical Theory and Methods; Mathematical and Computational Biology; Data Mining and Knowledge Discovery; Biomedical Engineering

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-45181-2

Hardcover

2014. XV, 180 p. 19 illus., 10 illus. in color.
ISBN 978-3-642-45181-2

Due: January 31, 2014

G. Dixon, GreenGene International, Sherborne, Dorset, United Kingdom; D.E. Aldous, The University of Queensland, Lawes, Australia (Eds.)

Horticulture: Plants for People and Places, Volume 3

Social Horticulture

This Trilogy explains "What is Horticulture?". Volume three of Horticulture: Plants for People and Places presents readers with detailed accounts of the scientific and scholastic concepts which interact with the arts and humanities and which now underpins the rapidly evolving subject of Social Horticulture. This discipline transcends the barriers between science, medicine and the arts. This volume covers: Horticulture and Society, Diet and Health, Psychological Health, Wildlife, Horticulture and Public Welfare, Education, Extension, Economics, Exports and Biosecurity, Scholarship and Art, Scholarship and Literature, Scholarship and History and the relationship between Horticulture[...]

Features

Volume three of Horticulture – Plants for People and Places analyses in depth the scientific and scholastic concepts interacting with the arts, medicine and humanities which now underpin the rapidly evolving subject of Social Horticulture. This covers: Horticulture and Society, Diet and Health, Psychological Health, Wildlife, Horticulture and Public Welfare, Education, Extension, Economics, Exports [...]

Contents

27. Horticulture and Society.- 28. Fruit and Vegetables and Health: An overview.- 29. Health and Well-Being.- 30. Human Dimensions of Wildlife Gardening: Its development, controversies and psychological benefits.- 31. Horticultural Science's Role in Meeting the Need of Urban Populations.- 32. Education and Training Futures in Horticulture and Horticultural Science.- 33. Extension Approaches for Horticultural Innovation.- 34. Increasing the Economic Role for Smallholder Farmers in the World Market for Horticultural Food.- 35. International Plant Trade and Biosecurity.- 36. Art in[...]

Fields of interest

Agriculture; Food Science; Environment (general); Business & Management Science; Social Sciences (general); Humanities

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8559-4

Hardcover

2014. Approx. 250 p. 106 illus., 65 illus. in color. ISBN 978-94-017-8559-4

Due: February 28, 2014

G. Dixon, GreenGene International, Sherborne, Dorset, United Kingdom; D.E. Aldous, The University of Queensland, Lawes, Australia (Eds.)

Horticulture: Plants for People and Places, Volume 2

Environmental Horticulture

This Trilogy explains "What is Horticulture?". Volume two of Horticulture: Plants for People and Places analyses in depth the scientific, managerial and ecological concepts which underpin Environmental Horticulture. Chapters describe: Horticulture and the Environment, Woody Ornamentals, Herbs and Pharmaceuticals, Urban Greening, Rural Trees, Urban Trees, Turfgrass Science, Interior and External Landscaping, Biodiversity, Climate Change and Organic Production. Each is written by leading international experts. Sustainable use of resources and careful conservation are critically essential for the continuation of life on this Planet. Achieving this is where horticulture, natural flora and[...]

Features

Volume two of Horticulture – Plants for People and Places provides detailed considerations of the scientific, managerial and technological concepts which underpin Environmental Horticulture. This discipline returns horticulture to its original values required for the design, husbandry and management of macro- and micro-landscapes and their constituent parts. Expert internationally acclaimed authors [...]

Contents

16. Horticulture and the Environment.- 17. Woody Ornamentals.- 18. Medicinal and Aromatic Plants – Uses and functions.- 19. Urban Greening - Macro-scale landscaping.- 20. Urban Trees.- 21. Trees in the Rural Landscape.- 22. Management of Sports Turf and Amenity Grasslands.- 23. Interior Landscapes.- 24. Biodiversity and Green Open Space.- 25. An Assessment of the Effects of Climate Change on Horticulture.- 26. Concepts and Philosophy underpinning Organic Horticulture.- Index.

Fields of interest

Agriculture; Food Science; Environment (general); Business & Management Science; Social Sciences (general); Humanities

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8580-8

Hardcover

2014. Approx. 250 p. 58 illus., 47 illus. in color. ISBN 978-94-017-8580-8

Due: February 28, 2014

G.R. Dixon, GreenGene International, Sherborne, United Kingdom; D.E. Aldous, The University of Queensland, Lawes, Australia (Eds.)

Horticulture: Plants for People and Places, Volume 1

Production Horticulture

This Trilogy explains "What is Horticulture?". Volume one of Horticulture: Plants for People and Places describes in considerable depth the science, management and technology which underpins the continuous production of fresh and processed horticultural produce. Firstly, there is a consideration of technological innovation derived from basic scientific discoveries which has given rise to entirely new industries, markets, novel crops and changed social habits. Then follows accounts of the modern production of: Field Vegetables, Temperate Fruit, Tropical Fruit, Citrus, Plantation Crops, Berry Crops, Viticulture, Protected Crops, Flower Crops, New Crops, Post-harvest Handling, Supply[...]

Features

Volume one of Horticulture – Plants for People and Places describes how the array of plentiful, high quality fresh fruit, vegetables, and ornamentals supplied to retail consumers is achieved. This feat demands the intensive manipulation of plant growth, reproduction and postharvest husbandry across the globe. International Production Horticulture operates in a free market arena, delivering produce [...]

Contents

1. Introduction.- 2. Science Drives Horticulture's Progress and Profit.- 3. Vegetable Crops: Linking Production, Breeding and Marketing.- 4. Temperate Fruit Species.- 5. Tropical and Subtropical Fruits.- 6. Citrus Production.- 7. Viticulture and Wine Science.- 8. Plantation Crops.- 9. Berry Crops.- 10. Protected Crops.- 11. The Role of Ornamentals in Human Life.- 12. New Ornamental Plants for Horticulture.- 13. Postharvest Care and the Treatment of Fruits and Vegetables.- 14. Designing New Supply Chain Networks: Tomato and Mango Case Studies.- 15. Environmental Impact of Production[...]

Fields of interest

Agriculture; Food Science; Environment (general); Business & Management Science; Social Sciences (general); Humanities

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8577-8

Hardcover

2014. Approx. 250 p. 149 illus., 126 illus. in color. ISBN 978-94-017-8577-8

Due: February 28, 2014

D. Ekuni, M. Battino, T. Tomofuji, E.E. Putnins (Eds.)

Studies on Periodontal Disease

The chapters of Studies on Periodontal Disease comprise four parts. Part 1 provides basic sciences from the general to the particular. The findings of cell culture and animal models supply the mechanism between periodontal disease and oxidative stress. In part 2, human clinical studies are mainly addressed. The effects of periodontal therapy on circulating oxidative stress are also discussed. The relationships between periodontal disease and systemic diseases are examined in part 3. The involvement of oxidative stress and inflammation are discussed through in vivo and in vitro study results. Part 4 discusses future strategies, including the effects of antioxidants and nutrition on[...]

Features

The chapters of Studies on Periodontal Disease comprise four parts. Part 1 provides basic sciences from the general to the particular. The findings of cell culture and animal models supply the mechanism between periodontal disease and oxidative stress. In part 2, human clinical studies are mainly addressed. The effects of periodontal therapy on circulating oxidative stress are also discussed. The [...]

Contents

Part I: Oxidative stress in periodontal diseases (basic science).- 1. Reactive oxygen species and antioxidant systems in periodontal disease.- 2. The role of protein oxidative modification in periodontal diseases.- 3. Association between oxidative stress and periodontal diseases in animal model studies.- 4. Expression of reactive oxygen species and junctional and pocket epithelium.- 5. DNA damage caused by oral malodorous compounds in periodontal cells in vitro.- 6. Apoptotic pathways triggered by oral malodorous compounds in periodontal cells.- 7. The role of p53 in carcinogenesis and[...]

Fields of interest

Oxidative Stress; Cell Biology; Dentistry; Apoptosis

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9556-7

Hardcover

2014. XII, 396 p. 37 illus., 14 illus. in color. (Oxidative Stress in Applied Basic Research and Clinical Practice) ISBN 978-1-4614-9556-7

Due: January 31, 2014

S.M. Fleming, C.D. Frith (Eds.)

The Cognitive Neuroscience of Metacognition

Metacognition is the capacity to reflect upon and evaluate cognition and behaviour. Long of interest to philosophers and psychologists, metacognition has recently become the target of research in the cognitive neurosciences. By combining brain imaging, computational modeling, neuropsychology and insights from psychiatry, the present book offers a picture of the metacognitive functions of the brain. Chapters cover the definition and measurement of metacognition in humans and non-human animals, the computational underpinnings of metacognitive judgments the cognitive neuroscience of self-monitoring ranging from confidence to error-monitoring and neuropsychiatric studies of disorders of[...]

Features

Metacognition is the capacity to reflect upon and evaluate cognition and behaviour. Long of interest to philosophers and psychologists, metacognition has recently become the target of research in the cognitive neurosciences. By combining brain imaging, computational modeling, neuropsychology and insights from psychiatry, the present book offers a picture of the metacognitive functions of the brain. [...]

Contents

Metacognitive neuroscience: an introduction.- Quantifying human metacognition for the neurosciences.- Signal detection theory analysis of type 1 and type 2 data: meta-d', response-specific meta-d' and the unequal variance SDT model.- The highs and lows of theoretical interpretation in animal-metacognition research.- A computational framework for the study of confidence across species.- Shared mechanisms for confidence judgments and error detection in human decision making.- Metacognition and confidence in value-based choice.- What failure in collective decision-making tells us about[...]

