ROUTLEDGE • CRC PRESS

Apple Academic Press Rights Guide Spring/Summer 2023

Routledge
Taylor & Francis Group

CRC Press
Taylor & Francis Group

www.routledge.com

Welcome

Welcome to Apple Press Academic Spring/Summer 2023 Rights catalogue, distributed by CRC Press. The CRC Press rights team has a wealth of experience in licensing translation rights worldwide and in-depth knowledge of our books and international publishing markets.

To request further information or an evaluation copy of any of the publications in this catalogue please select the contact most relevant to you from the following list:

Constance Govindin, CRC Press Rights Manager: constance.govindin@tandf.co.uk

Constance manages licensing for the following languages: French, Greek, Turkish, Arabic and Hebrew.

Monique Manzella, CRC Press Rights Executive: monique.manzella@tandf.co.uk

Monique is responsible for licensing the following languages: Italian, Spanish, and Portuguese, in addition to English language and pharmaceutical licensing enquiries.

Bianca Malloy, CRC Press Rights Executive: Bianca.Malloy@tandf.co.uk

Bianca is responsible for licensing the following languages: German, Dutch and Scandinavian languages.

Renata Kasprzak, CRC Press Rights Executive: renata.kasprzak@tandf.co.uk

Renata is responsible for licensing the following languages: Japanese, Korean, Russian and Eastern European languages.

Hansen Lim, Rights Licensing Executive: hansen.lim@tandf.com.sg

Hansen is based in our Singapore office and covers South Asia (non-Arabic Speaking countries), Southeast Asia and Mongolia, along with Sub Saharan Africa for the Routledge and CRC Press imprints.

Summer Liu, Rights Manager: summer.liu@tandfchina.com

Summer has responsibility for all China rights business requests including Simplified/Complex translation rights enquiries, e-Rights, reprint rights and audio rights licence enquiries. Her key territories are Mainland China, Taiwan, Hong Kong and Macau.

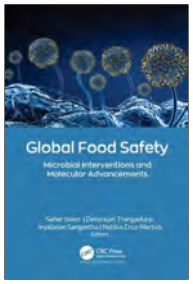
Daisy Li, Rights Executive: daisy.li@tandfchina.com

Daisy handles rights licensing enquiries for CRC Press and Apple Academic Press publishing imprints for Simplified Chinese Language rights in Mainland China.

Contents

Global Food Safety

Microbial Interventions and Molecular Advancements



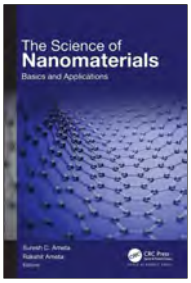
Edited by **Saher Islam**, **Devarajan Thangadurai**, **Jeyabalan Sangeetha** and **Natália Cruz-Martins**

Reviews the molecular advances in food science related to the safety and quality along with diagnostic tools for detection of emerging pathogens based on the food commodities. It presents a wide selection of methods for the identification and characterization of foodborne infectious agents. It reviews state-of-the-art methods for detecting and tracing foodborne pathogens using next-generation sequencing and whole-genome sequencing for controlling foodborne illnesses as well as the application of microorganisms in food production for preventing foodborne illnesses.

Apple Academic Press
January 2023: 366pp
Hb: 978-1-774-91010-8: **£124.00**
Pb: 978-1-774-91011-5: **£82.99**
eBook: 978-1-003-28314-0
* For **full contents** and more information, visit: **www.routledge.com/9781774910108**

The Science of Nanomaterials

Basics and Applications



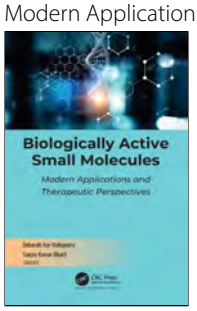
Edited by **Suresh C. Ameta** and **Rakshit Ameta**

Covers the important aspects of nanomaterials by focusing on the many issues related to food and textile industries, treatment of polluted water, health, energy crises, targeted drug delivery, etc. The editors take an interdisciplinary approach to discussing how the scenario will change on a global level in the future and explore when these nanomaterials will replace almost all micro- and macromaterials. It is a ready-at-hand guide to the many issues related to the use of nanomaterials in drug and gene delivery, sensors, photosplitting of water, wastewater treatment, nanocomposites, food industries (safety, security, packaging, and preservation), etc.

Apple Academic Press
December 2022: 400pp
Hb: 978-1-774-91072-6: **£147.00**
Pb: 978-1-774-91073-3: **£82.99**
eBook: 978-1-003-28312-6
* For **full contents** and more information, visit: **www.routledge.com/9781774910726**

Biologically Active Small Molecules

Modern Applications and Therapeutic Perspectives



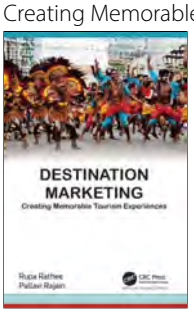
Edited by **Debarshi Kar Mahapatra** and **Sanjay Kumar Bharti**

Focuses on small molecules as active pharmacological agents, their pharmacotherapeutically active properties, new approaches in drug discovery using small molecules, and biopharmaceutic approaches for low molecular weight ligands. It discusses some newly developed therapeutically active low molecular weight compounds and presents up-to-date content on classification, structures, chemical syntheses, medicinal chemistry, pharmacology, biochemical pathways, mechanisms of actions, side effects, and adverse effects of small molecule drug discovery.

Apple Academic Press
January 2023: 390pp
Hb: 978-1-774-91068-9: **£139.00**
Pb: 978-1-774-91069-6: **£82.99**
eBook: 978-1-003-28311-9
* For **full contents** and more information, visit: **www.routledge.com/9781774910689**

Destination Marketing

Creating Memorable Tourism Experiences

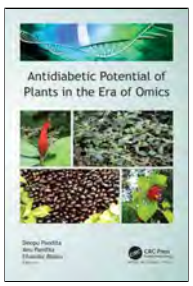


Rupa Rathee and **Pallavi Rajain**

Provides a snapshot view of various aspects of destination marketing, the art of using marketing to create memorable experiences for travelers at specific destinations. The authors cover the various tourism attractors, the most common of which include heritage tourism, agro-rural tourism, natural/scenic attractions, man-made attractions, spiritual/ religious tourism, wildlife tourism, business tourism, festivals, art and culture tourism, sports and adventure tourism, wellness and medical tourism, culinary tourism, special interest tourism, and stopover tourism. The destination marketing mix is also discussed, covering the seven P's of destination marketing.

Apple Academic Press
December 2022: 186pp
Hb: 978-1-774-91026-9: **£124.00**
Pb: 978-1-774-91027-6: **£82.99**
eBook: 978-1-003-28250-1
* For **full contents** and more information, visit: **www.routledge.com/9781774910269**

Antidiabetic Potential of Plants in the Era of Omics



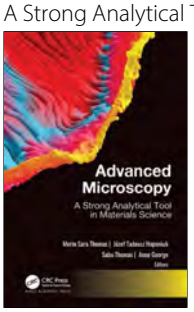
Edited by **Deepu Pandita**, **Anu Pandita** and **Chander Bhanu**

An informative overview of diabetes mellitus in conjunction with current plant-based treatments for this disease and available methods for studying the antidiabetic activities of scientifically developed plant products, mechanisms of action, their therapeutic superiority, and genome editing research perspectives and biotechnological approaches. It discusses diagnosis, classification, pathophysiology, and risk factors. It goes on to review traditional uses of plants for diabetes along with some ethnobotanical information along with results of scientific studies on the various modes of action of antidiabetic plants.

Apple Academic Press
December 2022: 478pp
Hb: 978-1-774-91008-5: **£139.00**
Pb: 978-1-774-91009-2: **£82.99**
eBook: 978-1-003-28286-0
* For **full contents** and more information, visit: **www.routledge.com/9781774910085**

Advanced Microscopy

A Strong Analytical Tool in Materials Science

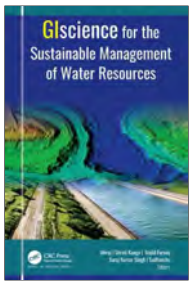


Edited by **Merin Sara Thomas**, **Józef T. Haponiuk**, **Sabu Thomas** and **Anne George**

This interdisciplinary book covers the methodology and applications of different advanced microscopic techniques in various research fields, including chemistry, nanotechnology, polymers, chemical engineering, and biomedical engineering, providing an informative overview that helps to determine the best applications for advanced materials. The microscopy techniques presented in the volume show applications in many areas of science, including botany and plant science, medicine, nanotechnology, chemistry, food science, waste management, and others.

Apple Academic Press
December 2022: 326pp
Hb: 978-1-774-91042-9: **£131.00**
Pb: 978-1-774-91043-6: **£82.99**
eBook: 978-1-003-28204-4
* For **full contents** and more information, visit: **www.routledge.com/9781774910429**

GIScience for the Sustainable Management of Water Resources



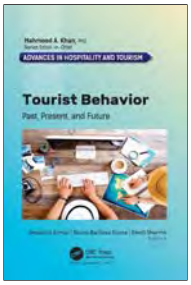
Edited by **Gowhar Meraj**, **Shruti Kanga**, **Majid Farooq**, **Suraj Kumar Singh** and **Sudhanshu**

Discusses in detail geospatial approaches, tools, and techniques for designing and using spatial informational techniques for understanding the root causes behind the degradation of our water resources. The chapters discuss the use of the satellite remote sensing and GIS-based systems for managing urban storm water; for flood and soil erosion management; for mapping groundwater zones; for crop production, including measuring soil moisture and aridity; for gauging the impact of climate change; for evaluating glacier change dynamics; for assessing the impact of urban growth on water resources; for measuring the degradation of rivers; and more.

