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Spring Summer 2025



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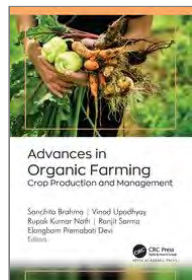


# Contents

|                                                  |           |
|--------------------------------------------------|-----------|
| Agriculture .....                                | 2         |
| Alternative Medicine .....                       | 4         |
| Biology & Life Science .....                     | 5         |
| Biomedical Engineering .....                     | 6         |
| Business Improvement/Productivity Press .....    | 7         |
| Chemistry .....                                  | 9         |
| Civil & Mechanical Engineering .....             | 10        |
| Computer Science & Computer Graphics .....       | 11        |
| Economics .....                                  | 12        |
| Education .....                                  | 13        |
| Environmental Science .....                      | 14        |
| Food Science & Culinary Arts .....               | 16        |
| Gender & Sexuality .....                         | 17        |
| General Medicine .....                           | 18        |
| Hospitality/Tourism .....                        | 19        |
| Industrial and Manufacturing Engineering .....   | 20        |
| Marketing .....                                  | 21        |
| Materials Science .....                          | 22        |
| Nanoscience & Nanotechnology .....               | 24        |
| Nutrition .....                                  | 25        |
| Occupational Health & Safety .....               | 27        |
| Pharmaceutical Science .....                     | 28        |
| Plant Science/Botany .....                       | 30        |
| Software Engineering & Systems Development ..... | 31        |
| Software Networking & Security .....             | 33        |
| Specialist Medicine .....                        | 34        |
| <b>Index .....</b>                               | <b>35</b> |

## Advances in Organic Farming

Crop Production and Management



*Edited by* **Sanchita Brahma, Vinod Upadhyay, Rupak Kumar Nath, Ranjit Sarma, Elangbam Premabati Devi**

Explores organic farming, discussing issues that include organic crop production practices, organic seed production, organic management of pests and diseases, organic nutrient management, organic farming and climate change mitigation and adaptation, organic crop certification procedures, and marketing aspects of organic produce, etc. It covers the scope and nutritional importance of organic farming, effect of climate change on organic farming, crop management practices in organic farming, soil and nutrient management in organic farming, organic seed production of paddy and vegetable crops, and pest and disease management in organic farming.

Apple Academic Press  
November 2024 : 676pp  
Hb: 978-1-774-91754-1 : **£200**  
eBook: 978-1-003-50271-5

\* For full contents and more information, visit: [www.routledge.com/9781774917541](http://www.routledge.com/9781774917541)

## Biotechnological Transformation for Sugarcane Management



*Edited by* **Krishan K. Verma, Xiu-Peng Song, Munna Singh, Jian-Ming Wu, Yang-Rui Li**

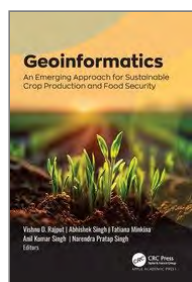
Focuses on the core aspects of sugarcane biotechnological transformation and advanced approaches for augmenting plant development and production through intrinsic/extrinsic variations. It delineates different approaches that support improvement of sugarcane as a renewable source of bioenergy. The changes at cellular and molecular levels and molecular breeding possibilities are also included along with innovative interventions for coping with stresses and crop improvement at different growth periods during stress. It also discusses developments in biotechnological approaches and their impact on sugarcane output.

Apple Academic Press  
December 2024 : 378pp  
Hb: 978-1-774-91736-7 : **£180**  
eBook: 978-1-003-53637-6

\* For full contents and more information, visit: [www.routledge.com/9781774917367](http://www.routledge.com/9781774917367)

## Geoinformatics

An Emerging Approach for Sustainable Crop Production and Food Security



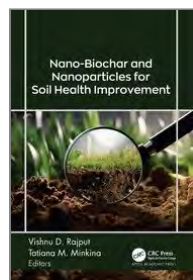
*Edited by* **Vishnu D. Rajput, Abhishek Singh, Tatiana Minkina, Anil Kumar Singh, Narendra Pratap Singh**

Highlights the many applications of geoinformatics in agriculture, mainly its potential to improve agricultural systems and environmental issues through innovative, eco-friendly approaches. It covers, foundational material on the field of geoinformatics, the role of geoinformatics in agriculture and food security, information on geoinformatics-based crop screening and protection, geoinformatics and how it integrates big data and AI for sustainable agriculture and horticulture, cutting-edge GIS methods for abiotic stresses management and climate change and more. It also discusses the application of geoinformatics for policymaking and its impact on agriculture systems.

Apple Academic Press  
November 2024 : 388pp  
Hb: 978-1-774-91628-5 : **£180**  
eBook: 978-1-003-49845-2

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## Nano-Biochar and Nanoparticles for Soil Health Improvement



*Edited by* **Vishnu D. Rajput, Tatiana M. Minkina**

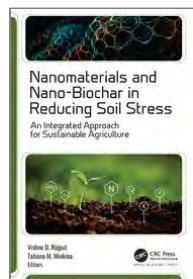
Explores sustainable means of soil improvement through the promising use of nano-biochar and nanoparticles for improving soil quality, as well as for reducing waste. It discusses how nano-biochar can improve soil quality and sustainability and explores the various types of nanoparticles and approaches for improving soil health. Chapters present research on how nanoparticles and nano-biochar can reduce salinity stress, improve soil physiochemical properties, and improve intrinsic soil characteristics. The book also explores the unique soil-microbe interaction and provides insight into nanoparticles and nano-biochar as a means of this interaction.