Fields of interest

Behavioural Sciences; Neurosciences; Cognitive Psychology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-45189-8

Hardcover

2014. VII, 481 p. 62 illus., 30 illus. in color. ISBN 978-3-642-45189-8

Due: January 31, 2014

Y. Fouquet, Ifremer, Plouzané, France; D. Lacroix, Ifremer Sète, Sète cedex, France (Eds.)

Deep Marine Mineral Resources

The risks of shortages for some crucial metals and uncertainty about the land-based reserves of several others justify the search to diversify our sources of supply and investigate their potential. Mineral resources in the deep sea are attracting increasing interest with the progressive discovery of various forms of ores. France possesses large areas of deep seafloor in the three oceans as well as world-class human and technological resources and know-how, resulting from over 40 years of experience. This study takes stock of knowledge about mineralisations and associated metals, technologies for exploring and exploiting them, biodiversity and the potential impact of exploitation on[...]

Features

The risks of shortages for some crucial metals and uncertainty about the land-based reserves of several others justify the search to diversify our sources of supply and investigate their potential. Mineral resources in the deep sea are attracting increasing interest with the progressive discovery of various forms of ores. France possesses areas of deep seafloor in the three oceans, as well as world-class [...]

Contents

Preface.- Acknowledgements.- Introduction.- PART ONE Study Summary.- Challenges.- Framework.- Methodology.- Cross-cutting challenges by metal type.- Environmental challenges.- Scenarios and related challenges.- Legal aspects.- Technological innovation challenges.- Results and recommendations.- PART TWO Thematic Contributions.- 1. Deep-sea environment.- 2. Rare and strategic metals.- 3. Characteristics and formation process.- 4. Scientific knowledge and challenges related to hydrogen.- 5. International law and its evolution.- 6. Training organisations and establishments in France and[...]

Fields of interest

Life Sciences (general); Hydrogeology; Oceanography

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8562-4

Hardcover

Original French edition published by Éditions Quæ, Versailles, 2012. Jointly published with Éditions Quæ, Versailles, France 2014. I, 135 p. 45 illus., 42 illus. in color. ISBN 978-94-017-8562-4

Due: January 31, 2014

A. Fuente, Leibniz-Institute, Dummerstorf, Germany (Ed.)

Gene Network Inference

Verification of Methods from Systems Genetics Data

This book presents recent methods for Systems Genetics (SG) data analysis, applying them to a suite of simulated SG benchmark datasets. Each of the chapter authors received the same datasets to evaluate the performance of their method to better understand which algorithms are most useful for obtaining reliable models from SG datasets. The knowledge gained from this benchmarking study will ultimately allow these algorithms to be used with confidence for SG studies e.g. of complex human diseases or food crop improvement. The book is primarily intended for researchers with a background in the life sciences, not for computer scientists or statisticians.

Features

This book presents recent methods for Systems Genetics (SG) data analysis, applying them to a suite of simulated SG benchmark datasets. Each of the chapter authors received the same datasets to evaluate the performance of their method to better understand which algorithms are most useful for obtaining reliable models from SG datasets. The knowledge gained from this benchmarking study will ultimately allow [...]

Contents

Simulation of the Benchmark Datasets.- A Panel of Learning Methods for the Reconstruction of Gene Regulatory Networks in a Systems Genetics Context.- Benchmarking a simple yet effective approach for inferring gene regulatory networks from systems genetics data.- Differential Equation based reverse-engineering algorithms: pros and cons.- Gene regulatory network inference from systems genetics data using tree-based methods.- Extending partially known networks.- Integration of genetic variation as external perturbation to reverse engineer regulatory networks from gene expression data.- [...]

Fields of interest

Systems Biology; Bioinformatics; Biological Networks, Systems Biology; Computer Applications in Life Sciences; Gene Expression

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-45160-7

Hardcover

2014. X, 126 p. 49 illus., 33 illus. in color.
ISBN 978-3-642-45160-7

Due: January 31, 2014

P. Gouletquer, Ifremer, Centre de l'Atlantique, Orvault, France; P. Gros, Ifremer, Saint-Renan, France; G. Boeuf, Laboratoire Arago, Banyuls sur Mer, France; J. Weber

Biodiversity in the Marine Environment

The oceans cover over 70% of our planet. They are host to a biodiversity of tremendous wealth. Its preservation is now a global priority featuring in several international conventions and a confirmed objective of European policies and national strategies. Understanding the dynamics and the uses of the marine biodiversity is a genuine scientific challenge. Fourteen international experts have got together and identified five priority research themes to address the problem, based on analysing the state of knowledge.

Features

Oceans cover more than 70% of earth and host a largely unknown marine biodiversity critical for future human beings. An improved knowledge of marine biodiversity at various scales (from genes to ecosystems) is required to facilitate building integrated scenarios and policies for a sustainable development as well as its conservation. Understanding species interactions, ecosystem functioning and dynamics, as [...]

Contents

Acknowledgements.- Foreword.- Introduction.- The importance of marine biodiversity.- Key features.- Hierarchical components.- The impacts of human activities on marine biodiversity.- The strategic values of research.- Status and trends.- How many marine species are there?.- Taxonomic records.- Cryptic species.- The DNA barcode.- The drive to identify new species.- The "taxonomic impediment".- Species under pressure.- Extinct species.- Endangered species.- Ecosystems under pressure: the deep sea.- Spatial patterning of characteristics.- Temporal patterns.- Conceptualising biodiversity.- [...]

Fields of interest

Biodiversity; Marine & Freshwater Sciences; Sustainable Development; Conservation Biology / Ecology; Fish & Wildlife Biology & Management; Social Sciences (general)

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-017-8565-5

Hardcover

Original French edition published by Éditions Quæ, Versailles, 2012. Jointly published with Éditions Quæ, Versailles, France
2014. Approx. 200 p. 71 illus. in color.
ISBN 978-94-017-8565-5

Due: January 31, 2014

M. Guillou, INRA, Vanves, France; G. Matheron, CIRAD, Saint Martin de Castillon, France

The World's Challenge

Feeding 9 Billion people

If a global population of 9 billion by 2050 is to be fed adequately, more food must be produced and this in keeping with increasingly stringent standards of quality and with respect for the environment. Not to mention the land that must be set aside for the production of energy resources, industrial goods, carbon storage and the protection of biodiversity.

Features

Is the world headed toward a major food crisis? After several decades of seeming indifference, public opinion is slowly awakening to the fact that a daunting task lies ahead. If a global population of 9 billion by 2050 is to be fed adequately, more food must be produced, and this in keeping with increasingly stringent standards of quality and with respect for the environment. Not to mention the land that [...]

Contents

Acknowledgements.- Introduction.- 1. Setting the stage.- 2. Eat well, eat better.- 3. Reducing losses and waste at consumption, distribution and processing levels.- 4. Reducing post-harvest losses in developing nations.- 5. Producing other goods.- 6. Managing ecosystem services.- 7. Will there be enough land?.- 8. The need to strive for productive yet ecological agriculture.- 9. Feeding the world starts with fighting poverty.- 10. Towards a global governance of food.- Conclusion.- References.- Glossary.

Fields of interest

Agriculture; Sustainable Development; Agricultural Economics; Social Policy

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-017-8568-6

Hardcover

Original French edition published by Éditions Quæ, Versailles, 2012. Jointly published with Éditions Quæ, Versailles, France
2014. Approx. 240 p. 10 illus. in color.
ISBN 978-94-017-8568-6

Due: January 13, 2014

S.S. Gurav, N.S. Gurav, Sudhakar Rao Naik Institute of Pharm, Amravati, India (Eds.)

Indian Herbal Drug Microscopy

Adulteration and misidentification of herbal drugs can cause serious health problems to consumers. The first step in quality control of medicinal plants is ensuring the authenticity of the desired species for intended use, with anatomical study playing a critical role in identifying and authenticating medicinal plants. A product of numerous years of experience and research, *Indian Herbal Drug Microscopy* is a vital resource for identifying and evaluating Indian medicinal plants. Comprised of four concise and comprehensive chapters, the book presents stepwise procedures for sectioning of plant material, histochemical staining techniques, and the anatomy of forty well-known and [...]

Features

Adulteration and misidentification of herbal drugs can cause serious health problems to consumers. The first step in quality control of medicinal plants is ensuring the authenticity of the desired species for intended use, with anatomical study playing a critical role in identifying and authenticating medicinal plants. A product of numerous years of experience and research, *Indian Herbal Drug* [...]

Contents

Introduction.- Sectioning Methods.- Histological and Histochemical Staining Techniques.- Herbal Drug Microscopy.- Aconite (*Aconitum napellus*)- Aloe (*Aloe barbadensis*)- Anise (*Pimpinella anisum*)- Arjuna (*Terminalia arjuna*)- Ashoka (*Saraca indica*)- Ashwagandha (*Withania somnifera*)- Asparagus (*Asparagus racemosus*)- Belladonna (*Atropa belladonna*)- Cannabis (*Cannabis sativa*)- Caraway (*Carum carvi*)- Cinchona (*Cinchona calisaya*)- Cinnamon (*Cinnamomum zeylanicum*)- Clove (*Eugenia caryophyllus*)- Colchicum (*Colchicum autumnale*)- Digitalis (*Digitalis purpurea*)- Ephedra (*Ephedra* [...])

Fields of interest

Plant Physiology; Plant Biochemistry; Plant Sciences; Cell Biology; Plant Anatomy / Development; Developmental Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9514-7

Hardcover

2014. XV, 207 p. 78 illus. in color.
ISBN 978-1-4614-9514-7

Due: December 31, 2013

E. Hainzlin (Ed.)

Cultivating Biodiversity to Transform Agriculture

How can cultivated plant biodiversity contribute to the transformation and the "ecologization" of agriculture in Southern countries? Based on extensive field work in the Southern countries, a great deal of scientific progress is presented in all areas affecting agriculture (agronomy, plant breeding and crop protection, cultivation systems, etc.) in order to intensify the ecological processes in cultivated plots and at the scale of rural landscapes.