Apple Academic Press
December 2022: 440pp
Hb: 978-1-774-91048-1: **£139.00**
Pb: 978-1-774-91049-8: **£82.99**
eBook: 978-1-003-28451-2
* For **full contents** and more information, visit: **www.routledge.com/9781774910481**

Tourist Behavior

Past, Present, and Future



Edited by **Narendra Kumar**, **Bruno Barbosa Sousa** and **Swati Sharma**

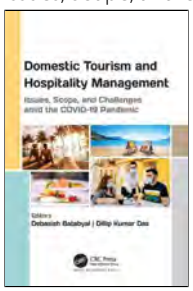
Series: Advances in Hospitality and Tourism

Presents research work, new perspectives, and case studies of tourist behavior from the different cultural and geographical backgrounds. Topics address relationship management at tourist destinations, such as spas and museums; the creation and sustainability of tourism luxury brands; the influence of social media and digital technology on tourist choices; tourists' motivation, satisfaction, and return-trip intentions; the role of tourism activities on destination choice; studies on heritage tourism; and more.

Apple Academic Press
December 2022: 348pp
Hb: 978-1-774-91024-5: **£124.00**
Pb: 978-1-774-91025-2: **£82.99**
eBook: 978-1-003-28208-2
* For **full contents** and more information, visit: **www.routledge.com/9781774910245**

Domestic Tourism and Hospitality Management

Issues, Scope, and Challenges amid the COVID-19 Pandemic

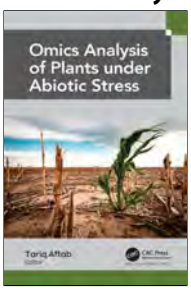


Edited by **Debasish Batabyal** and **Dillip Kumar Das**

Presents a unique collection of "new normal" trends, issues, and challenges of tourism and hospitality management and practices from the perspective of the COVID-19 pandemic. It features empirical contemporary research and case studies that incorporate a bottom-up approach from survival to revival of the travel and tourism industry around the world amidst the pandemic. It looks at the impact of the pandemic on tourism-dependent economies and businesses as well as government responses in tourism-dependent cities and regions.

Apple Academic Press
December 2022: 256pp
Hb: 978-1-774-91056-6: **£116.00**
Pb: 978-1-774-91057-3: **£82.99**
eBook: 978-1-003-28333-1
* For **full contents** and more information, visit: **www.routledge.com/9781774910566**

Omics Analysis of Plants under Abiotic Stress



Edited by **Tariq Aftab**

Highlights the various emerging techniques and molecular applications that are currently being used in plant abiotic stress physiology. It provides a thorough overview of omics approaches in response to stressors such as low water accessibility (drought), excess water (flooding/waterlogging), extremes of temperatures (cold, chill, frost, and heat), salinity, mineral deficiency, and heavy metal toxicity—many of which are the result of climate change. The book, with chapters contributed by specialists in the field, emphasizes the broad variety of themes using an OMICS analysis of plants under abiotic stress factors at the cellular and molecular levels.

Apple Academic Press
November 2022: 292pp
Hb: 978-1-774-91014-6: **£124.00**
Pb: 978-1-774-91015-3: **£82.99**
eBook: 978-1-003-28276-1
* For **full contents** and more information, visit: **www.routledge.com/9781774910146**

High-Resolution Mass Spectrometry and Its Diverse Applications

Cutting-Edge Techniques and Instrumentation

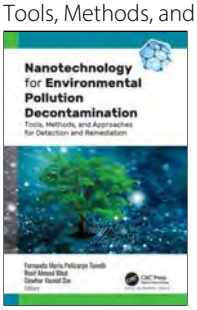
Edited by **Sreeraj Gopi**, **Sabu Thomas**, Mahatma Gandhi University, India, **Augustine Amalraj** and **Shintu Jude**

A wide range of knowledge on the technologies and applications of the cutting-edge field of high-resolution mass spectrometry (HRMS) in different areas of analysis. Begins with an overview of the basic instrumentation techniques and goes on to present research on diverse new uses of HRMS in clinical testing, such as for therapeutic drug designing, discovery, and development; in forensic studies and investigations; in quality management systems; for analysis of pesticides; for analysis of single cells; in analysis of fossil fuels; for use in space and planetary science; and more.

Apple Academic Press
December 2022: 276pp
Hb: 978-1-774-91112-9: **£131.00**
Pb: 978-1-774-91113-6: **£82.99**
eBook: 978-1-003-30425-8
* For **full contents** and more information, visit: **www.routledge.com/9781774911129**

Nanotechnology for Environmental Pollution Decontamination

Tools, Methods, and Approaches for Detection and Remediation



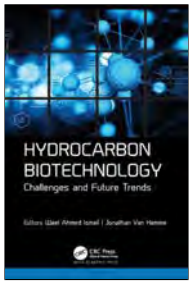
Edited by **Fernanda Maria Policarpo Tonelli**, **Rouf Ahmad Bhat** and **Gowhar Hamid Dar**

Presents informative research on using nanotechnology for environmental pollution decontamination, taking a biotechnological approach considering the safety and economic aspects of nanoremediation, nanosensors and nanobiosensors for the detection of pollutants; and strategies for nanoremediation and nanobioremediation. The chapters offer a comprehensive overview of nanotechnologic strategies as essential tools to restore polluted environments and to make more feasible and harmonic the pathway to sustainable development. The volume also discusses the use of sensors to detect pollutants and to monitor the quality of environmental restoration.

Apple Academic Press
November 2022: 560pp
Hb: 978-1-774-91040-5: **£147.00**
Pb: 978-1-774-91041-2: **£82.99**
eBook: 978-1-003-27956-3
* For **full contents** and more information, visit: **www.routledge.com/9781774910405**

Hydrocarbon Biotechnology

Challenges and Future Trends



Edited by **Wael Ahmed Ismail** and **Jonathan Van Hamme**

Presents an up-to-date view of how hydrocarbon microbiology and biotechnology can be used as tools for bioremediation, oil recovery, bioupgrading of unconventional crudes, the development of biorefining technologies, and the production of hydrogen and electricity from hydrocarbon wastes. The book starts with a historical perspective on hydrocarbon chemistry and formation, petroleum microbiology, and biotechnology. This is followed by a review of recent research developments in bioremediation and other biotechnologies for hydrocarbons, the principal constituents of petroleum and natural gas.

Apple Academic Press
November 2022: 414pp
Hb: 978-1-774-63989-4: **£147.00**
Pb: 978-1-774-63990-0: **£82.99**
eBook: 978-1-003-27735-4
* For **full contents** and more information, visit: **www.routledge.com/9781774639894**

Organic Farming for Sustainable Development

Edited by **Jeyabalan Sangeetha**, **Kasem Soytong**, **Devarajan Thangadurai** and **Abdel Rahman Mohammad Al-Tawaha**

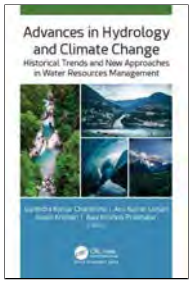
Series: Current Advances in Biodiversity, Conservation, and Environmental Sciences

Addresses the growing use of organic farming fueled by the concern with the deleterious effects of conventional agricultural practices, which use chemical fertilizers, pesticides, and herbicides for large scale food production. It focuses on sustainable development in farming, detailing the application of different natural resources as manure for organic farming and discusses efficient and cost-effective uses of natural and available resources to produce healthy food while at the same time helping to conserve the environment.

Apple Academic Press
October 2022: 436pp
Hb: 978-1-774-91020-7: **£131.00**
Pb: 978-1-774-91021-4: **£82.99**
eBook: 978-1-003-28405-5
* For **full contents** and more information, visit: **www.routledge.com/9781774910207**

Advances in Hydrology and Climate Change

Historical Trends and New Approaches in Water Resources Management



Edited by **Surendra Kumar Chandniha**, **Anil Kumar Lohani**, **Gopal Krishan** and **Ajay Krishna Prabhakar**

Highlights recent trends in the water sector that employ innovative management and conservation approaches. Focusing on surface and groundwater related issues and sustainable solutions, the chapters present a variety of methods, including morphometric assessment, parameter estimation, long-term trend analysis, sustainability indexes, storm water management models (SWMM), entropy-based measurement of long-term precipitation, etc. The volume focuses on providing a better understanding of climatic uncertainty through hydrometeorological data sets and their application in hydrological modeling.

Apple Academic Press
November 2022: 556pp
Hb: 978-1-774-91030-6: **£147.00**
Pb: 978-1-774-91031-3: **£82.99**
eBook: 978-1-003-28236-5
* For **full contents** and more information, visit: **www.routledge.com/9781774910306**

The Science and Technology of the Environment

James G. Speight

Provides an essential understanding of natural environments and the way in which they function by providing clear explanations of the fundamental aspects of environmental science and technology from a multidisciplinary perspective. It focuses on the many issues that are related to the effects of chemical waste on various ecosystems as well as on pollutant mitigation and clean-up. The volume discusses several key environmental problems such as pollution, ozone layer depletion, acid rain, and global warming affecting the Earth's atmosphere, aquasphere, and geosphere over the past four decades.