Apple Academic Press  
March 2025 : 260pp  
Hb: 978-1-774-91854-8 : **£150**  
eBook: 978-1-003-60386-3

\* For full contents and more information, visit: [www.routledge.com/9781774918548](http://www.routledge.com/9781774918548)

## Nanomaterials and Nano-Biochar in Reducing Soil Stress

An Integrated Approach for Sustainable Agriculture



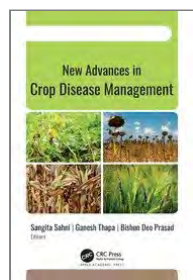
*Edited by* **Vishnu D. Rajput, Tatiana M. Minkina**

Details the potential this novel technology has to reduce soil pollution, enhance crop production, promote sustainable agriculture, and ultimately ensure food security. It emphasizes how nano-biochar technology can be implemented to enhance microbial activities and other soil organism functionalities by applying or combining agricultural practices and soil health-improving amendments. The role of nanobiochar in metal stress reduction, for soil health improvement, as a soil conditioner, in reducing soil stress using integrated approaches, for improving nutrient use efficiency, in salinity stress management, and for arsenic remediation are considered in detail.

Apple Academic Press  
December 2024 : 264pp  
Hb: 978-1-774-91707-7 : **£150**  
eBook: 978-1-003-50345-3

\* For full contents and more information, visit: [www.routledge.com/9781774917077](http://www.routledge.com/9781774917077)

## New Advances in Crop Disease Management



*Edited by* **Sangita Sahni, Ganesh Thapa, Bishun Deo Prasad**

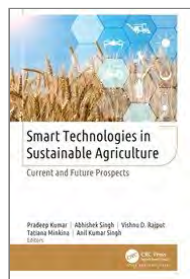
Provides a comprehensive overview of diverse crop protection strategies with special emphasis on the recent advances in crop protection approaches, fundamental concepts, principles, methodology, relationships, and benefits for crop protection and human health. It covers a variety of disciplines such as plant pathology, biochemistry, cell, and molecular biology, plant physiology, host-pathogen interactions, precision agriculture, decision analysis, disease risk, new ways of exploiting host genetic diversity including host resistance deployment, biological control and microbial interactions, and the consequences of climate change and signaling.

Apple Academic Press  
November 2024 : 492pp  
Hb: 978-1-774-91607-0 : **£170**  
eBook: 978-1-032-66711-9

\* For full contents and more information, visit: [www.routledge.com/9781774916070](http://www.routledge.com/9781774916070)

## Smart Technologies in Sustainable Agriculture

Current and Future Prospects



*Edited by* **Pradeep Kumar, Abhishek Singh, Vishnu D. Rajput, Tatiana Minkina, Anil Kumar Singh**

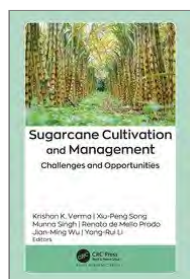
Explores new and advanced technologies used in agriculture, which include nanotechnologies, nanosensors, geotechnologies, artificial intelligence, and more. It highlights the implications of geoinformatics, nanotechnology, and advanced microbial technology and applications in plant and agriculture sciences. It also presents innovative eco-friendly approaches for the improvement of crop productivity and soil fertility. It discusses the advanced technology of GIS, sensors, etc. It gives insight into the role of nanotechnology in plant protection and plant nutrition etc. It provides a comprehensive overview of microbial and biotechnological approaches for sustainable agriculture.

Apple Academic Press  
March 2025 : 344pp  
Hb: 978-1-774-91688-9 : £180  
eBook: 978-1-003-49340-2

\* For full contents and more information, visit: [www.routledge.com/9781774916889](http://www.routledge.com/9781774916889)

## Sugarcane Cultivation and Management

Challenges and Opportunities



*Edited by* **Krishan K. Verma, Xiu-Peng Song, Munna Singh, Renato de Mello Prado, Jian-Ming Wu, Yang-Rui Li**

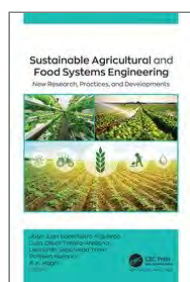
Summarizes cultivation and management of sugarcane crop production strategies and related sustainability issues. It details important topics such as the impact of various stressors along with environment stress management in sugarcane crops, major sugarcane pests and their control, use of plant growth-promoting rhizobacteria (PGPRs) in improving sugarcane yield, role of plant secondary metabolism in sugarcane during unfavorable environmental conditions, etc. The book also discusses the use of sugarcane management techniques for higher crop yield and water productivity.