Features

Agriculture is the primary human activity: it involves 1.3 billion people, nearly a quarter of the world's population and half of its labour force. The cultivated area, i.e., the area where humans plan and directly control the vegetation cover, now represents over 20% of the landmass. Faced with the challenges of demography and poverty, agricultural systems, in all their diversity, are being called upon to [...]

Contents

Foreword.- Introduction.- 1. Biodiversity has always been at the heart of agricultural activity.- 2. The challenges of agricultural transformation.- 3. Intensifying ecological processes to transform agricultural performance.- 4. Agrobiodiversity, the main lever of this ecological intensification.- 5. Ecological intensification, a strategic priority for CIRAD.- 6. A book with six viewpoints.- 7. Bibliographical references.- Chapter 1 The diversity of living organisms: the engine for ecological functioning.- 1. Diversity and unity of living organisms: the successive revolutions of the [...]

Fields of interest

Agriculture; Sustainable Development; Ecosystems; Nature Conservation; Plant Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7983-9

Hardcover

Original French edition jointly published with Éditions Quæ, Versailles, 2012
2013. XIV, 261 p. 19 illus., 5 illus. in color.
ISBN 978-94-007-7983-9

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

E. Jensen-Jarolim (Ed.)

Comparative Medicine

Anatomy and Physiology

This new volume provides a concise overview of the most basic and exciting chapters of comparative medicine with regards to physiology and function in healthy individuals. The book includes core concepts in anatomy and physiology in human and animal models, which are key to understanding comparative medicine and to making contributions to research in this area. While writing this book, the authors were in constant interdisciplinary dialogue. They aim to contribute to improvements in quality of life for human and animal patients.

Features

This new volume provides a concise overview of the most basic and exciting chapters of comparative medicine with regards to physiology and function in healthy individuals. The book includes core concepts in anatomy and physiology in human and animal models, which are key to understanding comparative medicine and to making contributions to research in this area. While writing this book, the authors were in [...]

Contents

Introduction.- Cell development.- Skeleton and bones/human.- Skeleton and bones, veterinary aspects.- Anatomy and physiology of muscles.- Physiology of heart and circulation.- The human gastrointestinal tract.- GI tract, veterinary aspects.- Human lung function and respiration.- Lung and respiration, veterinary aspects.- Human kidney function and volume regulation.- Kidney function and volume regulation, veterinary aspects.- The human endocrine system.- Endocrine system, veterinary aspects.- Human nervous system and brain.- Nervous system and brain, veterinary aspects.- Human skin and [...]

Fields of interest

Animal Models; Anatomy; Animal Physiology; Human Physiology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-7091-1558-9

Hardcover

2014. XXVIII, 300 p. 56 illus., 54 illus. in color.
ISBN 978-3-7091-1558-9

Due: January 31, 2014

C.B. Jones, Mammals and Phenogroups (MaP), Asheville, USA

The Evolution of Mammalian Sociality in an Ecological Perspective

Evolutionary transitions to sociality within and between mammalian taxa are central to a scientific understanding of sociality as a phenomenon. The Introduction to the proposed brief presents the Class as the most ecologically dominant terrestrial vertebrate fauna. Section 2 details the monograph's application of r^* large and r^* small, situating these notations in the context of Hamilton's "kin selection" paradigm describing "decisions" (Fig. 1.1) to allocate reproductive effort as direct (individual) reproduction, on the one hand and indirect reproduction via helping kin's reproductive interests, on the other. This section introduces the assumption that some mammals have managed[...]

Features

Evolutionary transitions to sociality within and between mammalian taxa are central to a scientific understanding of sociality as a phenomenon. The Introduction to the proposed brief presents the Class as the most ecologically dominant terrestrial vertebrate fauna. Section 2 details the monograph's application of r^* large and r^* small, situating these notations in the context of Hamilton's "kin selection" [...]

Contents

1. Introduction: Definitions, Background.- 2. Competition For Limiting Resources, Hamilton's Rule And Chesson's R^* .- 3. Flexible And Derived Varieties of Mammalian Social Organization: Promiscuity In Aggregations May Have Served As A Recent "Toolkit" Giving Rise To "Sexual Segregation", Polygynous Social Structures, Monogamy, Polyandry And Leks Abstract.- 4. Multitale-Multifemale Groups And "Nested" Architectures: Collaboration Among Mammalian Males.- 5. Higher "Grades" Of Sociality In Class Mammalia: Primitive Eusociality.- 6. Ecological Models As Working Paradigms For "Unpacking" [...]

Fields of interest

Animal Ecology; Theoretical Ecology / Statistics; Evolutionary Biology; Applied Ecology

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03930-5

Softcover

2014. I, 150 p. 10 illus., 3 illus. in color. (SpringerBriefs in Ecology)

ISBN 978-3-319-03930-5

Due: February 28, 2014

M.-P. Junier, S.G. Kerner (Eds.)

Endogenous Stem Cell-Based Brain Remodeling in Mammals

This text highlights the endogenous regenerative potential of the central nervous system in neonates and juveniles and discusses possible ways it might be manipulated for medical purposes. The first section provides a descriptive summary of the salient steps of human brain development with a discussion of comparisons with other mammalian brains. It also provides a historical perspective on our understanding of ongoing brain development throughout the lifespan and serve to introduce the concept of brain plasticity following injury. The second part is devoted to the endogenous reparative potential of the brain, including its limitations, and articles focusing on defined pathologies[...]

Features

This book uses the juvenile mammalian brain as a starting point to describe how different injury mechanisms influence neuronal and glial progenitor response to injury, and how in certain circumstances, these cells might play adaptive or harmful roles in recovery. It also provides an overview of emerging concepts in progenitor biology and how current understanding of the processes regulating these cells has [...]

Contents

Introduction.- Structural Plasticity in Adult Nervous System: A Historic Perspective.- Impact of Injured Tissue on Stem Cell Fate.- Role of Neural Stem and Progenitor Cells in the Adaptation of the Brain to Injury.- Role of Adult Neurogenesis in Seizure-Induced Hippocampal Remodeling and Epilepsy.- Neurogenesis and Gliogenesis in the Postnatal Hypothalamus: a new level of plasticity for the regulation of hypothalamic function?.- Regenerative Potential of NG2 Cells.- Oligodendrocyte Progenitors and Brain Remodeling Following Blood Brain Barrier Rupture.- Genomic Integrity of Embryonic[...]

Fields of interest

Stem Cells; Cell Biology; Neurosciences; Neurochemistry; Cancer Research

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4899-7398-6

Hardcover

2014. VII, 250 p. 21 illus., 19 illus. in color. (Stem Cell Biology and Regenerative Medicine)

ISBN 978-1-4899-7398-6

Due: February 28, 2014

E.I. Katsy, Institute of Biochemistry and, Saratov, Russian Federation (Ed.)

Plasticity in Plant-Growth-Promoting and Phytopathogenic Bacteria

Plasticity in Plant-Growth-Promoting and Phytopathogenic Bacteria brings together the expertise of a panel of researchers from around the world to provide comprehensive up-to-date reviews on the most interesting aspects of genomic and phenotypic plasticity in plant-beneficial and phytopathogenic bacteria. The book covers various topics, including common and specific features in the genomes of symbiotic, plant-growth-promoting, and phytopathogenic bacteria; regulation of conjugative plasmid transfer in rhizobia; genetic and phenotypic variability in plant-beneficial pseudomonads and azospirilla; genomic fluxes in phytopathogenic xanthomonads and pseudomonads; genome plasticity in [...]

Features

Plasticity in Plant-Growth-Promoting and Phytopathogenic Bacteria brings together the expertise of a panel of researchers from around the world to provide comprehensive up-to-date reviews on the most interesting aspects of genomic and phenotypic plasticity in plant-beneficial and phytopathogenic bacteria. The book covers various topics, including common and specific features in the genomes of [...]

Contents

Common Themes and Specific Features in the Genomes of Phytopathogenic and Plant-Beneficial Bacteria.- Ecology and Physiology of Non-Frankia Actinobacteria Associated with Actinorhizal Plants.- Boundaries for Conjugative Transfer of Rhizobial Plasmids: Restraining and Releasing Factors.- Phase Variation in Plant-Associated Pseudomonads.- Plasmid Rearrangements and Changes in Cell-Surface Architecture and Social Behavior of Azospirillum brasilense.- Genome Plasticity and Dynamic Evolution of Phytopathogenic Pseudomonads and Related Bacteria.- Genomic Flux in Xanthomonas Group of Plant[...]

Fields of interest

Microbiology; Plant Sciences; Plant Pathology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9202-3

Hardcover

2014. 240 p. 36 illus., 30 illus. in color.

ISBN 978-1-4614-9202-3

Due: February 28, 2014

H. Kondoh, Osaka University, Osaka, Japan; A. Kuroiwa, Nagoya University, Nagoya, Japan (Eds.)

New Principles in Developmental Processes

During the last decade, modern technologies have made a revolutionary change in developmental biology. The molecular and cellular processes in live embryos can now be visualized thanks to technologies using fluorescent proteins. The whole genome information of a wide range of animal species has now become available, confirming the common principles that operate in every species. These and other advances in our understanding of the developmental processes during embryogenesis and tissue regeneration have put forward new principles. Those new principles will also be important in the stem cell biology, branched from developmental biology, in order to generate a particular tissue by[...]

Features

This book highlights representatives of emerging new principles in the developmental biology field, such as cell competition, tissue asymmetry, a farewell to classical germ layer theory, and various new insights into tissue morphogenesis and specification based on the most modern experimental approaches. A large-scale paradigm shift occurred in the last decade owing to innovations in powerful live imaging [...]

Contents

Part I Making cells unequal in a tissue to form embryos and organs.- Chapter 1 Taxon-specific maternal factors for germline specification.- Chapter 2 Establishment of Anterior-Posterior axis in the mouse embryo.- Chapter 3 Cell competition: the struggle for existence in multicellular communities.- Chapter 4 Building functional internal organs from a naïve endodermal sheet.- Part II Choosing a fate from multiple potencies.- Chapter 5 Determination of stem cell fate in planarian regeneration.- Chapter 6 Regulation of axial stem cells deriving neural and mesodermal tissues during posterior[...]