Apple Academic Press
October 2022: 378pp
Hb: 978-1-774-63976-4: **£150.00**
Pb: 978-1-774-63977-1: **£82.99**
eBook: 978-1-003-27751-4
* For **full contents** and more information, visit: **www.routledge.com/9781774639764**

Plant Ecogenomics

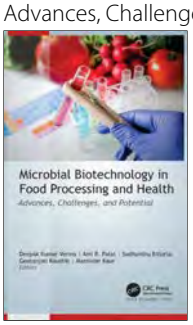
Edited by **Peerzada Arshid Shabir**, **Peerzada Yasir Yousuf** and **Khalid Rehman Hakeem**

Offers a valuable introduction to plant ecology from a genomics point of view. The editors present a thorough foundation and summary of modern approaches, methodologies, research goals, and evidence of plant ecology in the modern genomic era. It describes ecological genomics along with the genomic tools embraced by ecologists for mining various ecological problems. Recent advances and breakthroughs made in molecular markers along with their applications in plant eco-genomic studies are shared, and specific applications, techniques, and tools are described as well, such advanced molecular techniques, next-generation sequencing, eDNA metabarcoding, among others.

Apple Academic Press
November 2022: 274pp
Hb: 978-1-774-91018-4: **£131.00**
Pb: 978-1-774-91019-1: **£82.99**
eBook: 978-1-003-28200-6
* For **full contents** and more information, visit: **www.routledge.com/9781774910184**

Microbial Biotechnology in Food Processing and Health

Advances, Challenges, and Potential



Edited by **Deepak Kumar Verma**, **Ami R. Patel**, **Sudhanshu Billoria**, **Geetanjali Kaushik** and **Maninder Kaur**

This new volume considers how the application of microbial biotechnology in food processing provides nutritional health benefits in foods, focusing on new probiotics and prebiotic-based foods. It provides an informative state-of-the art perspective of the food industry on probiotics and their metabolites, assesses the specific potential health benefits of probiotics in foods, and presents new research and advances on industrial aspects of microbial food technologies.

Apple Academic Press
October 2022: 388pp
Hb: 978-1-774-63728-9: **£139.00**
Pb: 978-1-774-63743-2: **£82.99**
eBook: 978-1-003-27741-5
* For **full contents** and more information, visit: **www.routledge.com/9781774637289**

Medical Travel Brand Management

Success Strategies for Hospitality Bridging Healthcare (H2H)

Edited by **Frederick J. DeMicco** and **Ali A. Poorani**

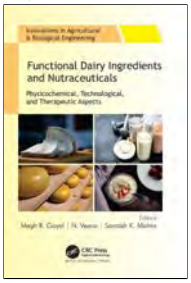
Series: Advances in Hospitality and Tourism

Takes a systems approach to examining the growing field of medical tourism It looks at medical tourism in depth from a medical and hospitality operational management perspective. With the inclusion of case studies, the book discusses why patients/tourists decide to travel for medical care, the role of professional facilitators, key countries and medical disciplines, history of medical tourism, hotel and spa designs for medical tourism, patient follow up after medical discharge, careers in medical tourism, etc.

Apple Academic Press
October 2022: 504pp
Hb: 978-1-774-63727-2: **£147.00**
Pb: 978-1-774-63732-6: **£82.99**
eBook: 978-1-003-27739-2
* For **full contents** and more information, visit: **www.routledge.com/9781774637272**

Functional Dairy Ingredients and Nutraceuticals

Physicochemical, Technological, and Therapeutic Aspects



Edited by **Megh R. Goyal**, **N. Veena** and **Santosh K. Mishra**

Series: Innovations in Agricultural & Biological Engineering

Here is a comprehensive summary of new research and advancements in the functional and nutraceutical therapeutic and physiochemical aspects of dairy foods. The book explores the specific health benefits of dairy ingredients in nutraceuticals and functional foods as well as delves into production techniques that enhancement their therapeutic value. It discusses production, extraction and purification, and functional and technological applications of various functional dairy ingredients (such as lactulose, casein and whey protein-derived bioactive peptides).

Apple Academic Press
October 2022: 344pp
Hb: 978-1-774-63991-7: **£131.00**
Pb: 978-1-774-63992-4: **£82.99**
eBook: 978-1-003-27730-9
* For **full contents** and more information, visit: **www.routledge.com/9781774639917**

Value-Based Management in an Open Economy

Optimizing Strategy to Improve Business and Performance

Walter Amedzro St-Hilaire

It discusses the interactions between strategies, performance, and market forms at the level of value-based management, where productivity determines the optimized strategies and how the optimization process is modified according to performance. Applying economic and managerial principles, it demonstrates that problems related to competitive advantage can be analyzed like other business problems by using traditional tools of economics, finance, and strategy (provided that the dynamics of industry-specific interactions are considered).

Apple Academic Press
October 2022: 472pp
Hb: 978-1-774-91297-3: **£131.00**
Pb: 978-1-774-91298-0: **£82.99**
eBook: 978-1-003-33619-8
* For **full contents** and more information, visit: **www.routledge.com/9781774912973**

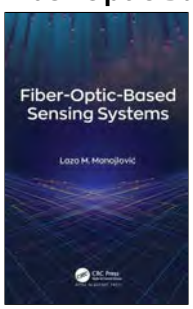
Biotechnology for Waste Biomass Utilization

Edited by **Prakash K. Sarangi** and **Latika Bhatia**

This volume explores the key features of biotechnology for waste biomass utilization, presenting scientific and technical literature on sustainable waste biomass management as well as for biomass conversion for biofuels, chemicals, and other new commercial products. It discusses a variety of novel biotechnical applications and interventions, including microbial fermentation and anaerobic digestion, biotechnological modes of xylooligosaccharides production, multifaceted utilization of microalgal biomass, vermiculture and vermicomposting, and more.

Apple Academic Press
October 2022: 356pp
Hb: 978-1-774-63995-5: **£139.00**
Pb: 978-1-774-63996-2: **£82.99**
eBook: 978-1-003-27718-7
* For **full contents** and more information, visit: **www.routledge.com/9781774639955**

Fiber-Optic-Based Sensing Systems



Lazo M. Manojlović

Presents both the latest advances in fiber-optic sensor technology, such as applications of photonic crystal fibers to fiber optic gyroscopes and recent application opportunities, including the use of fiber optic sensors as a minimally invasive medical treatment and in structural health monitoring. The book highlights the development of fiber optic sensors while also providing an overview of current methods for the construction of high-speed and high-capacity fiber optic systems. It provides a thorough presentation of novel fiber-optic based sensing systems with state-of-the-art signal processing of the interferometric signals.

Apple Academic Press
October 2022: 342pp
Hb: 978-1-774-63724-1: **£139.00**
Pb: 978-1-774-63736-4: **£82.99**
eBook: 978-1-003-27729-3
* For **full contents** and more information, visit: **www.routledge.com/9781774637241**

Nano-Innovations in Food Packaging

Functions and Applications

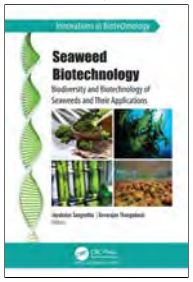
Edited by **Shiji Mathew** and **E. K. Radhakrishnan**

Presents the latest trends of nanotechnology-based packaging in the food industry, including advances, functions, and applications as well as the important properties of polymer nanocomposite as packaging materials. Chapters address the major preparative methods and the varied quantitative and qualitative analytical techniques used. Other topics include nanofillers, smart/intelligent nanocomposites, natural and synthetic biopolymers, edible packaging, and more. Importantly, the book also assesses the possible health and safety issues associated with the involvement of nanotechnology in food applications.

Apple Academic Press
October 2022: 302pp
Hb: 978-1-774-63972-6: **£131.00**
Pb: 978-1-774-63973-3: **£82.99**
eBook: 978-1-003-27742-2
* For **full contents** and more information, visit: **www.routledge.com/9781774639726**

Seaweed Biotechnology

Biodiversity and Biotechnology of Seaweeds and Their Applications



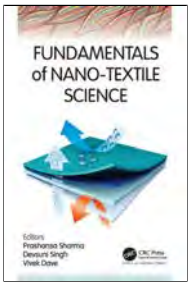
Edited by **Jeyabalan Sangeetha** and **Devarajan Thangadurai**, Karnatak University, India

Series: Innovations in Biotechnology

A comprehensive resource on the role of seaweeds in the areas of health, environment, and agriculture. It explores the biodiversity aspects of seaweeds and their derivatives. The book critically reviews the novel compounds synthesized by seaweeds and their unique characteristics and benefits. It covers the various biodiversity attributes of tropical seaweeds, their cultivation and bioactive compounds, and the diverse agricultural and biomedical applications of new seaweed derivatives. The authors discuss the challenges, emerging markets, and new developments in extracting the useful biomolecules from seaweeds.

Apple Academic Press
October 2022: 418pp
Hb: 978-1-774-91090-0: **£131.00**
Pb: 978-1-774-91091-7: **£82.99**
eBook: 978-1-003-30085-4
* For **full contents** and more information, visit: **www.routledge.com/9781774910900**

Fundamentals of Nano-Textile Science



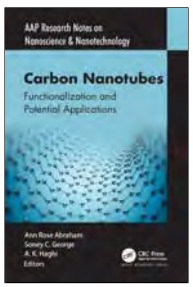
Edited by **Prashansa Sharma**, **Devsuni Singh** and **Vivek Dave**

Provides a detailed overview of advanced nano-textiles methods, techniques, and treatments with explanations of applications, with emphasis on nanotechnology-based textile enhancements to provide high durability, better affinity, and functionality in textile material and that improve upon conventional processes in the textile industry. Covers the production method of nano-textile fibers, various pretreatment processes of textile materials, nanofinishing applications to make textile materials antimicrobial, flame retardant, UV-protected, etc. It also addresses textile effluents and removing dyes from wastewater in textile processing.