Apple Academic Press  
December 2024 : 324pp  
Hb: 978-1-774-91709-1 : £180  
eBook: 978-1-003-50412-2

\* For full contents and more information, visit: [www.routledge.com/9781774917091](http://www.routledge.com/9781774917091)

## Sustainable Agricultural and Food Systems Engineering

New Research, Practices, and Developments



*Edited by* **Jose Juan Buenrostro-Figueroa, Julio César Tafolla-Arellano, Leonardo Sepúlveda Torre, Porteen Kannan, A. K. Haghi**

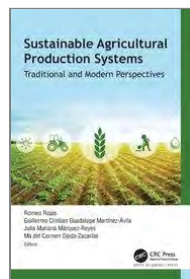
Provides valuable research on the latest topics in sustainable agriculture and food systems engineering. It covers key concepts on sustainable agriculture, food systems engineering for sustainable development, and agroecological transitions as an interdisciplinary field that comprises the concepts of agronomy, economics, and livestock farming sciences. It also reports on important techniques in transforming new concepts involved in both agricultural production and food consumption choices. It addresses a range of physical and engineering properties of foods and food processing systems applicable to many areas of the food industry.

Apple Academic Press  
December 2024 : 326pp  
Hb: 978-1-774-91729-9 : £180  
eBook: 978-1-003-50421-4

\* For full contents and more information, visit: [www.routledge.com/9781774917299](http://www.routledge.com/9781774917299)

## Sustainable Agricultural Production Systems

Traditional and Modern Perspectives



*Edited by* **Romeo Rojas, Guillermo Cristian Guadalupe Martínez Ávila, Julia Mariana Márquez Reyes, Ma del Carmen Ojeda Zacarías**

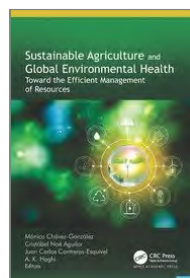
Presents the traditional and modern forms of agricultural production, with an emphasis on sustainable practices. The volume discusses seed improvement, crop protection, phytosanitary aspects, protected agriculture, plant factories, hydroponic systems, mechanization, bioremediation, reduction of herbicide use, and characterization of bioactive compounds. Some methods of agricultural production discussed include in vitro propagation, greenhouse hydroponics, biostimulants from algae, cartography models of vulnerable environmental interactions, nuclear and plastic engineering, eco-friendly extraction processes, and more.

Apple Academic Press  
November 2024 : 264pp  
Hb: 978-1-774-91554-7 : £140  
eBook: 978-1-032-68423-9

\* For full contents and more information, visit: [www.routledge.com/9781774915547](http://www.routledge.com/9781774915547)

## Sustainable Agriculture and Global Environmental Health

Toward the Efficient Management of Resources



*Edited by* **Mónica Chávez-González, Cristóbal Noé Aguilar, Juan Carlos Contreras-Esquivel, A. K. Haghi**

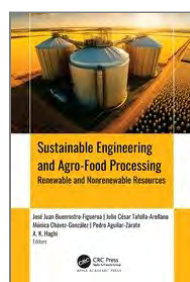
Presents advanced methods and modern technologies in agri-food sectors for improved environmental health and food security, prioritizing sustainable agriculture and global environment health. It explores the principles of environmental sustainability and explains how these principles can be applied in practice in agri-food systems. It also provides an accessible framework for the effective management of resources for the reduction of chronic disease in humans and mitigating the degradation of the environment.

Apple Academic Press  
December 2024 : 352pp  
Hb: 978-1-774-91718-3 : £180  
eBook: 978-1-003-50447-4

\* For full contents and more information, visit: [www.routledge.com/9781774917183](http://www.routledge.com/9781774917183)

## Sustainable Engineering and Agro-Food Processing

Renewable and Nonrenewable Resources



*Edited by* **Jose Juan Buenrostro-Figueroa, Julio César Tafolla-Arellano, Mónica Chávez-González, Pedro Aguilar-Zárate, A. K. Haghi**

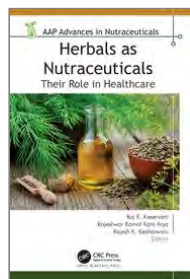
This new book presents the most recent research progress, innovations, and applications in the agro-food processing industry for enhancing sustainable agriculture and food production. It focuses on the challenges of implementing sustainability in different contexts of biodiversity and ecosystems for shaping the future engineering in the agro-food processing industry. This new volume is designed to provide a balanced overview of agro-processing methods from the basic concepts to informative case studies related to agro-processing and food engineering.

Apple Academic Press  
April 2025 : 318pp  
Hb: 978-1-774-91774-9 : £150  
eBook: 978-1-003-56104-0

\* For full contents and more information, visit: [www.routledge.com/9781774917749](http://www.routledge.com/9781774917749)

## Herbals as Nutraceuticals

Their Role in Healthcare



*Edited by* **Raj K. Keservani , Rajeshwar Kamal Kant Arya , Rajesh K. Kesharwani**

*Series:* AAP Advances in Nutraceuticals

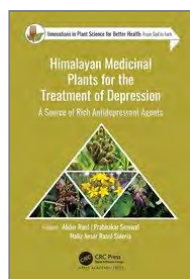
Provides insight into nutraceuticals and their function in human health. It describes the current scenario and their global demand. It also provides information on the nutraceutical potential of herbal drugs, illustrates the ayurvedic system of medicine, and describes the nutraceutical properties of various medicinal herbs. It details the role of nutraceuticals in treating diseases such as Alzheimer's, Parkinson's, obesity, cancer, and cardiovascular diseases. It provides an overview of herbal nutraceuticals and their prospects. It also covers the use of herbs as supplements and other recent advancements in herbal nutraceuticals.