Fields of interest

Developmental Biology; Stem Cells; Cell Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-4-431-54633-7

Hardcover

2014. XV, 397 p. 120 illus., 40 illus. in color.
ISBN 978-4-431-54633-7

Due: January 31, 2014

E.J. Louis, University of Leicester, Leicester, United Kingdom; M.M. Becker, University of Nottingham, Nottingham, United Kingdom (Eds.)

Subtelomeres

New genes and diversity leading to adaptation and evolution are generated in special areas of genomes. One such area in all eukaryotic genomes and in those prokaryotes with linear chromosomes is the region near the ends of the chromosomes. These telomere-associated sequences or subtelomeres, have different properties than the rest of the genome and are one of the most exciting frontiers left in genomics. This book provides a broad introduction to the field of subtelomeres with detailed information from various fields and systems, covering yeasts and fungi, pathogens and parasites, plants, insects, humans and primates and bacteria with linear chromosomes. Advances in the field as well[...]

Features

New genes and diversity leading to adaptation and evolution are generated in special areas of genomes. One such area in all eukaryotic genomes and in those prokaryotes with linear chromosomes is the region near the ends of the chromosomes. These telomere-associated sequences, or subtelomeres, have different properties than the rest of the genome and are one of the most exciting frontiers left in genomics. [...]

Contents

Introduction to Subtelomeres.- Subnuclear Architecture of Telomeres and Subtelomeres in Budding Yeast.- Subtelomeric Regions Promote Evolutionary Innovation of Gene Families in Yeast.- Subtelomere Organization, Evolution and Dynamics in the Rice Blast Fungus *Magnaporthe oryzae*.- Pneumocystis Carinii Subtelomeres.- Subtelomeres of *Aspergillus* Species.- Trypanosoma Brucei Subtelomeres: Monoallelic Expression and Antigenic Variation.- Human and Primate Subtelomeres.- FSHD: A Subtelomere-Associated Disease.- Characterization of Chromosomal Ends on the Basis of Chromosome-Specific Telomere[...]

Fields of interest

Cell Biology; Biochemistry; Cytogenetics; Evolutionary Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-41565-4

Hardcover

2014. X, 291 p. 48 illus., 19 illus. in color.
ISBN 978-3-642-41565-4

Due: December 31, 2013

M. Maltamo, University of Eastern Finland, Joensuu, Finland; E. Næsset, Norwegian University of Life Sciences, Ås, Norway; J. Vauhkonen, University of Helsinki, Helsinki, Finland (Eds.)

Forestry Applications of Airborne Laser Scanning

Concepts and Case Studies

Airborne laser scanning (ALS) has emerged as one of the most promising remote sensing technologies to provide data for research and operational applications in a wide range of disciplines related to management of forest ecosystems. This book provides a comprehensive, state-of-the-art review of the research and application of ALS in a broad range of forest-related disciplines, especially forest inventory and forest ecology. However, this book is more than just a collection of individual contributions – it consists of a well-composed blend of chapters dealing with fundamental methodological issues and contributions reviewing and illustrating the use of ALS within various domains of[...]

Features

Airborne laser scanning (ALS) has emerged as one of the most promising remote sensing technologies to provide data for research and operational applications in a wide range of disciplines related to management of forest ecosystems. This book provides a comprehensive, state-of-the-art review of the research and application of ALS in a broad range of forest-related disciplines. However, this book is more than [...]

Contents

1. Introduction to forest applications of airborne laser scanning; Jari Vauhkonen et al.- PART I – Methodological issues.- 2. Laser pulse interaction with forest canopy – geometric and radiometric issues; Andreas Roncat et al.- 3. Full-waveform airborne laser scanning systems and their possibilities in forest applications; Markus Hollaus et al.- 4. Integrating airborne laser scanning with data from global navigation satellite systems and optical sensors; Rubén Valbuena.- 5. Segmentation of forest to tree objects; Barbara Koch et al.- 6. The semi-individual tree crown approach; Johannes[...]

Fields of interest

Forestry; Remote Sensing / Photogrammetry; Environment (general)

Target groups

Graduate

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8662-1

Hardcover

2014. Approx. 400 p. 50 illus., 19 illus. in color. (Managing Forest Ecosystems, Vol. 27)
ISBN 978-94-017-8662-1

Due: May 28, 2014

T.K. Mondal, Center for DNA Fingerprinting, Delhi, India

Breeding and Biotechnology of Tea and its Wild Species

Tea is an important non-alcoholic beverage plant of the world. Cultivation of tea is very important as it earns revenue for the tea growing nations especially the developing countries such as India. Although conventional breeding is well-established and has contributed significantly for varietal improvement of this plant and other *Camellia* species with ornamental value, yet applications of biotechnology are required to intervene some of the issues where conventional breeding is restricted particularly for woody plants such as tea. It is note-worthy to mention that some amounts of biotechnology works in several facets of tea and its wild species have also been done. In the present[...]

Features

Tea is an important non-alcoholic beverage plant of the world. Cultivation of tea is very important as it earns revenue for the tea growing nations especially the developing countries such as India. Although conventional breeding is well-established and has contributed significantly for varietal improvement of this plant and other *Camellia* species with ornamental value, yet applications of biotechnology are [...]

Contents

1. Introduction.- 2. Genetics and Breeding.- 3. Micropropagation.- 4. Somatic Embryogenesis and Alternative in vitro Techniques.- 5. Genetic Transformation.- 6. Molecular Marker.- 7. Stress Physiology.- 8. Functional Genomics.

Fields of interest

Plant Sciences; Biotechnology; Proteomics; Plant Genetics and Genomics

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-81-322-1703-9

Hardcover

2014. Approx. 170 p. 12 illus., 5 illus. in color.
ISBN 978-81-322-1703-9

Due: February 28, 2014

P.K.R. Nair, V.D. Nair, University of Florida, Gainesville, USA

Scientific Writing and Communication in Agriculture and Natural Resources

The purpose of this book is to help early career professionals in agriculture and natural resources write their research papers for high-quality journals and present their results properly at professional meetings. Different fields have different conventions for writing style such that the authors of the book have found it difficult to recommend to young scientists in these fields a specific book or source material out of the several that are available as the "go to" guide. Writing a scientific paper is a tedious task even to experienced writers; but it is particularly so for the early career professionals such as students, trainees, scientists and scholars in agriculture and natural[...]

Features

Perhaps there is no dearth of books, reference manuals, and internet sources on scientific writing. Given, however, that different fields have different conventions for writing style, we have found it difficult to recommend a specific book or source material as the "go to" guide to young scientists in agriculture and natural resources. Having been involved as authors, reviewers, and editors of various [...]

Contents

Preface.- Part 1: Essentials for Good Writing.- 1. Introduction.- 2. Organization of a Research Paper: The IMRAD Format.- 3. Tables and Figures.- 4. The "Nuts and Bolts": Numbers, Units, Dates, Abbreviations, Nomenclature.- Part 2: English - The International Language of Science.- 5. Words.- 6. Sentences.- Part 3: Manuscript: Preparation, Submission, and Follow-up.- 7. Preparing the Manuscript.- 8. Dealing with the Journal.- Part 4: Oral and Poster Presentations.- 9. Oral Presentations.- 10. Poster Presentations.- References and Recommended Reading.- Subject Index.

Fields of interest

Agriculture; Soil Science & Conservation; Climate (general); Science (general); Popular Science in Nature and Environment

Target groups

Professional/practitioner

Type of publication

Monograph

More on www.springer.com/978-3-319-03100-2

Softcover

2014. XII, 134 p. 20 illus., 7 illus. in color.
ISBN 978-3-319-03100-2

Due: December 31, 2013

P. Nick, University of Karlsruhe, Karlsruhe, Germany; Z. Opatrný, Charles University Prague, Prague 2, Czech Republic (Eds.)

Applied Plant Cell Biology

Cellular Tools and Approaches for Plant Biotechnology

The aim of this volume is to merge classical concepts of plant cell biology with the recent findings of molecular studies and real-world applications in a form attractive not only to specialists in the realm of fundamental research, but also to breeders and plant producers. Four sections deal with the control of development, the control of stress tolerance, the control of metabolic activity, and novel additions to the toolbox of modern plant cell biology in an exemplary and comprehensive manner and are targeted at a broad professional community. It serves as a clear example that a sustainable solution to the problems of food security must be firmly rooted in modern, continuously self[...]

Features

The aim of this volume is to merge classical concepts of plant cell biology with the recent findings of molecular studies and real-world applications in a form attractive not only to specialists in the realm of fundamental research, but also to breeders and plant producers. Four sections deal with the control of development, the control of stress tolerance, the control of metabolic activity, and novel [...]

Contents

Prologue: Plant Stem Cells - Evolution of a Key Concept.- From Némec and Haberlandt to Molecular Cell Biology.- Part I: Control of Growth And Development.- Why to Spent Tax Money on Plant Microtubules?.- Auxin Biology: Applications and the Mechanisms Behind.- The Biotechnological Potential of Cytokinin Status Manipulation.- Cell Fate Between Life and Death During Somatic Embryogenesis.- Molecular Cell Biology of Pollen Walls.- Part II: Stress Tolerance.- Plant Cell Responses to Cadmium and Zinc.- Applied Cell Biology of Sulfur and Selenium in Plants.- Endocytosis: At the Crossroads of[...]

Fields of interest

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

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-41786-3

Hardcover

2014. XII, 600 p. 48 illus., 26 illus. in color. (Plant Cell Monographs, Vol. 22)

ISBN 978-3-642-41786-3

Due: January 31, 2014

I. Obrosova, Louisiana State University, Baton Rouge, USA; M.J. Stevens, University of Birmingham, Birmingham, United Kingdom; M.A. Yorek, University of Iowa, Iowa City, USA (Eds.)