Apple Academic Press
September 2022: 366pp
Hb: 978-1-774-63860-6: **£147.00**
Pb: 978-1-774-63861-3: **£82.99**
eBook: 978-1-003-27731-6
* For **full contents** and more information, visit: **www.routledge.com/9781774638606**

Carbon Nanotubes

Functionalization and Potential Applications



Edited by **Ann Rose Abraham**, **Soney C. George** and **A. K. Haghi**

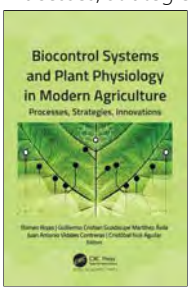
Series: AAP Research Notes on Nanoscience and Nanotechnology

Discusses advanced topics on carbon nanotubes—their extraordinary properties, structure, design, fabrication, development, engineering, functionalization, carbon nanotube enabled nanocomposites, characterization, and their utility in many applications. It highlights the vast potential of advanced CNT composites in automotive, aeronautics, spacecrafts, transistors replacing Si electronics, energy, purification, hydrogen storage, tissue regeneration, electrochemical supercapacitor, sensing, biomedical applications, agriculture, energy, and technical applications. The book also discusses the applications of carbon nanotubes for a greener environment.

Apple Academic Press
October 2022: 340pp
Hb: 978-1-774-63857-6: **£131.00**
Pb: 978-1-774-63858-3: **£82.99**
eBook: 978-1-003-27719-4
* For **full contents** and more information, visit: **www.routledge.com/9781774638576**

Biocontrol Systems and Plant Physiology in Modern Agriculture

Processes, Strategies, Innovations



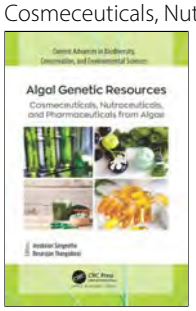
Edited by **Romeo Rojas**, **Guillermo Cristian Guadalupe Martínez Ávila**, **Juan Antonio Vidales Contreras** and **Cristóbal Noé Aguilar**

Focuses on new production alternatives that do not include pesticides, herbicides, and chemicals for primary food production and instead rely on biologically controlled systems of production. The book also relates advances and innovations in the use of agricultural technologies that employ the study of the physiology of plants to know their resistance to different environments in modern agriculture. The book presents research offering viable alternatives for the control of pests for safe food production that are environmentally friendly and that facilitate the reduction of production costs and improve the quality and yield of produce.

Apple Academic Press
September 2022: 314pp
Hb: 978-1-774-63978-8: **£139.00**
Pb: 978-1-774-63979-5: **£82.99**
eBook: 978-1-003-27711-8
* For **full contents** and more information, visit: **www.routledge.com/9781774639788**

Algal Genetic Resources

Cosmeceuticals, Nutraceuticals, and Pharmaceuticals from Algae



Edited by **Jeyabalan Sangeetha** and **Devarajan Thangadurai**

Series: Current Advances in Biodiversity, Conservation, and Environmental Sciences

This book focuses on the current and potential applications of microalgae and cyanobacteria in pharmaceuticals, nutraceuticals, and cosmeceuticals. It deals with the very recent and advanced techniques and technologies in algal cultivation and extraction for its application. The chapters discuss the biological importance, properties, and uses of algal metabolites and microalgae-based compounds in drug development, in food nutrition enhancement, and in the development of cosmetics with medicinal properties.

Apple Academic Press
September 2022: 398pp
Hb: 978-1-774-63748-7: **£124.00**
Pb: 978-1-774-63749-4: **£82.99**
eBook: 978-1-003-27709-5
* For **full contents** and more information, visit: **www.routledge.com/9781774637487**

Bioactives and Pharmacology of Medicinal Plants (2-volume set)

Edited by **T. Pullaiah**

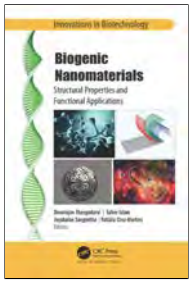
Series: AAP Focus on Medicinal Plants

This two-volume book concisely presents an abundance of important information on the bioactive and pharmacological properties of medicinal plants. It provides valuable comprehensive research and studies on bioactive phytocompounds of over 68 important medicinal plants with beneficial properties. For each species, a brief introduction is given along with their bioactive compounds and chemical structures, followed by their chief pharmacological activities that include antiviral, antimicrobial, antioxidant, anti-cancer, anti-inflammatory, antidiabetic, hepatoprotective, nephroprotective, and cardioprotective activities.

Apple Academic Press
August 2022: 1016pp
Hb: 978-1-774-91028-3: **£270.00**
Pb: 978-1-774-91029-0: **£150.00**
eBook: 978-1-003-28175-7
* For **full contents** and more information, visit: **www.routledge.com/9781774910283**

Biogenic Nanomaterials

Structural Properties and Functional Applications



Edited by **Devarajan Thangadurai**, **Saher Islam**, **Jeyabalan Sangeetha** and **Natália Cruz-Martins**

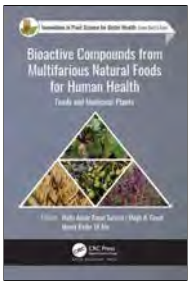
Series: Innovations in Biotechnology

Explores the growing use and applications of nanobiotechnology, starting from a careful characterization and introduction to the various uses of nanoparticles and nanomaterials, their nanomechanical properties in bacteria, and biomedical applications. It presents nanobiotechnology applications in treatment of cancer, obstructive pulmonary diseases, chronic infectious diseases, as well as its impact on the modulation of the intestinal microbiota. It also considers the potential of nanobiotechnology to improve plant systems in terms of tissue culture, in the transfer of macromolecules to plants, and in triggering the sustainable exploitation of agriculture, forestry, and food residues, ulti

Apple Academic Press
August 2022: 392pp
Hb: 978-1-774-63838-5: **£131.00**
Pb: 978-1-774-63839-2: **£82.99**
eBook: 978-1-003-27714-9
* For **full contents** and more information, visit: **www.routledge.com/9781774638385**

Bioactive Compounds from Multifarious Natural Foods for Human Health

Foods and Medicinal Plants



Edited by **Hafiz Ansar Rasul Suleria**, **Megh R. Goyal** and **Huma Bader Ul Ain**

Series: Innovations in Plant Science for Better Health

Divided into two sections, the volume first examines health claims of food-based bioactive compounds, which are extranutritional constituents that typically occur in small quantities in foods. This section lays out the concepts of extraction of food-based bioactive molecules, along with both conventional and modernized extraction techniques, as well as the available sources, biochemistry, structural composition, and potential biological activities of bioactive compounds. This compendium will be useful for students, researchers, and industry professsionals in the study of functional foods.

Apple Academic Press
August 2022: 338pp
Hb: 978-1-774-63715-9: **£131.00**
Pb: 978-1-774-63797-5: **£82.99**
eBook: 978-1-003-18976-3
* For **full contents** and more information, visit: **www.routledge.com/9781774637159**

Climate Change and Microbial Diversity

Advances and Challenges

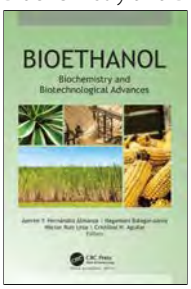
Edited by **Suhaib A. Bandh**, **Javid A. Parray** and **Nowsheen Shameem**

Explores the various microbial responses of plants and soils caused directly or indirectly by climate change resulting from rising greenhouse gases and other factors. It considers the rapidly changing environment and the important role of microbiomes in restoring soil and plant health and in creating sustainable approaches. It discusses the adaptation and mitigations of plants and soils, specifically addressing such topics as biogeochemical processes, antimicrobial resistance, the dynamics of bacteria and fungus in extreme environments, bacterial siderophores for sustainability, and more. It also looks at edaphic and regeneration performance of tree species.

Apple Academic Press
August 2022: 296pp
Hb: 978-1-774-63782-1: **£124.00**
Pb: 978-1-774-63783-8: **£82.99**
eBook: 978-1-003-30281-0
* For **full contents** and more information, visit: **www.routledge.com/9781774637821**

Bioethanol

Biochemistry and Biotechnological Advances



Edited by **Ayerim Y. Hernández Almanza**, The Autonomous University of Coahuila, Mexico, **Nagamani Balagurusamy**, **Héctor Ruiz Leza**, The Autonomous University of Coahuila, Mexico and **Cristóbal N. Aguilar**

Presents advances in the bioethanol industry, detailing the biochemical and physiological parameters of the main bioethanol-producing microorganisms as well as the discusses the potential applications that bioproducts can have and the advantages they generate. Topics include the physiology of ethanol production by yeasts, by Zymomonas mobilis, and by Clostridium thermocellum. Chapters also discuss the genetic regulation and genetic engineering of principal microorganisms and then go on to address ways to increase ethanol tolerance in industrially important ethanol fermenting organisms, methods for developing sustainable fermentable substrates, and new strategies for ethanol purification.<

Apple Academic Press
July 2022: 542pp
Hb: 978-1-774-63849-1: **£154.00**
Pb: 978-1-774-63850-7: **£82.99**
eBook: 978-1-003-27713-2
* For **full contents** and more information, visit: **www.routledge.com/9781774638491**

Global Healthcare Disasters

Predicting the Unpredictable with Emerging Technologies

Edited by **Adarsh Garg** and **D. P. Goyal**

This book discusses innovative and state-of-the-art tools and technology that can help meet the challenges of predicting disasters. It offers useful information for designing healthcare disaster management systems that can be dynamically configurable with implementation of today's modern technology, such as cloud computing, artificial intelligence, IoT, data analytics, and machine learning. These can increase effectiveness in remote sensing technologies, data analytics, data storage, communication networks, geographic information system (GIS), and global positioning mystem (GPS), to name a few.