Apple Academic Press  
November 2024 : 336pp  
Hb: 978-1-774-91614-8 : **£170**  
eBook: 978-1-003-48839-2

\* For full contents and more information, visit: [www.routledge.com/9781774916148](http://www.routledge.com/9781774916148)

## Himalayan Medicinal Plants for the Treatment of Depression

A Source of Rich Antidepressant Agents



*Edited by* **Abdur Rauf , Prabhakar Semwal , Hafiz Ansar Rasul Suleria**

Presents research on the importance of bioactive compounds derived from Himalayan plants, focusing specifically on their beneficial antidepressant activities. It discusses a wide range of Himalayan plants, vegetables, fruits, flowers, mushrooms, grains, beans, nuts, spices, beverages, roots and tubers, and even microalgae, along with their traditional applications, chemical compositions, and antidepressant effects with the help of scientific literature. It explores how Himalayan botanicals and foods can alleviate depression ailments. It documents the traditional uses, phytochemicals, and biological applications in terms of antidepressant agents in a systematic manner.

Apple Academic Press  
November 2024 : 334pp  
Hb: 978-1-774-91630-8 : **£150**  
eBook: 978-1-032-71797-5

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## Medicinal Spices and Herbs from India

2-volume set



*Edited by* **Sankhadip Bose , Sutapa Biswas Majee , Sabyasachi Banerjee**

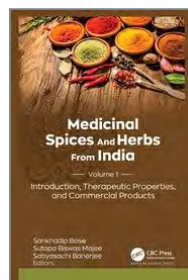
Details information about the pharmacological and therapeutic benefits of traditional and exotic Indian spices grown on Indian soil and available across geographical boundaries. Volume 1 covers history of Indian spices along with the influence of geographical location and climatic variation, processing conditions for extraction of Indian spices, medicinal uses of traditional spices, etc. It also explores their therapeutic properties and molecular mechanisms. Volume 2 provides detailed information on twenty specific exotic Indian spices. It focuses on individual spices, their impact and uses in treating various diseases.

Apple Academic Press  
December 2024 : 934pp  
Hb: 978-1-774-91692-6 : **£400**

\* For full contents and more information, visit: [www.routledge.com/9781774916926](http://www.routledge.com/9781774916926)

## Medicinal Spices and Herbs from India

Volume 1: Introduction, Therapeutic Properties, and Commercial Products



*Edited by* **Sankhadip Bose , Sutapa Biswas Majee , Sabyasachi Banerjee**

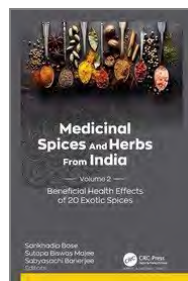
Details information about the pharmacological and therapeutic benefits of traditional and exotic Indian spices grown on Indian soil and available across geographical boundaries. It covers history of Indian spices along with the influence of geographical location and climatic variation, processing conditions for extraction of Indian spices, medicinal uses of traditional spices, etc. It also explores their therapeutic properties and molecular mechanisms used as medicines in a range of diseases and pathological conditions, in dairy products and beverages and modern herbal formulations of Indian spices, essential oils, and aromatic waters, etc.

Apple Academic Press  
December 2024 : 480pp  
Hb: 978-1-774-91694-0 : **£180**  
eBook: 978-1-003-51165-6

\* For full contents and more information, visit: [www.routledge.com/9781774916940](http://www.routledge.com/9781774916940)

## Medicinal Spices and Herbs from India

Volume 2: Beneficial Health Effects of 20 Exotic Spices



*Edited by* **Sankhadip Bose , Sutapa Biswas Majee , Sabyasachi Banerjee**

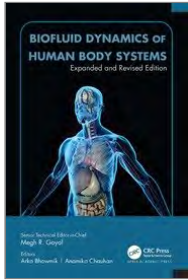
Provides detailed information on twenty specific exotic Indian spices. It focuses on individual spices and their uses in treating various diseases. In particular, the volume explores the impacts and uses of black cumin, celery, black stone flowers, chili pepper, Asian spider flower, alkanet, kapok tree, pomegranate, fenugreek, cardamom, Indian sandalwood, musk, and more. Exploring each herb in detail, the book provides both new information as well as reinforces existing knowledge regarding these spices, adding to the knowledge about these exotic Indian spices in the field of medicine.

Apple Academic Press  
December 2024 : 451pp  
Hb: 978-1-774-91696-4 : **£180**  
eBook: 978-1-003-51169-4

\* For full contents and more information, visit: [www.routledge.com/9781774916964](http://www.routledge.com/9781774916964)

## Biofluid Dynamics of Human Body Systems

Expanded and Revised Edition



*Edited by* **Megh R. Goyal , Arka Bhowmik , Anamika Chauhan**

Biofluid mechanics is a branch of science that deals with fluid mechanics in living organisms. Progress in biofluid mechanics has led to extraordinary advancements in biology, including the development of the artificial hearts, heart valves, stents, and more. This new and expanded edition of Biofluid Dynamics of Human Body Systems is a comprehensive guide on the physical and chemical properties of fluids in the human body.