Studies in Diabetes

Studies on Diabetes examines how increased oxidative and nitrosative stress – one of the leading causes of diabetes complications – pathologically affects multiple tissues in the body. The volume editors and chapter authors are leading investigators in the field of basic and clinical research in diabetes and vascular disease. Their contributions represent a wealth of knowledge on and research into how diabetes triggers metabolic abnormalities that lead to hyperactivation of cellular and mitochondrial pathways that ultimately result in oxidative and nitrosative stress that left un-neutralized, results in tissue damage. Each chapter provides the reader with invaluable insight to the[...]

Features

Studies on Diabetes examines how increased oxidative and nitrosative stress – one of the leading causes of diabetes complications – pathologically affects multiple tissues in the body. The volume editors and chapter authors are leading investigators in the field of basic and clinical research in diabetes and vascular disease. Their contributions represent a wealth of knowledge on and research into [...]

Contents

1. Oxidative Stress and Diabetes-induced Vascular Dysfunction: Role in Diabetic Neuropathy.- 2. Cerebrovascular Disease in Type 1 Diabetes: Role of Oxidative Stress.- 3. Complications in the Coronary Circulation Associated with Diabetes.- 4. Chronic Kidney Disease and Cardiovascular Risk.- 5. Mitochondria and Oxidative Stress in Diabetes.- 6. Optimal Measures of Small Fiber Neuropathy in Diabetic Polyneuropathy.- 7. Oxidative Stress and Complications of the Diabetic Foot.- 8. Encephalopathies Accompanying Type 1 and Type 2 Diabetes.- 9. Oxidative Stress, Inflammation and Endothelial[...]

Fields of interest

Oxidative Stress; Cell Biology; Diabetes

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-1-4899-8034-2

Hardcover

2014. XIV, 290 p. 39 illus., 15 illus. in color. (Oxidative Stress in Applied Basic Research and Clinical Practice) ISBN 978-1-4899-8034-2

Due: February 28, 2014

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

Forest Soils

Properties and Management

Forest soil characteristics are not only unique but their interpretation also differs from cropland soils. Just as there are diverse forest types, there are many soil variants that need different management. Today, forest plantations are being intensively managed for profitable timber, pulpwood and energy production. Site selection, species selection, site productivity evaluation, silvicultural treatments, and soil amendments need crucial soil information. This book provides a comprehensive overview of the physical, chemical and biological properties of forest soils and their implications on forest vegetation. Topics discussed include: major forest types of the world and their[...]

Features

Forest soil characteristics are not only unique but their interpretation also differs from cropland soils. Just as there are diverse forest types, there are many soil variants that need different management. Today, forest plantations are being intensively managed for profitable timber, pulpwood and energy production. Site selection, species selection, site productivity evaluation, silvicultural treatments, [...]

Contents

Rocks, Minerals and Soils.- Physical Properties of Forest Soils.- Chemical Properties of Forest Soils.- Organic Matter of Forest Soils.- Biological Properties of Forest Soils.- Nutrient Dynamics in Forest Soil.- Forest Types and Their Associated Soils.- Forest Disturbances and Soil Degradation.- Forest Soil and Climate Change.- Objectives of Forest Soil Management.- Index.

Fields of interest

Forestry; Soil Science & Conservation; Earth Sciences (general); Forestry Management; Environmental Management

Target groups

Lower undergraduate

Type of publication

Monograph

More on www.springer.com/978-3-319-02540-7

Hardcover

2013. XI, 217 p. 82 illus., 55 illus. in color. ISBN 978-3-319-02540-7

Due: December 31, 2013

R. Peshin, Sher-e-Kashmir University of Jammu, India; D. Pimentel, Cornell University, Ithaca, USA (Eds.)

Integrated Pest Management

Experiences with Implementation, Global Overview, Vol.4

The book deals with the present state and problems of integrated pest management (IPM) as relating to stakeholder acceptance of IPM and how IPM can become a sustainable practice. The book covers the implementation of integrated pest management in USA, Canada, Denmark, Germany, Italy, Sweden, Netherlands, China, India, Indonesia, Australia, Africa, and its impact in reducing pesticide use in agriculture. The book also deals with the impact of transgenic crops on pesticide use.

Features

The book, the fourth in the series on integrated pest management (IPM), deals with the experiences of the implementation and impact of IPM in Africa, Asia (China, India and Indonesia), Australia, North America (Canada and the United States), and Europe (Denmark, Germany, Italy, the Netherlands and Sweden). Despite five decades since the concept of integrated control and threshold theory was developed, and [...]

Contents

1. Pesticides Applied Worldwide to Combat Pests.- 2. Integrated Pest Management, BT Crops, and Insecticide Use: The U.S. Experience.- 3. Experiences with Implementation And Adoption of Integrated Pest Management in Northeastern USA.- 4. Emerging issues in Integrated Pest Management implementation and adoption in the North Central USA.- 5. Integrated Pest Management in the Southern United States of America: Changing Technology and Infrastructure – Implications for the Future.- 6. Integrated Pest Management: Fruit Production in the Western United States.- 7. The impact of integrated pest[...]

Fields of interest

Entomology; Agriculture; Plant Pathology; Sustainable Development

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7801-6

Hardcover

2014. I, 773 p. 89 illus., 52 illus. in color. ISBN 978-94-007-7801-6

Due: January 31, 2014

E. Pignatti, S. Pignatti

Plant Life of the Dolomites

Vegetation Structure and Ecology

The landscape and vegetation of the Dolomites have characteristics that are very particular. Some 2300 species live here, about a fifth of the flora in Europe as a whole. This book depicts what the plant cover of the Dolomites is composed of, how it was formed, and what future evolution may bring. The data presented is based on the authors' combined botanical research, which consists of thousands of surveys throughout the entire region of the Dolomites. To explain the vegetation, 106 plant communities are described in detailed datasheets. Biological, geological, climatic and physical-chemical parameters are given for each plant community, including a description of the habitat, the[...]

Features

The landscape and vegetation of the Dolomites have characteristics that are very particular. Some 2300 species live here, about a fifth of the flora in Europe as a whole. This book depicts what the plant cover of the Dolomites is composed of, how it was formed, and what future evolution may bring. The data presented is based on the authors' combined botanical research, which consists of thousands of surveys [...]

Contents

The Human Habitat.- Natural Forests and Meadows on the Valley Floor and in the Montane Habitat.- The Subalpine Habitat: The Coniferous Forest Belt.- Alpine Vegetation on Granite, Porphyry, and Volcanic Rock.- The Ascent toward the Cliffs: The Scree.- Alpine Vegetation on Dolomite and Limestones.- Synthesis, Data Interpretation and Statistical Calculations.- Conclusions.- Appendix: The Plant Associations of the Dolomites in the Traditional Phytosociological Classification.- Glossary.

Fields of interest

Plant Ecology; Plant Systematics / Taxonomy / Biogeography; Plant Physiology; Terrestrial Ecology; Biogeosciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-642-31042-3

Hardcover

Jointly published with the Museum of Nature South Tyrol as "Publication of the Museum of Nature South Tyrol Nr. 8"

2014. XXXVII, 759 p. 503 illus., 487 illus. in color.

ISBN 978-3-642-31042-3

Due: January 9, 2014

D. Pimentel, Cornell University, Ithaca, USA; R. Peshin, Sher-e-Kashmir University of Jammu, India (Eds.)

Integrated Pest Management

Pesticide Problems, Volume 3

The book deals with the present state and problems of integrated pest management as relating to stakeholder acceptance of IPM and how integrated pest management can become a sustainable practice. The discussions include using less pesticides and the possibility of eliminating pesticides from agricultural practice.

Features

This book, the third in the series on integrated pest management (IPM), deals with pesticide use and the negative consequences of pesticide use in world agriculture. Despite some notable success, IPM implementation and pesticide reduction programs have not achieved the envisioned impact. Low volume pesticides and Bt crops both decreased and stabilized pesticide use in the last two decades, but in the last [...]

Contents

1. Integrated Pest Management and Pesticide Use.- 2. Environmental and Economic Costs of the Application of Pesticides Primarily in the United States.- 3. Integrated Pest Management for European Agriculture.- 4. Energy inputs in pest control using pesticides in New Zealand.- 5. Environmental and Economic Benefits of Reducing Pesticide Use.- 6. An Environmental, Energetic and Economic Comparison of Organic and Conventional Farming Systems.- 7. Pesticides, Food Safety and Integrated Pest Management.- 8. Crop Losses to Arthropods.- 9. Crop Loss Assessment in India- Past Experiences and[...]

Fields of interest

Entomology; Agriculture; Plant Pathology; Sustainable Development

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7795-8

Hardcover

2013. XXI, 482 p. 54 illus., 29 illus. in color.

ISBN 978-94-007-7795-8

Due: December 31, 2013

M. Pina, University of Lisbon, Lisbon, Portugal; N. Gontier, University of Lisbon, Lisbon, Portugal (Eds.)

The Evolution of Social Communication in Primates

A Multidisciplinary Approach

How did social communication evolve in primates? In this volume, primatologists, linguists, anthropologists, cognitive scientists and philosophers of science systematically analyze how their specific disciplines demarcate the research questions and methodologies involved in the study of the evolutionary origins of social communication in primates in general, and in humans in particular. In the first part, pioneering primatologists provide cutting edge insights into how the study of communicative behavior portrayed by extant monkeys and great apes can provide information for studies on the origin and evolution of human language. Chapters range from the social and communicative[...]

Features

How did social communication evolve in primates? In this volume, primatologists, linguists, anthropologists, cognitive scientists and philosophers of science systematically analyze how their specific disciplines demarcate the research questions and methodologies involved in the study of the evolutionary origins of social communication in primates in general, and in humans in particular. In the first part, [...]