Apple Academic Press
August 2022: 222pp
Hb: 978-1-774-91004-7: **£124.00**
Pb: 978-1-774-91005-4: **£82.99**
eBook: 978-1-003-28202-0
* For **full contents** and more information, visit: **www.routledge.com/9781774910047**

Sustainable Engineering, Energy, and the Environment

Challenges and Opportunities

Edited by **Kailas L. Wasewar**, Visvesvaraya National Institute of Technology, India and **Sumita Neti Rao**, Priyadarshini Institute of Engineering and Technology, India

A unique interdisciplinary look at the latest developments, advances, and trends in the interrelated areas of sustainable engineering, energy, and the environment, focusing on environmental engineering for renewable and green energy. It looks at new research and studies on green nanotechnology, green processing and solar energy, sustainable energy policies, biofuels, fuel cells, voltage systems for stand-alone nanogrids, sources for biodiesel production, protection equipment for windmill towers, industrial water recycling, regeneration of spent-activated carbon in pharmaceutical production, smell mitigation and recovery of fuel from waste, etc.

Apple Academic Press
June 2022: 584pp
Hb: 978-1-774-91000-9: **£139.00**
Pb: 978-1-774-91001-6: **£82.99**
eBook: 978-1-003-27748-4
* For **full contents** and more information, visit: **www.routledge.com/9781774910009**

Environmental Biotechnology

Sustainable Remediation of Contamination in Different Environs

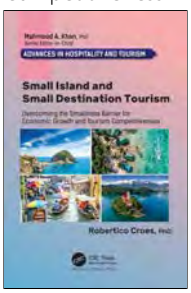
Edited by **Rouf Ahmad Bhat**, Cluster University, India, **Moonisa Aslam Dervash**, Cluster University, India, **Khalid Rehman Hakeem**, King Abdulaziz University, Saudi Arabia and **Khalid Zaffar Masoodi**, Sher-e-Kashmir University of Agricultural Sciences and Technology, India

Provides a review of innovative and novel biotechnological techniques to assess, analyze, and mitigate harmful pollutants and wastes from agricultural and industrial operations. It helps to meet the much-needed demand for improvement of low-cost technologies that tackle pollution problems scientifically for the safeguard of the environment, focusing on bioremediation solutions that also create useful and renewable forms of energy. It includes approaches involving genomics, proteomics, transcriptomics, metabolomics, and fluxomics. In addition, biological agents such as microalgae, bacteria, fungi, and bacteriophage, are explored.

Apple Academic Press
June 2022: 360pp
Hb: 978-1-774-63830-9: **£124.00**
Pb: 978-1-774-63831-6: **£82.99**
eBook: 978-1-003-27727-9
* For **full contents** and more information, visit: **www.routledge.com/9781774638309**

Small Island and Small Destination Tourism

Overcoming the Smallness Barrier for Economic Growth and Tourism Competitiveness



Robertico Croes, University of Central Florida, USA

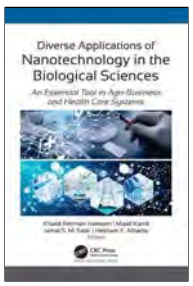
Series: Advances in Hospitality and Tourism

This new book thoroughly examines the phenomenon of why some small island destinations have been more successful than others. The main premise applied is that success and survival of small island tourism hinges on resolving the mystery regarding the relationship between competitiveness and quality of life. In addressing this question, the book reviews four relevant and interconnected concepts: tourism, competitiveness, quality of life, and scale (or size). In doing so, the book enhances understanding of the potential of tourism for the improvement of the quality of life of the residents of small islands.

Apple Academic Press
June 2022: 278pp
Hb: 978-1-774-63723-4: **£116.00**
Pb: 978-1-774-63735-7: **£52.99**
eBook: 978-1-003-27747-7
* For **full contents** and more information, visit: **www.routledge.com/9781774637234**

Diverse Applications of Nanotechnology in the Biological Sciences

An Essential Tool in Agri-Business and Health Care Systems



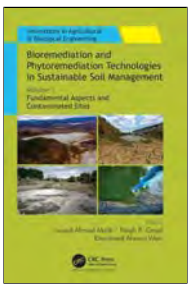
Edited by **Khalid Rehman Hakeem**, King Abdulaziz University, Saudi Arabia, **Majid Kamli**, King Abdulaziz University, Saudi Arabia, **Jamal S. M. Sabir**, King Abdulaziz University, Saudi Arabia and **Hesham F. Alharby**, King Abdulaziz University, Saudi Arabia

Explores the diverse roles that nanobiotechnology plays in the medical sciences, pharmacy, healthcare, and in plants and agriculture. It discusses its importance in drug delivery, biomedical imaging and medical diagnostics, and healthcare management. It emphasizes how nanomedicine can treat different types of cancers and can improve medical imaging for the diagnosis of different kinds of diseases.

Apple Academic Press
June 2022: 368pp
Hb: 978-1-774-63840-8: **£131.00**
Pb: 978-1-774-63841-5: **£82.99**
eBook: 978-1-003-27725-5
* For **full contents** and more information, visit: **www.routledge.com/9781774638408**

Bioremediation and Phytoremediation Technologies in Sustainable Soil Management

Volume 1: Fundamental Aspects and Contaminated Sites



Edited by **Junaid Ahmad Malik**, **Megh R. Goyal** and **Khursheed Ahmad Wani**

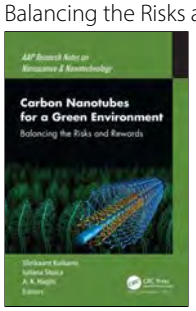
Series: Innovations in Agricultural & Biological Engineering

Volume 1 of the 4-volume set covers fundamental aspects of contaminated soil sites, discussing phytoremediation and phytotechnologies and the role of environmental factors, soil assessment techniques, and remediation methods designed to combat soil and agricultural degradation. It looks at types of sites and soil pollution (soils contaminated by heavy metals; coal, crude oil, and gasoline; biomedical wastes; human waste; etc.; pesticides; etc) and offers phytoremediation techniques.

Apple Academic Press
June 2022: 352pp
Hb: 978-1-774-63718-0: **£131.00**
Pb: 978-1-774-63958-0: **£82.99**
eBook: 978-1-003-28065-1
* For **full contents** and more information, visit: **www.routledge.com/9781774637180**

Carbon Nanotubes for a Green Environment

Balancing the Risks and Rewards



Edited by **Shrikaant Kulkarni**, Vishwakarma University, India, **Iuliana Stoica**, "Petru Poni" Institute of Macromolecular Chemistry, Romania and **A. K. Haghi**

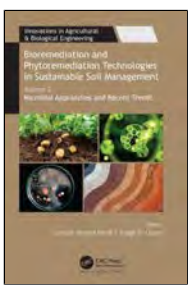
Series: AAP Research Notes on Nanoscience and Nanotechnology

Describes the synthesis, characterization, and unique applications of undoped/doped carbon nanotubes as well as hybrids of them with grapheme or nanocomposites, focusing on green aspects of carbon nanotube applications. The volume shows new approaches used for tapping the potential and promise of key materials in isolation or combined with other materials, highlighting a spectrum of applications of carbon nanotubes as novel materials for energy storage as well as for environmental remediation, wastewater treatment, green health care products, and more.

Apple Academic Press
June 2022: 314pp
Hb: 978-1-774-63862-0: **£131.00**
Pb: 978-1-774-63863-7: **£82.99**
eBook: 978-1-003-27720-0
* For **full contents** and more information, visit: **www.routledge.com/9781774638620**

Bioremediation and Phytoremediation Technologies in Sustainable Soil Management

Volume 2: Microbial Approaches and Recent Trends



Edited by **Junaid Ahmad Malik** and **Megh R. Goyal**

Series: Innovations in Agricultural & Biological Engineering

Volume 2 of this 4-volume set focuses on new and emerging techniques and approaches to address soil pollution. These include the use of rhizobacteria, archae, cyanobacteria, and microalgae as biofertilizers and for soil bioremediation efforts. New technologies for assessment of soil bioremediation are explored also. The chapters provides in-depth coverage of the mechanisms, advantages, and disadvantages of the technologies used and highlights the use of different microbial enzymes that are used in the process of bioremediation and phytoremediation to clean up different pollutants without causing damage to the natural environment.

Apple Academic Press
June 2022: 332pp
Hb: 978-1-774-63719-7: **£131.00**
Pb: 978-1-774-63892-7: **£82.99**
eBook: 978-1-003-28068-2
* For **full contents** and more information, visit: **www.routledge.com/9781774637197**

Bioremediation and Phytoremediation Technologies in Sustainable Soil Management

Volume 3: Inventive Techniques, Research Methods, and Case Studies

Edited by **Junaid Ahmad Malik** and **Megh R. Goyal**

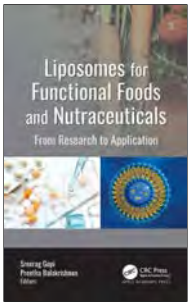
Series: Innovations in Agricultural & Biological Engineering

This volume on bioremediation and phytoremediation technologies in sustainable soil management identifies and draws a fresh image of existing developments in theoretical and functional implementation systems from recent scientific research studies that take into account different facets of bioremediation. It also discusses the latest technology and prospects of new soil bioremediation technology and analyses their domains, along with their associated challenges and consequences.