Apple Academic Press

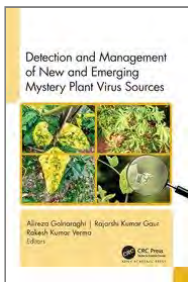
April 2025 : 758pp

Hb: 978-1-774-91870-8 : **£140**

eBook: 978-1-003-60431-0

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## Detection and Management of New and Emerging Mystery Plant Virus Sources



*Edited by* **Alireza Golnaraghi , Rajarshi Kumar Gaur , Rakesh Kumar Verma**

Reviewing the progress made and the challenges ahead to address the hidden world of plant viruses, their impact on agriculture and food security, and the need for new detection systems and management strategies. It presents recent approaches for plant virus detection and explores new trends in viral disease control. Advances in detection strategies and diagnostics of plant viruses and new and recent trends in diagnostic methods, such as next-generation CRISPR-based diagnostic methods, among other current and prospective strategies for plant virus detection. It also provides an in-depth look at recent trends in viral disease control and management.

Apple Academic Press

November 2024 : 336pp

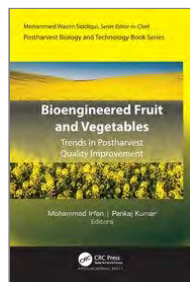
Hb: 978-1-774-91662-9 : **£170**

eBook: 978-1-003-49313-6

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## Bioengineered Fruit and Vegetables

Trends in Postharvest Quality Improvement



*Edited by* **Mohammad Irfan , Pankaj Kumar**

*Series: Postharvest Biology and Technology*

Addresses issues related to postharvest losses in fruits and vegetable crops using cutting-edge technologies. It details recent developments in this field, like gene overexpression approaches (enzymes, transcriptional factors, or combinatorial engineering), promoter engineering, enhancing postharvest stability (shelf life), antioxidant-regulated expression, metabolic engineering, and regulation of postharvest pathogen infection and decay using biotechnological tools and much more. It throws light on the current as well as future prospects in this field. The technologies covered include bioengineering, genome editing with zinc-finger nucleases (ZFNs), and more.

Apple Academic Press  
November 2024 : 366pp  
Hb: 978-1-774-91748-0 : **£180**  
eBook: 978-1-003-50195-4

\* For full contents and more information, visit: [www.routledge.com/9781774917480](http://www.routledge.com/9781774917480)

## Data-Driven Analytics for Healthcare

Artificial Intelligence and Machine Learning for Medical Diagnostics



*Edited by* **Meghna Sharma , Priyanka Vashisht , A. V. Senthil Kumar , Chitra Singh , Abdelmalek Amine**

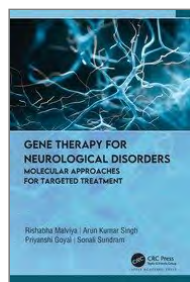
Provides insight into various solutions for the diagnosis of patients with the help of automated processes using artificial intelligence techniques and technology. It highlights the possibilities of artificial intelligence, machine learning, and deep learning techniques and tools to correctly diagnose various medical problems. It explores the opportunities in the data-driven analytics for healthcare through research and how the data in various healthcare-related applications can be handled and used.

Apple Academic Press  
February 2025 : 290pp  
Hb: 978-1-774-91760-2 : **£150**  
eBook: 978-1-003-55874-3

\* For full contents and more information, visit: [www.routledge.com/9781774917602](http://www.routledge.com/9781774917602)

## Gene Therapy for Neurological Disorders

Molecular Approaches for Targeted Treatment



**Rishabha Malviya , Arun Kumar Singh , Priyanshi Goyal , Sonali Sundram**

Brings together the latest methods of gene therapy for treatment of both inherited and sporadic neurodegenerative diseases. It presents the most significant advances in gene transfer methods and the most recent understandings of the mechanisms behind specific neurodegenerative illnesses, placing these into the context of gene therapy approaches for the central nervous system. It introduces the basics of neurodegenerative conditions and physiological basis for its occurrence. It also discusses the various proteins useful in neuro diseases and their viral applications, and in-vivo research in gene therapy for neurodegenerative disorders.

Apple Academic Press  
December 2024 : 238pp  
Hb: 978-1-774-91678-0 : **£170**  
eBook: 978-1-003-49410-2

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2-volume set



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Apple Academic Press  
February 2025 : 716pp  
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## Metals in Medicine

Volume 1: Metals for Tissue Engineering and Pharmaceutical Applications



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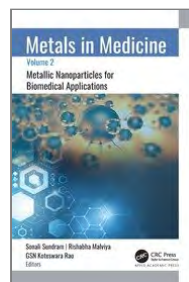
Provides information on and applications of metal-containing compounds that function as essential tools in medical science for the imaging and diagnosis of disease as well as for the prevention and treatment of many diseases. It introduces metallodrugs and their applications in the biomedical field, including for tissue engineering, drug delivery, bioimaging, biosensing, and bone tissue engineering. It presents a curated collection of the latest medicinal and inorganic chemical research featuring metals for medicinal applications. It covers the use of metallic foams, metallic nanocarriers, metal organic frameworks of bioimaging and biosensing application, and much more.

Apple Academic Press  
February 2025 : 254pp  
Hb: 978-1-774-91711-4 : **£180**  
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## Metals in Medicine

Volume 2: Metallic Nanoparticles for Biomedical Applications



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Provides information on and applications of metal-containing compounds that function as essential tools in medical science for the imaging and diagnosis of disease as well as for the prevention and treatment of many diseases. It deals with the application of certain metal-active drugs for disease treatment and diagnosis. It presents promising compounds/complexes for potential therapeutic use, their properties, and the diseases they can treat. It employs real-life applications of metallic drugs including gold- and zinc-based nanosystems in cancer therapy, zinc oxide in disease diagnosis, gold/silver nanoparticles for tissue engineering and biomedical applications, and more.