Contents

Introduction: Studying Language Evolution: From Ethology and Comparative Zoology to Social Primatology and Evolutionary Psychology.- Part I: Primatological Perspectives.- Grooming, Gestural and Vocal Signals.- Why do Primates Groom: A Tinbergian Approach.- How Primate Mothers and Infants Communicate. Characterizing Interaction in Mother-Infant Studies Across Species.- From Grasping to Grooming to Gossip: Innovative Use of Chimpanzee Signals in Novel Environments Supports both Vocal and Gestural Theories of Language Origins.- Re-evaluating Great Ape Vocal Signals from the Ground-Up.- [...]

Fields of interest

Evolutionary Biology; Philosophy of Language; Cognitive Psychology; Behavioural Sciences; Biological Psychology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-319-02668-8

Hardcover

2014. X, 285 p. 30 illus., 15 illus. in color. (Interdisciplinary Evolution Research, Vol. 1)

ISBN 978-3-319-02668-8

Due: March 19, 2014

A. Pratap, J. Kumar (Eds.)

Alien Gene Transfer in Crop Plants, Volume 2

Achievements and Impacts

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

Alien gene transfer in crop plants from wild and genetically distinct resources enables engineered breeding to impart resistance to diseases and pests, tolerance to temperature extremities, problem soils and reduced water availability, as well as to improve yield, nutrition and storage. Encouraged by the success of alien gene transfer in crop plants, researchers have devised strategies to bring in useful [..]

Contents

Wheat.- Maize.- Oat.- Pearl Millet.- Barley.- Chickpea.- Pigeonpea.- Vigna.- Lentil.- Brassica.- Oil Palm and Coconut.- Groundnut.- Sunflower.- Sugarcane.- Tomato.- Eggplant.

Fields of interest

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

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9571-0

Hardcover

2014. XVI, 454 p. 37 illus., 31 illus. in color. ISBN 978-1-4614-9571-0

Due: December 31, 2013

J. Pretzsch, D. Darr, McKinsey & Company, Inc., Berlin, Germany; H. Uibrig, E. Auch, TU Dresden, Tharandt, Germany (Eds.)

Forests and Rural Development

This book provides an overview of the complex challenges and opportunities related to forest-based rural development in the tropics and subtropics. Applying a socio-ecological perspective, the book traces the changing paradigms of forestry in rural development throughout history, summarizes the major aspects of the rural development challenge in forest areas and documents innovative approaches in fields such as land utilization, technology and organizational development, rural advisory services, financing mechanisms, participative planning and forest governance. It brings together scholars and practitioners dealing with the topics from various theoretical and practical angles. Calling[...]

Features

This book provides an overview of the complex challenges and opportunities related to forest-based rural development in the tropics and subtropics. Applying a socio-ecological perspective, the book traces the changing paradigms of forestry in rural development throughout history, summarizes the major aspects of the rural development challenge in forest areas, and documents innovative approaches in fields [..]

Contents

Introduction.- Paradigms.- The Challenges Facing Forest-Based Rural Development in the Tropics and Subtropics.- Land Management Systems at the Interface Between Forestry and Agriculture.- Organizational Changes in Forest Management.- Creating Rural Employment and Generating Income in Forest-Based Value Chains.- At the Interface of Culture, Development and Forests: Insights from Bolivia and Kenya.- Extension Services for Rural Development.- Payment Schemes for Environmental Services - Challenges and Pitfalls with Respect to Effectiveness, Efficiency and Equity.- Financing Forests for[...]

Fields of interest

Forestry Management; Agriculture; Forestry

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-41403-9

Hardcover

2014. XII, 428 p. 55 illus., 18 illus. in color. (Tropical Forestry, Vol. 9) ISBN 978-3-642-41403-9

Due: January 31, 2014

R.K. Salar, Chaudhary Devi Lal University, Sirsa, India; S.K. Gahlawat, Chaudhary Devi Lal University, Sirsa, India; P. Siwach, Chaudhary Devi Lal University, Sirsa, India; J.S. Duhan, Chaudhary Devi Lal University, Sirsa, India (Eds.)

Biotechnology: Prospects and Applications

Biotechnology: Prospects and Applications covers the review of recent developments in biotechnology and international authorship presents global issues that help in our understanding of the role of biotechnology in solving important scientific and societal problems for the benefit of mankind and environment. A balanced coverage of basic molecular biology and practical applications, relevant examples, colored illustrations, and contemporary applications of biotechnology provide students and researchers with the tools and basic knowledge of biotechnology. In our effort to introduce students and researchers to cutting edge techniques and applications of biotechnology, we dedicated[...]

Features

Biotechnology: Prospects and Applications covers the review of recent developments in biotechnology and international authorship presents global issues that help in our understanding of the role of biotechnology in solving important scientific and societal problems for the benefit of mankind and environment. A balanced coverage of basic molecular biology and practical applications, relevant examples, colored [..]

Contents

Section - I: Agriculture and Food Biotechnology.- 1. Emerging Dynamics of Brassinosteroids Research.- 2. Molecular Basis of Salt Tolerance in Wheat and Other Crop Plants.- 3. Role of Biotechnology for Commercial Production of Fruit crops.- 4. Starch: its functional, in vitro digestibility, modification and applications.- 5. Molecular strategies for improving mineral density and bioavailability in rice.- 6. Hairy root cultures of Medicinal Trees: a viable alternative for commercial production of high value secondary metabolites.- 7. Precision phenotyping for mapping of traits for abiotic[...]

Fields of interest

Life Sciences (general); Plant Breeding / Biotechnology; Environment (general); Biomedicine (general)

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-81-322-1682-7

Hardcover

2014. VII, 296 p. 68 illus., 43 illus. in color. ISBN 978-81-322-1682-7

Due: January 31, 2014

K.S. Sastry, SV University, Tirupathi, India; Th. A. Zitter, Cornell University, Ithaca, USA

Plant Virus and Viroid Diseases in the Tropics

Volume 2: Epidemiology and Management

Around the globe, besides fungal and bacterial diseases, both virus and viroid diseases have acquired greater importance in the realm of plant pathology and call for effective management measures as they are responsible for heavy yield losses and are a matter of vital importance and concern to farmers, horticulturists, gardeners and foresters. Understanding disease epidemiology is of vital importance for formulating viable disease management practices in a given agro-ecosystem. The development and progress of plant disease epidemics are variable from region to region. Epidemiology is not a static process, but rather a dynamic course that varies with a change in the ecology, host, [...]

Features

Many of the world's most important food crops are grown in the tropics and the majority of them are affected with one or another virus or viroid diseases. Plant virus and sub-viral agents are one of the factors that affect productivity and cause vast economic losses to staple crops across the tropics. Sustained efforts are being made in universities and research institutions of both state and central [...]

Contents

Chapter I - Ecology and Epidemiology of Virus and Viroid Diseases of Tropical Crops.- 1.1 Introduction.- 1.2 Epidemiological concepts.- 1.3 Conditions favorable for epiphytotic.- 1.4 Cropping systems and practices.- 1.5 Host properties.- 1.6 Pathogen properties.- 1.7 ICTV recognized viruses.- 1.8 Pathways of virus spread.- 1.9 Dispersal and Migration of Insect vectors.- 1.10 Factors of Vector transmission.- 1.11 Virus Survival and spread.- 1.12 Disease forecasting.- 1.13 The cyclical nature of plant disease.- 1.14 Disease progress curve.- 1.15 Growth models for disease progress.- 1.16 [...]

Fields of interest

Plant Pathology; Agriculture; Plant Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-94-007-7819-1

Hardcover

2014. XVII, 465 p. 39 illus., 24 illus. in color. ISBN 978-94-007-7819-1

Due: January 31, 2014

Y. Shastri, Univ. of Illinois at Urbana-Champaign, Urbana, USA; A. Hansen, University of Illinois, Urbana, USA; L. Rodríguez, University of Illinois, Urbana, USA; K.C. Ting, University of Illinois, Urbana, USA (Eds.)

Engineering and Science of Biomass Feedstock Production and Provision

The biomass based energy sector, especially the one based on lignocellulosic sources such as switchgrass *Miscanthus*, forest residues and short rotation coppice, will play an important role in our drive towards renewable energy. The biomass feedstock production (BFP) subsystem provides the necessary material inputs to the conversion processes for energy production. This subsystem includes the agronomic production of energy crops and the physical handling and delivery of biomass, as well as other enabling logistics. Achieving a sustainable BFP system is therefore paramount for the success of the emerging bioenergy sector. However, low bulk and energy densities, seasonal and weather [...]

Features

The biomass based energy sector, especially the one based on lignocellulosic sources such as switchgrass *Miscanthus*, forest residues and short rotation coppice, will play an important role in our drive towards renewable energy. The biomass feedstock production (BFP) subsystem provides the necessary material inputs to the conversion processes for energy production. This subsystem includes the agronomic [...]

Contents

Biomass Feedstock Production and Provision: Overview, Current Status, and Challenges.- Engineering Properties of Biomass.- Switchgrass and Giant *Miscanthus* Agronomy.- Pre-Harvest Monitoring of Biomass Production.- Harvesting System Design and Performance.- Transportation of Bioenergy Feedstock.- Biomass Feedstock Storage for Quantity and Quality Preservation.- Systems Informatics and Analysis.- Sustainability Issues in Biomass Feedstock Production: A Policy Perspective.