Apple Academic Press
June 2022: 550pp
Hb: 978-1-774-63987-0: **£131.00**
Pb: 978-1-774-63988-7: **£82.99**
eBook: 978-1-003-28117-7
* For **full contents** and more information, visit: **www.routledge.com/9781774639870**

Liposomes for Functional Foods and Nutraceuticals

From Research to Application



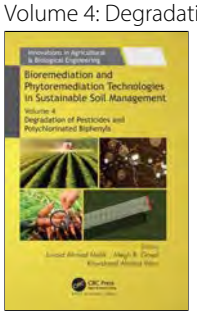
Edited by **Sreerag Gopi** and **Preetha Balakrishnan**

Focuses on the advanced trends and applications of liposomes in the nutraceuticals and functional foods industry. It begins by discussing the processes and protocols of formation of liposomes and the structures of liposomes produced by different methods. It reviews their physico-chemical properties and the science of encapsulation of bioactive compounds using liposomes. It explores the uses of liposomes as drug carriers but focuses primarily on liposomal carrier systems and technology in bioactive functional foods and nutraceuticals. The volume presents advances on liposomes as anti-tubercular and anticancer delivery systems.

Apple Academic Press
June 2022: 308pp
Hb: 978-1-774-63754-8: **£131.00**
Pb: 978-1-774-63755-5: **£82.99**
eBook: 978-1-003-27736-1
* For **full contents** and more information, visit: **www.routledge.com/9781774637548**

Bioremediation and Phytoremediation Technologies in Sustainable Soil Management

Volume 4: Degradation of Pesticides and Polychlorinated Biphenyls



Edited by **Junaid Ahmad Malik**, **Megh R. Goyal** and **Khursheed Ahmad Wani**

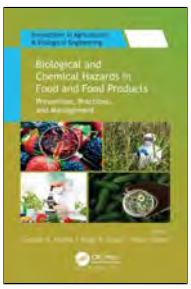
Series: Innovations in Agricultural & Biological Engineering

Volume 4: Degradation of Pesticides and Polychlorinated Biphenyls addresses pesticide degradation, PCBs degradation, and genetic interventions. It begins by describing environment pesticide degradation, mechanisms and sustainability, microbes and microbial enzymes, plant microbe interactions, organophosphorus degradations and endosulfan degradation. The book also advocates for genetic systems for degradation of PCBs and pesticides, with discussion of the different advantages and disadvantages for each strategy and the various techniques.

Apple Academic Press
June 2022: 476pp
Hb: 978-1-774-91038-2: **£131.00**
Pb: 978-1-774-91039-9: **£82.99**
eBook: 978-1-003-28120-7
* For **full contents** and more information, visit: **www.routledge.com/9781774910382**

Biological and Chemical Hazards in Food and Food Products

Prevention, Practices, and Management



Edited by **Santosh K. Mishra**, Guru Angad University, India, **Megh R. Goyal**, University of Puerto Rico, USA and **Manju Gaare**, Sardarkrushinagar Dantiwada Agricultural University, India

Series: Innovations in Agricultural & Biological Engineering

This volume takes an in-depth look at various biological and chemical hazards in food and food products that pose health threats. It also outlines methods and practices for the diagnosis, prevention, and management of these hazards in food production processes. The new scientific research and case studies presented in the volume cover mycotoxins, foodborne pathogens, antibiotic residues from dairy animals, pesticide residues, the presence of heavy metals in food, and more. Chapters also address food allergy management and offer lessons and practices in food recall situations.

Apple Academic Press
June 2022: 358pp
Hb: 978-1-774-63713-5: **£131.00**
Pb: 978-1-774-63798-2: **£82.99**
eBook: 978-1-003-18918-3
* For **full contents** and more information, visit: **www.routledge.com/9781774637135**

Bioremediation and Phytoremediation Technologies in Sustainable Soil Management

4-volume set

Edited by **Junaid Ahmad Malik** and **Megh R. Goyal**

Series: Innovations in Agricultural & Biological Engineering

This 4-volume set provide in-depth coverage on the use of microbial bioremediation and phytoremediation to clean up pollutants in soil, such as pesticides, petroleum hydrocarbons, metals, and chlorinated solvents, which reduce the soil's fertility and renders it unfit for plant growth. Vol 1 covers the fundamental aspects and contaminated sites; vol 2 looks at microbial approaches and recent trends; vol 3 presents inventive techniques, research methods, and case studies; and vol 4 addresses degradation of pesticides and polychlorinated biphenyls.

Apple Academic Press
June 2022: 1710pp
Hb: 978-1-774-63720-3: **£500.00**
Pb: 978-1-774-91100-6: **£290.00**
eBook: 978-1-003-28133-7
* For **full contents** and more information, visit: **www.routledge.com/9781774637203**

Pharmaceuticals and Nutraceuticals from Fish and Fish Wastes

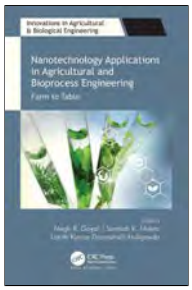
Ramasamy Santhanam, Sri Balaji Vidyapeeth University, India, **Santhanam Ramesh**, Sri Balaji Vidyapeeth University, India, **Subramanian Nivedhitha**, Ratnam Institute of Pharmacy, India and **Subbiah Balasundari**

Presents important aspects on the pharmaceutical and nutraceutical values of 175 species of bony and cartilaginous fishes as well as the uses of fish processing byproducts and wastes. The volume provides precise identification of freshwater and marine fishes possessing pharmaceutical and nutraceutical compounds along with over 180 photographs. Aspects covered include biology, ecology, diagnostic features, and pharmaceutical and nutraceutical compounds along with their activities for each of the fish included. The book details the bioactive compounds, including fish muscle proteins, peptides, collagen and gelatin, fish oil, etc., as well as the bioactive peptide**s.**

Apple Academic Press
June 2022: 302pp
Hb: 978-1-774-63010-5: **£124.00**
Pb: 978-1-774-63876-7: **£82.99**
eBook: 978-1-003-18054-8
* For **full contents** and more information, visit: **www.routledge.com/9781774630105**

Nanotechnology Applications in Agricultural and Bioprocess Engineering

Farm to Table



Edited by **Megh R. Goyal**, University of Puerto Rico, USA, **Santosh K. Mishra**, Guru Angad University, India and **Lohith Kumar Dasarahalli-Huligowda**, Indian Institute of Technology, India

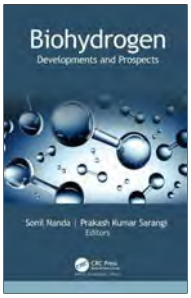
Series: Innovations in Agricultural & Biological Engineering

Looks at the of the use of nanotechnology applications in agricultural and bioprocess engineering, looking at the role of nanomaterials in plant growth and nutrition. It discusses specific methods and processes for the application of nanotechnology in the development of food products, nutraceuticals, and therapeutics. This includes nanotechnological methods for iron fortification of dairy food, for processing and preservation of meat and meat products, for selective targeting of cancer, and more. The book goes on to discuss the role of nanotechnology in bioprocessing, such as for biofuel production, and as enzymatic nanoparticles for fabrication processes.

Apple Academic Press
June 2022: 308pp
Hb: 978-1-774-63750-0: **£124.00**
Pb: 978-1-774-63751-7: **£82.99**
eBook: 978-1-003-27743-9
* For **full contents** and more information, visit: **www.routledge.com/9781774637500**

Biohydrogen

Developments and Prospects



Edited by **Sonil Nanda** and **Prakash Kumar Sarangi**, Central Agricultural University, India

Covers recent advances in the production and utilization of biohydrogen solutions for clean fuel, waste management, waste valorization, reduced greenhouse gas emissions, and climate change mitigation. It discusses the biological and thermochemical routes for biohydrogen production and topics such as biomass conversion to hydrogen; catalytic reforming technologies for hydrogen production re feedstocks; the co-conversion of plastic wastes and biomass into biohydrogen through co-gasification technology; the effect of process parameters on syngas yields through co-gasification; and more.

Apple Academic Press
June 2022: 242pp
Hb: 978-1-774-63980-1: **£131.00**
Pb: 978-1-774-63981-8: **£82.99**
eBook: 978-1-003-27715-6
* For **full contents** and more information, visit: **www.routledge.com/9781774639801**

The Nature and Future of Tourism

A Post-COVID-19 Context

Maximiliano E. Korstanje, University of Palermo, Argentina and **Babu George**, Christian Brothers University, USA

This book focuses on the tourism industry in conjunction with the impact of COVID-19 from the perspective that it is both negatively impacting the industry while also offering it an opportunity to rise from the ashes. It offers a new conceptualization and theorization of tourism, suggests new research methods, offers parallels with other crises (such as 9-11) to better understand the current one, and suggests futurist and innovative strategies. Topics include the impact of COVID–19 in the tourism industry, application of robotics in the hospitality industry, tourism as a rite of passage, prospects for space tourism, and more.