Apple Academic Press  
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## Applications of Artificial Intelligence in Business and Finance 5.0



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Provides overview of how artificial intelligence (AI) applications are transforming global businesses and financial organizations, looking at the newest artificial intelligence-based solutions for e-commerce, corporate management, finance, banking, and trading, and more. Chapters look at using artificial intelligence and machine learning techniques to forecast and assess different financial risks such as liquidity risk, volatility risk, and credit risk. It describes the use of natural language processing and text mining paired with machine learning models to assist in guiding sophisticated investors and corporate managers in financial decision making.

Apple Academic Press  
December 2024 : 284pp  
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## Contemporary Digital Transformation and Organizational Effectiveness in Business 4.0



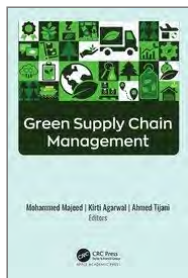
*Edited by Nilanjan Ray, Sudin Bag, Tapas Kumar Chatterjee*

Covers different interdisciplinary topics, such as sustainable development goals for organizational effectiveness in a VUCA world, interrelationships and implications of socio-cultural sustainable natural resources management and governance, and entrepreneurial marketing practices. It discusses digital education and students' attitudes, specialized technical education and entrepreneurship, and the role of information systems in organizations. It also explores current applications of AI and ML, AI as a guide to careers in financial sectors, digital financial services, and more.

Apple Academic Press  
November 2024 : 292pp  
Hb: 978-1-774-91654-4 : £150  
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## Green Supply Chain Management



*Edited by Mohammed Majeed, Kirti Agarwal, Ahmed Tijani*

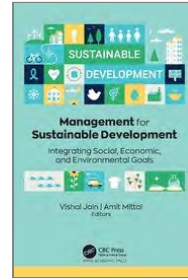
Combines the environmentally friendly aspects of technology, transportation, procurement, manufacturing, logistics, and the supply chain. Focusing on how green approaches improve operations in an ecological manner, it addresses the difficulties and rewards of integrating "green" into the fundamental processes of modern businesses. It covers topics like the benefits of GSCM and the factors and determinants of effective GSCM practices, along with discussions of green distribution, green procurement/purchasing, green logistics, green marketing, green warehousing, green transportation, and more.

Apple Academic Press  
April 2025 : 324pp  
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Apple Academic Press  
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Apple Academic Press  
May 2025 : 260pp  
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*Edited by Sefika Sule Ercetin, Suay Nilhan Acikalin*

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Apple Academic Press  
November 2024 : 290pp  
Hb: 978-1-774-91604-9 : £140  
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## Sustainable Strategic Business Infrastructure Development and Contemporary Digital Practices in Industry 5.0



*Edited by* **Indrajit Ghosal , Bikram Prasad , Nilanjan Ray , Lalit Kumar Joshi**

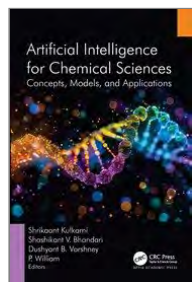
Presents how the fourth Industrial Revolution is a steppingstone to the Fifth Industrial Revolution. Topics cover sustainable innovation in business including bitcoin as a global currency, using smart technology in small and medium enterprises, managing disinformation through big data etc. It explores how digital transformation can show managers and business leaders how to plan ahead. It provides an analysis of technological innovation at the level of business operations that encourage sustainability, technology, and innovation. It also provides tools to identify, analyse, and evaluate the relationship between innovation 4.0 and inspiration for a new economic order.

Apple Academic Press  
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## Artificial Intelligence for Chemical Sciences

Concepts, Models, and Applications



*Edited by* **Shrikaant Kulkarni, Shashikant Bhandari, Dushyant Varshney, P. William**

Explores the use of AI and its various computer-aided applications in the design of new drugs and chemical products, for toxicity prediction and biodegradation, and for fault diagnosis in chemical processing plants. It provides mathematical and nonmathematical applications of artificial intelligence in chemical sciences. It explores various approaches in the field of chemintelligence to make predictions about the right molecules with given structures and properties as precursors or starting materials, reaction pathways, reaction conditions, improvement in the reaction efficiency and selectivity.

Apple Academic Press

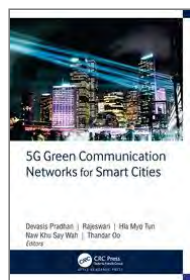
May 2025 : 414pp

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eBook: 978-1-003-56928-2

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## 5G Green Communication Networks for Smart Cities



*Edited by* **Devasis Pradhan, Rajeswari, Hla Myo Tun, Naw Khu Say Wah, Thandar Oo**

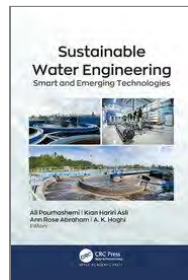
Explores the intersection of 5G technology and environmentally sustainable communication networks in the context of smart cities. It delves into the technical, social, and environmental aspects of 5G networks, highlighting their potential to drive eco-friendly urban development. It provides an overview of 5G technology and its potential environmental impact. It presents discussions on energy-efficient design and management of 5G networks and devices and the role of renewable energy sources in powering these networks.