Fields of interest

Plant Breeding / Biotechnology; Plant Sciences; Environmental Engineering / Biotechnology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4899-8013-7

Hardcover

2014. XVI, 284 p. 115 illus., 82 illus. in color. ISBN 978-1-4899-8013-7

Due: February 28, 2014

B. Shen, Soochow University, Suzhou, China (P.R.) (Ed.)

Bioinformatics for Diagnosis, Prognosis and Treatment of Complex Diseases

The book introduces the bioinformatics tools, databases and strategies for the translational research, focuses on the biomarker discovery based on integrative data analysis and systems biological network reconstruction. With the coming of personal genomics era, the biomedical data will be accumulated fast and then it will become reality for the personalized and accurate diagnosis, prognosis and treatment of complex diseases. The book covers both state of the art of bioinformatics methodologies and the examples for the identification of simple or network biomarkers. In addition, bioinformatics software tools and scripts are provided to the practical application in the study of complex [...]

Features

The book introduces the bioinformatics tools, databases and strategies for the translational research, focuses on the biomarker discovery based on integrative data analysis and systems biological network reconstruction. With the coming of personal genomics era, the biomedical data will be accumulated fast and then it will become reality for the personalized and accurate diagnosis, prognosis and treatment of [...]

Contents

Bioinformatics for complex diseases: the basics.- Network based diagnosis of complex diseases.- Applications in Detection and Treatment of Complex Diseases.

Fields of interest

Bioinformatics; Molecular Medicine; Cancer Research; Computer Applications in Life Sciences

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7974-7

Hardcover

2013. VI, 220 p. 34 illus., 27 illus. in color. (Translational Bioinformatics, Vol. 4) ISBN 978-94-007-7974-7

usually dispatched within 3 to 5 business days

A. Surlykke, University of Southern Denmark, Odense M., Denmark; P. Nachtigall, R. Fay, Marine Biological Laboratory, Fay, USA; A.N. Popper, University of Maryland, College Park, USA (Eds.)

Biosonar

Two groups of animals, bats and odontocetes (toothed whales), have independently developed the ability to orient and detect prey by biosonar (echolocation). This active mechanism of orientation allows these animals to operate under low light conditions. Biosonar is a conceptual overview of what is known about biosonar in bats and odontocetes. Chapters are written by bat and odontocetes experts, resulting in collaborations that not only examine data on both animals, but also compare and contrast mechanisms. This book provides a unique insight that will help improve our understanding of biosonar in both animal groups.

Features

Two groups of animals, bats and odontocetes (toothed whales), have independently developed the ability to orient and detect prey by biosonar (echolocation). This active mechanism of orientation allows these animals to operate under low light conditions. Biosonar is a conceptual overview of what is known about biosonar in bats and odontocetes. Chapters are written by bat and odontocetes experts, [...]

Contents

Introduction and Overview.- Sonar Signals of Bats and Toothed Whales.- Production of Biosonar Signals: Structure and Form.- Sound Intensities of Biosonar Signals From Bats and Toothed Whales.- Hearing During Echolocation in Whales and Bats.- Localization and Classification of Targets by Echolocating Bats and Dolphins.- On-Animal Methods for Studying Echolocation in Free-Ranging Animals.- Analysis of Natural Scenes by Echolocation in Bats and Dolphins.- Echolocation in Air and Water.

Fields of interest

Neurobiology; Otorhinolaryngology; Neurosciences; Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9145-3

Hardcover

2014. Approx. 300 p. 175 illus., 75 illus. in color. (Springer Handbook of Auditory Research, Vol. 51) ISBN 978-1-4614-9145-3

Due: February 2014

N. Taniguchi, RIKEN Advanced Science Institute, Wako, Japan; K. Honke, Kochi University, Nankoku, Japan; M. Fukuda, Sanford-Burnham Medical Research Inst., La Jolla, USA; H. Nari-matsu, Nat'l Inst of Adv Industr Sci and Tech, Tsukuba, Japan; Y. Yamaguchi, RIKEN Advanced Science Institute, Wako, Japan; T. Angata, RIKEN Advanced Science Institute, Wako, Japan (Eds.)

Handbook of Glycosyltransferases and Related Genes

This handbook, now in a new, second edition, is an essential resource for scientists with an interest in the role of glycosyltransferases and related genes involved in the biosynthesis of glycoproteins, glycolipids, and proteoglycans. The first edition of the Handbook of Glycosyltransferases and Related Genes, published in 2002, contained descriptions of more than 100 mammalian genes by over 100 scientists who originally isolated and/or cloned these genes. Since then, there has been a growing body of evidence concerning the roles of glycosyltransferases, and additional glycosyltransferases have been identified. Now more than 200 glycosyltransferases have been isolated from mammalian [...]

Features

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Contents

Part 1 Glucosyltransferases.- 1 Beta-1,3-glucosyltransferase (B3GALTL).- 2 Protein O-glycosyltransferases rumi (RUMI).- 3 UDP-glucose:ceramide glucosyltransferase (UGCG).- 4 UDP-glucose:glycoprotein glucosyltransferase 1,2 (UGGT1,2).- Part 2 Galactosyltransferases.- 5 Alpha 1,3-galactosyltransferase 2, pseudogene (A3GALT2P).- 6 Core 1 beta 3Galactosyltransferase (C1GalT1, T-synthase) and its Specific Molecular Chaperone Cosmc (C1GalT1C1).- 7 Glycoprotein alpha 1,3-galactosyltransferase 1, pseudogene (GGTA1P).- 8 UDP-Gal:betaGal beta 1,3-galactosyltransferase polypeptide 6 (B3GALT6).- 9 [...]

Fields of interest

Biochemistry; Cell Biology; Organic Chemistry; Immunology; Pharmacology / Toxicology

Target groups

Research

Type of publication

Handbook

More on www.springer.com/978-4-431-54239-1

Hardcover

2014. 1650 p. 300 illus., 100 illus. in color. ISBN 978-4-431-54239-1

Due: February 2014

Hardcover

2014. 1650 p. 300 illus., 100 illus. in color. Print + eReference. In 2 volumes, not available separately. ISBN 978-4-431-54241-4

Due: March 2014

K. Turksen (Ed.)

Adult Stem Cells

Adult Stem Cells, second edition, takes a critical look at issues concerning the developmental or differentiation potential for a variety of tissue types and for specific adult stem cell types. Since the first edition appeared a decade ago, our understanding of adult stem cells, and more specifically tissue-specific adult stem cells, has advanced tremendously. And an increased interest in regenerative medicine and potential stem cell applications has driven a quest for better understanding of stem cell biology. In turn, this has spawned much activity on generation and utilization of more and better reagents to identify and isolate stem cells and stem cell-like subpopulations, and on [...]

Features

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Contents

Signaling Pathways Maintaining Stemness in Adult Hematopoietic Stem Cells.- The Adult Stem Cell Niche.- Adult Stem Cells: Adult Skeletal Muscle Stem Cells.- Adult Cardiac Stem Cells: Identity, Location and Potential.- Adult Pituitary Stem Cells.- Toward Translating Molecular Ear Development to Generate Hair Cells from Stem Cells.- Adult Human Corneal Epithelial Stem Cells.- Adult Stem Cells in Teeth.- Adult Mammary Stem Cells: Identity, Location and Functional Assays.- Adult Ovary Stem Cells.- Adult Prostate Stem Cells.- Adult Lung Stem Cells.- Adult Liver Stem Cells.- Lineage-committed [...]

Fields of interest

Stem Cells; Biotechnology; Cell Biology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-1-4614-9568-0

Hardcover

2014. X, 290 p. 11 illus. in color. (Stem Cell Biology and Regenerative Medicine) ISBN 978-1-4614-9568-0

Due: January 31, 2014

F. Urbano, Università Iuav di Venezia, Milano, Italy; F. Cagnacci, Research and Innovation Centre, San Michele all'Adige, Italy (Eds.)

Spatial Database for GPS Wildlife Tracking Data

A Practical Guide to Creating a Data Management System with PostgreSQL/PostGIS and R

This book guides animal ecologists, biologists and wildlife and data managers through a step-by-step procedure to build their own advanced software platforms to manage and process wildlife tracking data. This unique, problem-solving-oriented guide focuses on how to extract the most from GPS animal tracking data, while preventing error propagation and optimizing analysis performance. Based on the open source PostgreSQL/PostGIS spatial database, the software platform will allow researchers and managers to integrate and harmonize GPS tracking data together with animal characteristics, environmental data sets, including remote-sensing time series, and other bio-logged data such as [...]

Features

This book guides animal ecologists, biologists and wildlife and data managers through a step-by-step procedure to build their own advanced software platforms to manage and process wildlife tracking data. This unique, problem-solving-oriented guide focuses on how to extract the most from GPS animal tracking data, while preventing error propagation and optimizing analysis performance. Based on the open source [...]

Contents

Introduction.- Wildlife Tracking Data Management: Chances Come from Difficulties.- Storing Tracking Data in an Advanced Database Platform (PostgreSQL).- Extending the Database Data Model: Animals and Sensors.- From Data to Information: Associating GPS Positions to Animals.- Spatial is not Special: Managing Tracking data in a Spatial Database.- From Points to Habitat: Relating Environmental Information to GPS Positions.- Tracking Animals in a Dynamic Environment: Remote Sensing Image Time Series.- Data quality: Detection and Management of Outliers.- Exploring Tracking Data:[...]

Fields of interest

Animal Ecology; Conservation Biology / Ecology; Zoology; Biodiversity; Community & Population Ecology; Behavioural Sciences

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-3-319-03742-4

Hardcover

2014. X, 190 p. 43 illus., 29 illus. in color.
ISBN 978-3-319-03742-4

Due: March 31, 2014

A. Varshney, Aligarh Muslim University, Aligarh, India; M. Anis, Aligarh Muslim University, Aligarh, India

Trees: Propagation and Conservation

Biotechnological Approaches for Propagation of a Multipurpose Tree, *Balanites aegyptiaca* Del

Plant tissue culture is an essential component of Biotechnology which has gained unbeatable recognition in plant sciences for successful micropropagation and improvement of plant species, leading to the commercial application. A number of plant species have been investigated around the globe. This book presents current research on the application of in vitro technology in the improvement of *Balanites aegyptiaca* Del., a medicinal plant of semi-arid tropics. The worldwide importance of forestry, summed to the lengthy generation cycles of tree species, makes unavoidable development of new technologies that complement conventional tree breeding programmes in order to obtain improved[...]