Apple Academic Press
June 2022: 276pp
Hb: 978-1-774-63729-6: **£124.00**
Pb: 978-1-774-63734-0: **£82.99**
eBook: 978-1-003-27750-7
* For **full contents** and more information, visit: **www.routledge.com/9781774637296**

Biomethane

Developments and Prospects

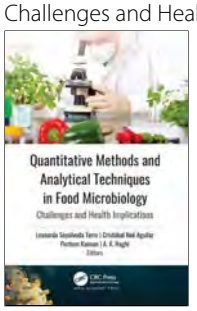
Edited by **Sonil Nanda** and **Prakash Kumar Sarangi**, Central Agricultural University, India

A comprehensive synopsis of the production and utilization of biomethane along with recent advances. Discusses the production of biomethane for industrial and domestic applications; the characteristics, parameters, and process design; advanced genetic engineering tools and techniques; the impact of different chemical pretreatment processes and products; gasification technology and syngas cleaning for biosynthetic natural gas production; and more. It also looks at the socioeconomic impacts and applications. Other topics include gasification technology and syngas cleaning for biosynthetic natural gas production, catalysts for enhanced synthetic natural gas production, etc.

Apple Academic Press
June 2022: 196pp
Hb: 978-1-774-63982-5: **£124.00**
Pb: 978-1-774-63983-2: **£82.99**
eBook: 978-1-003-27716-3
* For **full contents** and more information, visit: **www.routledge.com/9781774639825**

Quantitative Methods and Analytical Techniques in Food Microbiology

Challenges and Health Implications

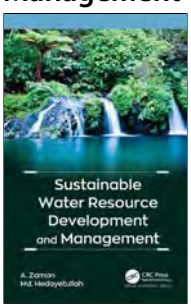


Edited by **Leonardo Sepúlveda Torre**, Autonomous University of Coahuila, Mexico, **Cristóbal Noé Aguilar**, Autonomous University of Coahuila, Mexico, **Porteen Kannan**, Tamil Nadu University, India and **A. K. Haghi**

This volume provides up-to-date and detailed scientific information on recent developments and new approaches in food microbiology, focusing on microbial food pathogens. It presents the fundamental aspects of food and microorganisms and also addresses food systems and measures to prevent and control food, foodborne diseases, etc. Each section consists of detailed information on the particular aspects of each topic, including basic microbiology, safety, pathogenic microorganisms, food conservation, sanitization, and hygiene procedures.

Apple Academic Press
June 2022: 304pp
Hb: 978-1-774-63726-5: **£124.00**
Pb: 978-1-774-63742-5: **£82.99**
eBook: 978-1-003-27745-3
* For **full contents** and more information, visit: **www.routledge.com/9781774637265**

Sustainable Water Resource Development and Management



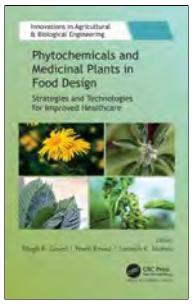
A. Zaman and **Md. Hedayetullah**, Bidhan Chandra Krishi Viswavidyalaya, India

Here is a comprehensive volume on this important topic. It broadly covers the sources, availability, demand, and supply of water and its uses in irrigation and crop production in agriculture. It then delves into many specific aspects of water resource development and management, including irrigation creation and utilization; water storage efficiency, conveyance efficiency, distribution efficiency, and application efficiency; estimating the water need for irrigation along with management strategies; water quality in agriculture; water pricing; wetland management and water productivity; water pollution in agriculture and water contamination in urban and rural areas; and more.

Apple Academic Press
May 2022: 240pp
Hb: 978-1-774-63009-9: **£124.00**
Pb: 978-1-774-63950-4: **£82.99**
eBook: 978-1-003-18049-4
* For **full contents** and more information, visit: **www.routledge.com/9781774630099**

Phytochemicals and Medicinal Plants in Food Design

Strategies and Technologies for Improved Healthcare



Edited by **Megh R. Goyal**, University of Puerto Rico, USA, **Preeti Birwal**, Punjab Agricultural University, India and **Santosh K. Mishra**, Guru Angad University, India

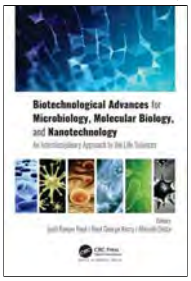
Series: Innovations in Agricultural & Biological Engineering

Divided into two parts, the first section discusses plant-based secondary metabolites for healthcare, focusing on the health aspects of herbs and medicinal plants and nutraceuticals for livestock production and for the treatment of diseases such as HIV and diabetes. The authors also address the benefits of preserving indigenous knowledge of medicinal plants and current consumer views of health issues from foods. The second part delves into the design and utilization of healthy foods. This section discusses the application of novel designs and herbal formulations in conjunction with other biomolecules for the development and utilization for food products with health benefits.

Apple Academic Press
May 2022: 322pp
Hb: 978-1-771-88994-0: **£131.00**
Pb: 978-1-774-63945-0: **£82.99**
eBook: 978-1-003-15033-6
* For **full contents** and more information, visit: **www.routledge.com/9781771889940**

Biotechnological Advances for Microbiology, Molecular Biology, and Nanotechnology

An Interdisciplinary Approach to the Life Sciences



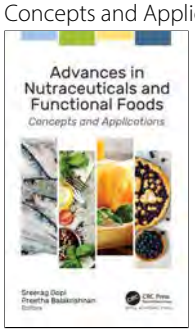
Edited by **Jyoti Ranjan Rout**, Asian Institute of Public Health, India, **Rout George Kerry**, Utkal University, India and **Abinash Dutta**, Institute of Life Sciences, India

The volume mainly focuses on the highly demanding thrust areas of biotechnology that are microbiology, molecular biology, and nanotechnology. The book provides a detailed overview of the beneficial roles of microbes and nanotechnology-based engineered particles in biological developments. In addition, it provides research on nanotechnology-based applications in tissue engineering, stem cell, and regenerative medicines. This multidisciplinary volume will be highly valuable for the researchers, scientists, biologists, and faculty and students striving to expand their horizon of knowledge in their respective fields.

Apple Academic Press
May 2022: 694pp
Hb: 978-1-771-88999-5: **£170.00**
Pb: 978-1-774-63947-4: **£82.99**
eBook: 978-1-003-16115-8
* For **full contents** and more information, visit: **www.routledge.com/9781771889995**

Advances in Nutraceuticals and Functional Foods

Concepts and Applications



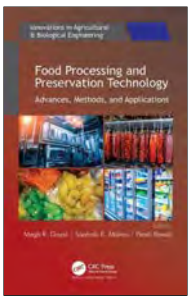
Edited by **Sreerag Gopi** and **Preetha Balakrishnan**

Examines the field of functional foods in the prevention and management of chronic and infectious diseases. It explores the sources, biochemical properties, metabolism, health benefits, and safety of bioactive ingredients for nutraceutical and functional food products. Emphasis is given to linking the molecular and chemical structures of biologically active components in foods to their nutritional and pharmacological effects on human health.

Apple Academic Press
May 2022: 378pp
Hb: 978-1-774-63752-4: **£131.00**
Pb: 978-1-774-63753-1: **£82.99**
eBook: 978-1-003-27708-8
* For **full contents** and more information, visit: **www.routledge.com/9781774637524**

Food Processing and Preservation Technology

Advances, Methods, and Applications



Edited by **Megh R. Goyal**, University of Puerto Rico, USA, **Santosh K. Mishra**, Guru Angad University, India and **Preeti Birwal**, Punjab Agricultural University, India

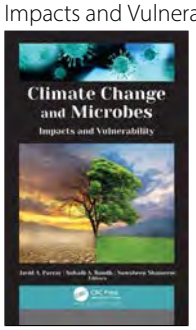
Series: Innovations in Agricultural & Biological Engineering

Focuses on novel and nonthermal processing of food and food products, incluing dielectric heating and ohmic heating as well as three-dimensional printing of foods and ozonization of food products. It also delves into process interventions for food processing and preservations, discussing the applications of diverse novel food processing. The authors discuss drying technologies, advances in food fermentation technologies, mechanization of traditional indigenous products for preservation of food and safety, and different properties and concepts of bakery products.

Apple Academic Press
May 2022: 314pp
Hb: 978-1-771-88995-7: **£131.00**
Pb: 978-1-774-63946-7: **£82.99**
eBook: 978-1-003-15318-4
* For **full contents** and more information, visit: **www.routledge.com/9781771889957**

Climate Change and Microbes

Impacts and Vulnerability



Edited by **Javid A. Parray**, **Suhaib A. Bandh** and **Nowsheen Shameem**, Cluster University, India

This book provides an enlightening picture of the role of microbes for sustaining life systems and how climatic factors change the course of the processes. It explores the little-addressed issue of the effects of climate change on microbial ecosystems and the influence of climate change on microbiome diversity across various habitats and regions. This book will be immensely helpful in the study of plant microbiology, agricultural sciences, biotechnology, climate science, and environmental microbiology. It will also be applicable to the field of microbial biotechnology, agricultural, and other life and environmental sciences.

Apple Academic Press
May 2022: 320pp
Hb: 978-1-774-63721-0: **£131.00**
Pb: 978-1-774-63796-8: **£82.99**
eBook: 978-1-003-18972-5
* For **full contents** and more information, visit: **www.routledge.com/9781774637210**

Event Tourism in Asian Countries

Challenges and Prospects

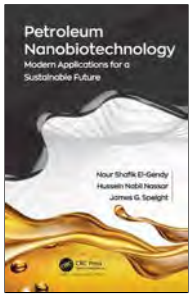
Edited by **Shruti Arora**, University of Kota, India and **Anukrati Sharma**

This volume offers a wide variety of research, experience, and examples of events in Asia, including business meetings and conferences; destination weddings; carnivals; food and art festivals; music festivals and concerts; cultural and traditional events; religious and spiritual gatherings; sports events; and more. Addressing the issues, challenges, and future of event tourism and management, this new volume will valuable addition to the library of event professionals, hospitality and tourism researchers, community development managers, and others in Asia and elsewhere.