Apple Academic Press  
April 2025 : 308pp  
Hb: 978-1-774-91796-1 : **£150**  
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## Sustainable Water Engineering

Smart and Emerging Technologies



*Edited by* **Ali Pourhashemi, Kian Hariri Asli, Ann Rose Abraham, A. K. Haghi**

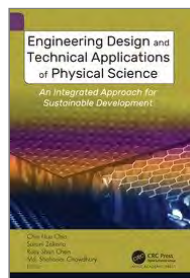
Covers the latest advances in water purification, treatment, and resource management. It discusses a range of important ideas to tackle these issues. It includes topics like a wide spectrum of water supply and demand, water resources management, and operation and maintenance of water distribution systems using innovative technology. It also reports on sustainability subjects from the perspective of integrated water management. It includes novel smart technologies and their industrial applications. Regional case studies demonstrate how the application of smart water technologies can help improve both water and wastewater services.

Apple Academic Press  
November 2024 : 276pp  
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## Engineering Design and Technical Applications of Physical Science

An Integrated Approach for Sustainable Development



*Edited by* **Chin Hua Chia, Sarani Zakaria, Ruey Shan Chen, Md. Shahariar Chowdhury**

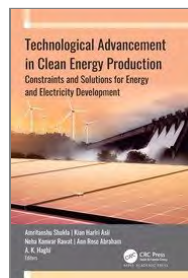
Presents a selection of studies that address sustainable composite materials technology, emerging materials for sustainable energy, and environment, health, and sustainable development. It explores innovative methods and advancements in composite materials for sustainable development. It covers surface modifications of nanosheets, mechanical properties of recycled blends, and other research on composite materials and their applications. It highlights emerging materials for sustainable energy by focusing on the development of materials that contribute to sustainable energy solutions covering single-photon generation, battery-type electrodes, thin film photovoltaic devices, and more.

Apple Academic Press  
April 2025 : 352pp  
Hb: 978-1-774-91752-7 : **£180**

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## Technological Advancement in Clean Energy Production

Constraints and Solutions for Energy and Electricity Development



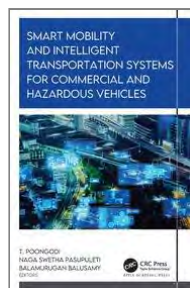
*Edited by* **Amritanshu Shukla, Kian Hariri Asli, Neha Kanwar Rawat, Ann Rose Abraham, A. K. Haghi**

Presents the latest progress on clean energy technology and related materials. It also presents recent advances in theoretical and experimental research on devices that can be used in production of new types of solar cells and hydrogen generation for pollution control. It also examines potential applications to promote green processes and techniques for energy and environment sustainability, pathways to achieve pollution reduction, new insights into novel forms of energy and the latest progress in the field of green energies and nanomaterials technology. The book also reviews the new development and characterization of modern energy materials.

Apple Academic Press  
November 2024 : 322pp  
Hb: 978-1-774-91558-5 : **£150**  
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## Smart Mobility and Intelligent Transportation Systems for Commercial and Hazardous Vehicles



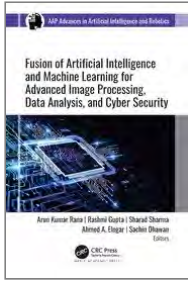
*Edited by* **Naga Swetha Pasupuleti, T. Poongodi, Balamurugan Balusamy**

Covers various topics on smart mobility and Intelligent Transportation Systems. It discusses the challenges and solutions to transportation issues that involve intelligent applications such as artificial intelligence, Internet of Things, Neural networks, blockchain, machine learning, big data, etc. It considers the use of smart technologies in commercial and hazardous vehicles, for vehicle pedestrian detection, in the planning of smart cities for traffic patterns, for the improvement of transportation power stations, for smart railway cargo management systems, and more.

Apple Academic Press  
November 2024 : 288pp  
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## Fusion of Artificial Intelligence and Machine Learning in Advanced Image Processing



*Edited by* **Arun Kumar Rana , Rashmi Gupta , Sharad Sharma , Ahmed A. Elngar , Sachin Dhawan**

*Series:* AAP Advances in Artificial Intelligence and Robotics

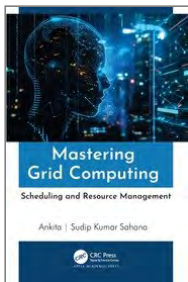
Focuses on the fusion of artificial intelligence and machine learning in advanced image processing, data analysis, and cyber security, as well as compiles and discusses various engineering solutions using various artificial intelligence paradigms. It looks at recent technological advancements and considers how artificial intelligence, machine learning, deep learning, soft computing, and evolutionary computing techniques can be used to design, implement, and optimize advanced image processing, data analysis, and cyber security engineering solutions.

Apple Academic Press  
November 2024 : 270pp  
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## Noonomy



**Sergey Bodrunov**

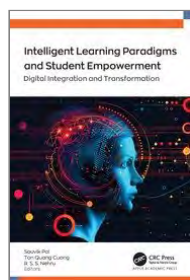
Shows that production will undergo qualitative changes due to technology that will create new opportunities for personal development and the satisfaction of wants but also engender risks associated with growth opportunities of human interference with nature and technogenic stress on the environment. Based on the study of cutting-edge technologies and resulting socioeconomic shifts, Bodrunov concludes that the crisis can be overcome through the formation of a new industrial society that is reliant on knowledge-intensive material production and gradual removal of humans from immediate material production processes.