Features

Plant tissue culture is an essential component of Biotechnology which has gained unbeatable recognition in plant sciences for successful micropropagation and improvement of plant species, leading to the commercial application. A number of plant species have been investigated around the globe. This book presents current research on the application of in vitro technology in the improvement of *Balanites* [...]

Contents

Introduction.- Review of Literature.- Material and Methods.- Results.- Discussion.- Summary and Conclusions.

Fields of interest

Plant Sciences; Sustainable Development; Science (general); Natural Hazards; Industrial and Production Engineering

Target groups

Research

Type of publication

Monograph

More on www.springer.com/978-81-322-1700-8

Hardcover

2014. 200 p. 24 illus., 21 illus. in color.
ISBN 978-81-322-1700-8

Due: February 28, 2014

X. Wang, University of Missouri-St. Louis, St. Louis, USA (Ed.)

Phospholipases in Plant Signaling

This volume focuses on recent advances in the biochemical and molecular analysis of different families of phospholipases in plants and their roles in signaling plant growth, development and responses to abiotic and biotic cues. The hydrolysis of membrane lipids by phospholipases produces different classes of lipid mediators, including phosphatidic acid, diacylglycerol, lysophospholipids, free fatty acids and oxylipins. Phospholipases are grouped into different families and subfamilies according to their site of hydrolysis, substrate usage and sequence similarities. Activating one or more of these enzymes often constitutes an early, critical step in many regulatory processes, such as [...]

Features

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Contents

PART I: Plant Phospholipase Families and Derived Messengers.- PLD: Phospholipase D and Phosphatidic Acid.- PI-PLC: Phosphoinositide-phospholipase Cs in Plant Signalling.- NPC: Non-specific Phospholipase Cs in Plant Functions.- pPLA: Patatin-Containing Phospholipase A in Plant Signalling.- sPLA2 and PLA1: Phospholipase A2 and Phospholipase A1 in Plant Signalling.- Biophysical Properties of Lipid Mediators and the Effects on Molecular Interactions.- PART II: Phospholipase Signalling in Response to Environmental Stresses.- Phospholipases in Plant Response to Reactive Oxygen Species and [...]

Fields of interest

Plant Physiology; Plant Biochemistry; Lipidology; Plant Pathology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-642-42010-8

Hardcover

2014. X, 226 p. 20 illus., 16 illus. in color. (Signaling and Communication in Plants, Vol. 20)
ISBN 978-3-642-42010-8

Due: January 31, 2014

D. Zannoni, R. De Philippis (Eds.)

Microbial BioEnergy: Hydrogen Production

The central theme of this book "Microbial BioEnergy: Hydrogen Production" is focused on the biological machinery that microorganisms use to produce hydrogen gas. The book summarizes the achievements over the past decade in the biochemistry, structural and molecular biology, genomics and applied aspects of microbial H₂-production, including microbial fuel cells (MFC), by phototrophs such as purple sulfur and non-sulfur bacteria (*Thiocapsa* spp., *Rhodobacter* and *Rhodospseudomonas* spp.) microalgae (*Chlamydomonas*) and cyanobacteria (*Anabaena* spp.) along with anaerobes and thermophiles such as *Caldicellulosiruptor* and *Thermotoga*. This is the first book of this series entirely devoted to[...]

Features

Solar energy is the source of most of the living organisms on Earth so that the overall efficiency of oxygenic and/or non-oxygenic photosynthesis, when used to generate biomass, bioenergy and biofuels, is a critical point to be considered. This volume in the *Advances in Photosynthesis and Respiration* series, however, not only provides a comprehensive view of the current understanding of the photosynthetic [...]

Contents

Preface.- 1. Bioenergy from Micro-organisms: an overview; Patrick C. Hallenbeck.- 2. Structural foundations for O₂ sensitivity and O₂ tolerance in [NiFe]-hydrogenases; Anne Volbeda, Juan C. Fontecilla-Camps.- 3. Engineering hydrogenases for H₂ Production: Bolts and Goals; Marc Rousset, Pierre-Pol Liebgott.- 4. H₂ production using cyanobacteria/cyanobacterial hydrogenases: from classical to synthetic biology approaches; Catarina C. Pacheco et al.- 5. Hydrogen Production by Water Biophotolysis; Maria L. Ghirardi et al.- 6. Nitrogenase-dependent Hydrogen Production by Cyanobacteria; [...]

Fields of interest

Life Sciences (general); Biotechnology; Energy (general); Renewable and Green Energy; Microbiology; Applied Microbiology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8553-2

Hardcover

2014. XV, 362 p. 56 illus., 48 illus. in color. (*Advances in Photosynthesis and Respiration*, Vol. 38)

ISBN 978-94-017-8553-2

Due: January 31, 2014

J.T. van Dongen, RWTH Aachen, Potsdam, Germany; F. Licausi, Scuola Superiore Sant'Anna, Pisa, Italy (Eds.)

Low-Oxygen Stress in Plants

Oxygen Sensing and Adaptive Responses to Hypoxia

During the last ten years, knowledge about the multitude of adaptive responses of plants to low oxygen stress has grown immensely. The oxygen sensor mechanism has been discovered, the knowledge about the interaction network of gene expression is expanding and metabolic adaptations have been described in detail. Furthermore, morphological changes were investigated and the regulative mechanisms triggered by plant hormones or reactive oxygen species have been revealed. This book provides a broad overview of all these aspects of low oxygen stress in plants. It integrates knowledge from different disciplines such as molecular biology, biochemistry, ecophysiology and agricultural [...]

Features

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Contents

Section I. Oxygen sensing.- Sensing molecular oxygen.- Sensing the energy status.- Sensing pH Sensing ROS / NO.- Section II. Molecular responses.- Transcriptional regulation.- Translational regulation.- Section III. Metabolic responses.- Storage metabolism. Primary carbon metabolism.- Primary nitrogen metabolism.- Fermentation / Pasteur Effect.- Regulation of respiration / oxygen consumption.- Plant Hemoglobins.- Section IV. Hormonal responses. Ethylene. ABA. GA. Auxine.- Section V. Morphological adaptations. Aerenchyma.- Oxygen convection.- Elongation.- Adventitious rooting.- [...]

Fields of interest

Plant Physiology; Plant Biochemistry; Plant Ecology

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-3-7091-1253-3

Hardcover

Volume of Plant Cell Monographs
2014. XII, 436 p. 49 illus., 33 illus. in color. (*Plant Cell Monographs*, Vol. 21)

ISBN 978-3-7091-1253-3

Due: January 31, 2014

M. Öztürk, Ege University, Bornova, Izmir, Turkey; M. Ashraf, University of Agriculture, Faisalabad, Pakistan; A. Aksoy, Erciyes University, Melikgazi, Turkey; M.S.A. Ahmad, University of Agriculture, Faisalabad, Faisalabad, Pakistan (Eds.)

Phytoremediation for Green Energy

Human demand for energy has grown multi-folds in recent years. This is the result of rapidly increasing human population, which, in turn, has resulted in increased organic (petroleum) and inorganic pollution on the biosphere. Due to this, we are now facing a number of challenges to sustain life on earth. For example, the increased organic and inorganic pollution in our environment is leading to loss of biodiversity, degradation of environment and thus ultimately causing food insecurity. In this situation, it is imperative to keep updated ourselves with advances on the effects of pollutants, tolerance mechanisms and the potential of different plants and microbes in removing these[...]

Features

Human demand for energy has grown multi-folds in recent years. This is the result of rapidly increasing human population, which, in turn, has resulted in increased organic (petroleum) and inorganic pollution on the biosphere. Due to this, we are now facing a number of challenges to sustain life on earth. For example, the increased organic and inorganic pollution in our environment is leading to loss of [...]

Contents

Preface.- 1. Bio-Fuels: A Blessing in Disguise; O. Suriya et al.- 2. Energy, environment and the future of mankind; Y.T. Lee.- 3. Phyto-cover phyto-treatment technologies for enhancing environmental remediation at aluminium smelting site in India; M.N.V. Prasad.- 4. Chromium and nickel phytotoxicity; A. Fargašová, K. Mičieta.- 5. Physio-anatomical responses of plants to heavy metals; R. Batool et al.- 6. Integration of different bioindication methods (for chemical elements) - The multi-markered-bioindication-concept (MMBC); B. Markert et al.- 7. Interaction between plants and [...]

Fields of interest

Plant Sciences; Renewable and Green Energy; Plant Ecology; Environmental Health; Environmental Management

Target groups

Research

Type of publication

Contributed volume

More on www.springer.com/978-94-007-7886-3

Hardcover

2014. Approx. 200 p. 64 illus., 4 illus. in color.
ISBN 978-94-007-7886-3

Due: April 7, 2014

Horticulture: Plants for People and Places

The trilogy 'Horticulture: Plants for People and Places' encapsulates and explains the fundamentals of what the disciplines of 'horticulture' and 'horticultural science' embrace and encompass currently. Those outside these disciplines, and not infrequently some inside them, find difficulty in understanding and explaining the broad-church which is horticulture and horticultural science.

Features

The trilogy 'Horticulture: Plants for People and Places' encapsulates and explains the fundamentals of what the disciplines of 'horticulture' and 'horticultural science' embrace and encompass currently. Those outside these disciplines, and not infrequently some inside them, find difficulty in understanding and explaining the broad-church which is horticulture and horticultural science.

Fields of interest

Agriculture; Food Science; Environment (general); Business & Management Science; Social Sciences (general); Humanities

Target groups

Professional/practitioner

Type of publication

Contributed volume

More on www.springer.com/978-94-017-8640-9

Hardcover

2014. 750 p. 3 volume-set.

ISBN 978-94-017-8640-9

Due: April 8, 2014