Apple Academic Press
March 2022: 428pp
Hb: 978-1-774-63004-4: **£131.00**
Pb: 978-1-774-63948-1: **£82.99**
eBook: 978-1-003-16113-4
* For **full contents** and more information, visit: **www.routledge.com/9781774630044**

Petroleum Nanobiotechnology

Modern Applications for a Sustainable Future



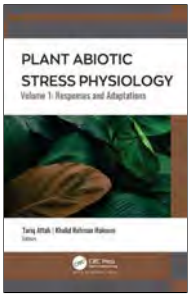
Nour Shafik El-Gendy, October University for Modern Sciences and Arts, Egypt, **Hussein Nabil Nassar**, October University for Modern Sciences and Arts, Egypt and **James G. Speight**

This book explores the unique fusion of biotechnology and nanotechnology as applied to the different sectors of the oil and gas industry. It is a concise resource on the most recent and most up-to-date bottom-up fabrication techniques in petroleum nanobiotechnology, covering the advantages of biofabrication over chemical or physical techniques from the point of being more cost-effective, ecofriendly, biocompatibly superior, and highly stable. It will be valuable for petroleum engineers and petroleum microbiologists, scientists, and researchers concerned with nanotechnology, environmental pollution, petroleum biotechnology, petroleum microbiology, and petroleum refining.

Apple Academic Press
March 2022: 494pp
Hb: 978-1-774-63005-1: **£177.00**
Pb: 978-1-774-63826-2: **£82.99**
eBook: 978-1-003-16056-4
* For **full contents** and more information, visit: **www.routledge.com/9781774630051**

Plant Abiotic Stress Physiology

Volume 1: Responses and Adaptations



Edited by **Khalid Rehman Hakeem** and **Tariq Aftab**

Volume 1: Responses and Adaptations focuses on the responses and adaptations of plants to stress factors at the cellular and molecular levels and offers a variety of advanced management strategies and technologies. Topics in this volume include redox homeostasis managers in plants, oxidative damage and antioxidative defense mechanism, photosynthesis and respiration under challenging environments, salinity-induced changes, genetics approaches for improving abiotic stress tolerance in crop plants, CRISPR/CAS-mediated genome editing technologies, and more.

Apple Academic Press
February 2022: 426pp
Hb: 978-1-774-63017-4: **£131.00**
Pb: 978-1-774-63944-3: **£82.99**
eBook: 978-1-003-18056-2
* For **full contents** and more information, visit: **www.routledge.com/9781774630174**

Internet of Things for Agriculture 4.0

Impact and Challenges

Edited by **Rajesh Singh**, **Amit Kumar Thakur**, **Anita Gehlot** and **Ajay Kumar Kaviti**

This book provides an insightful look at the varied and exciting uses and applications of Wi-Fi and the Internet of Things in agriculture. With internet-enabled communications becoming more widely available, farms and agricultural establishments can take advantage of these new technologies for a wide range of farm operations, such as crop management, farm vehicle tracking, livestock monitoring, storage monitoring, and more. The volume will be useful for those involved in agricultural operations as well as scientists and researchers, and faculty and students in agriculture and computer and information science engineering.

Apple Academic Press
February 2022: 296pp
Hb: 978-1-774-63002-0: **£131.00**
Pb: 978-1-774-63921-4: **£82.99**
eBook: 978-1-003-16109-7
* For **full contents** and more information, visit: **www.routledge.com/9781774630020**

Plant Abiotic Stress Physiology

Volume 2: Molecular Advancements

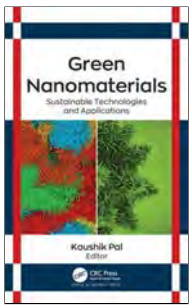
Edited by **Tariq Aftab** and **Khalid Rehman Hakeem**

Discusses how plants have developed diverse physiological and molecular adjustments to safeguard themselves under challenging conditions and how emerging new technologies can utilize these plant adaptations to enhance plant resistance. These include using plant-environment interactions in develop crop species that are resilient to climate change, taking genomics and phenomics approaches for the study of abiotic stress tolerance, employing methyl jasmonate and salicylic acid, harnessing the CRISPR/CAS system to strengthen plant stress resistance, and more.

Apple Academic Press
February 2022: 322pp
Hb: 978-1-774-63018-1: **£131.00**
Pb: 978-1-774-63951-1: **£82.99**
eBook: 978-1-003-18057-9
* For **full contents** and more information, visit: **www.routledge.com/9781774630181**

Green Nanomaterials

Sustainable Technologies and Applications



Edited by **Kaushik Pal**

Explores a number of eco-friendly technologies in green materials synthesis, which are of considerable importance. It takes an inter- and cross-multidisciplinary approach to the green chemistry of nanoengineering and green nanotechnology application in materials research. It provides informative coverage of this exciting and dynamic new field as well as relates the fundamentals of soft-nanomaterials fabrication and brand new spectroscopic integration.

Apple Academic Press
February 2022: 254pp
Hb: 978-1-771-88965-0: **£131.00**
Pb: 978-1-774-63966-5: **£82.99**
eBook: 978-1-003-13031-4
* For **full contents** and more information, visit: **www.routledge.com/9781771889650**

Nanomaterials-Based Sensing Platforms

Towards the Efficient Detection of Biomolecules and Gases

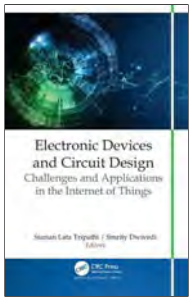
Edited by **Aneeya K. Samantara**, **Sudarsan Raj** and **Satyajit Ratha**

Presents a brief history behind the sensing technology and also emphasizes a broad range of biosensing techniques based on optical and electrochemical response methods. Starting from the traditional enzyme-based biosensing method to functionalized nanostructure-based sensors, this book also provides a detailed overview of some of the advanced sensing methodologies based on photonic crystal cavity-based sensing devices. It discusses electrochemical sensing, gas sensing, photo-electrochemical sensing, and colorimetric sensing, all of which have shown potential.

Apple Academic Press
February 2022: 308pp
Hb: 978-1-774-63037-2: **£124.00**
Pb: 978-1-774-63859-0: **£82.99**
eBook: 978-1-003-19930-4
* For **full contents** and more information, visit: **www.routledge.com/9781774630372**

Electronic Devices and Circuit Design

Challenges and Applications in the Internet of Things



Edited by **Suman Lata Tripathi** and **Smrity Dwivedi**

Offers a broad view of the challenges of electronic devices and circuits for IoT applications in a concise way. It presents the basic concepts and fundamentals behind new low power, high-speed efficient devices, circuits, and systems with new technology in addition to CMOS. It looks at the new methodologies to enhance system performance and provides key parameters to explore the devices and circuit performance based on smart applications. The volume bridges the gap for researchers working on different areas of smart devices, circuits, and systems with IoT applications.

Apple Academic Press
February 2022: 318pp
Hb: 978-1-771-88993-3: **£124.00**
Pb: 978-1-774-63929-0: **£82.99**
eBook: 978-1-003-14577-6
* For **full contents** and more information, visit: **www.routledge.com/9781771889933**

Plant Abiotic Stress Physiology

2-Volume Set

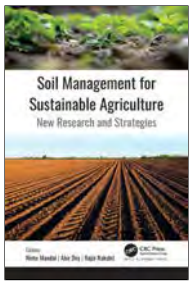
Tariq Aftab and **Khalid Rehman Hakeem**

Highlights the various innovative and emerging techniques and molecular applications that are currently being used in plant abiotic stress physiology. Volume 1: Responses and Adaptations focuses on the responses and adaptations of plants to stress factors at the cellular and molecular levels and offers a variety of advanced management strategies and technologies. Volume 2: Molecular Advancements introduces a range of state-of-the-art molecular advances for the mitigation of abiotic stress in plants.

Apple Academic Press
June 2021: 748pp
Hb: 978-1-774-63016-7: **£262.00**
eBook: 978-1-003-18055-5
* For **full contents** and more information, visit: **www.routledge.com/9781774630167**

Soil Management for Sustainable Agriculture

New Research and Strategies



Edited by **Nintu Mandal**, Bihar Agricultural University, India, **Abir Dey**, ICAR-IARI, India and **Rajiv Rakshit**, Bihar Agricultural University, India

This book explores the various soil management techniques and the latest improvements in soil management. Taking a sustainable approach, the volume begins with an overview of the elementary concepts of soil management and then delves into new research and novel soil management tools and techniques. The recommendations and future research directions presented in this valuable book will be helpful to students, researchers, farmers, and policymakers from the disciplines of agronomy, soil science, and natural resource management around the world.

Apple Academic Press
February 2021: 624pp
Hb: 978-1-774-63023-5: **£147.00**
Pb: 978-1-774-63913-9: **£82.99**
eBook: 978-1-003-18488-1
* For **full contents** and more information, visit: **www.routledge.com/9781774630235**

Routledge
Taylor & Francis Group

CRC Press
Taylor & Francis Group

Taylor & Francis Group
2 Park Square, Milton Park, Abingdon. Oxon. OX14 4RN
Tel: 02070176000 • Fax: 02071076699