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## Intelligent Learning Paradigm and Student Empowerment

Digital Integration and Transformation



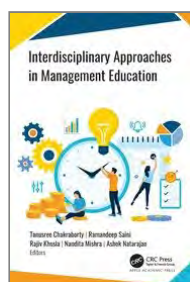
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Explores the development and evolution of smart learning, learning analytics, intelligent learning, and the Internet of Things as they pertain to student empowerment in the classroom. It covers a wide range of topics on digital pedagogy, including educational robotics, immersive technology-based education systems, interactive e-books, using virtual reality and augmented reality (XR) technology, online proctoring, digital transformation of teaching method modules, and much more.

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Aims to address unanswered questions regarding best practices, laboratory methods, policies, and protocols in education and managerial training. It covers several topics related to practical approaches to managerial education and training. It provides detailed explanations in relation to active methodologies such as problem-based learning (PBL), co-creation, team-based learning (TBL), etc. It details an integrated approach towards the new paradigm of management education. It includes chapters on employability, digitalization and digital technologies, and sustainability, providing a look at the future of management education.

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## Advances in Natural Dyes for Environmental Protection

Degradation and Remediation



*Edited by* **Syed Maqbool Geelani, Rouf Ahmad Bhat, Fernanda Maria Policarpo Tonelli**

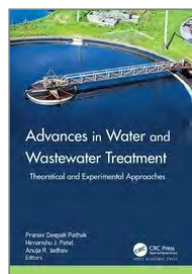
Discusses the environmental pollution caused by dyes, presents advances in natural dyes, considers their advantages over synthetic dyes, and offers solutions to the difficulties related to the use of natural dyes. It also offers effective remediation strategies for the management of both natural and harmful synthetic dyes in the environment. It discusses dyes derived from plant, animal, and microbial sources; conventional and non-conventional dyeing technology for textiles; and eco-friendly technology for dyeing processes. It details the global market and challenges natural dyes face along with the limitations of physical and chemical methods.

Apple Academic Press  
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## Advances in Water and Wastewater Treatment

Theoretical and Experimental Approaches



*Edited by* **Pranav Deepak Pathak, Himanshu J. Patel, Anuja R. Jadhav**

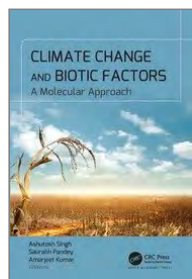
Discusses the various techniques and methodologies for the utilization of advanced materials for water and wastewater treatment examining their feasibility for sustainable development. It covers techniques involving adsorption by advanced adsorbents, membrane filtration, advanced oxidation techniques, constructed wetlands, activated sludge process, ion exchange, chemical precipitation, coagulation, and clarification. It covers various research, reviews, and experimental studies for elimination of several contaminations using advanced techniques that include sustainable circular economy development, membranes prepared from different materials, adsorption, electrocoagulation, etc

Apple Academic Press  
December 2024 : 562pp  
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## Climate Change and Biotic Factors

A Molecular Approach



*Edited by* **Ashutosh Singh, Saurabh Pandey, Amarjeet Kumar**

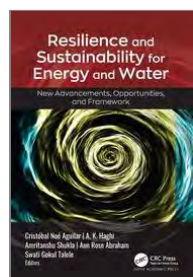
Explores how climate change influences the dynamics of pests, diseases, and other biotic stresses, and how these factors, shape the response of plants and microorganisms to the changing climate. It studies the effects of climate change on pest and disease incidence of crop plants. It introduces climate change that results in unpredictability of rainfall and temperature, two factors that drive spreading of pests and diseases. It deals with breeding and molecular approaches to tackling pest disease in changing climate. It explores the potential for utilizing molecular tools for mitigating the negative impacts of climate change on biotic factors and promoting sustainable ecosystems.

Apple Academic Press  
May 2025 : 450pp  
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## Resilience and Sustainability for Energy and Water

New Advancements, Opportunities, and Framework



*Edited by* **Cristobal Noe Aguilar, A. K. Haghi, Amritanshu Shukla, Ann Rose Abraham, Swati Gokul Talele**

Outlines novel strategies and trends in resilience and sustainability plans, highlighting best practices and presenting case studies from the energy sector and the water industry. It gives a brief introduction of resilience and sustainability and describes some of the basics of energy and water for a sustainable future. It also explores the theoretical and practical intersection between resilience and sustainability to show how the green movement can help us achieve a better future. It reviews resources available for strategic resilience and sustainability mechanisms for reshaping communities and organizations.

Apple Academic Press  
December 2024 : 322pp  
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## Sustainable Environment and Health

Practical Strategies



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Addresses the goal to implement greener environment approaches while considering public health and human well-being and economies. The chapters are intended to outline the processes that have been studied, optimized, and developed to sustain our environment and public health. It presents and examines advances, developments, and the underlying concepts of a healthy urban environment in the areas of water and wastewater treatment, food supply under sustainable development, and chemical contamination. This book provides relevant experimental techniques and case studies to examine potential issues for attaining lifespan practices for sustainable urban and environmental communities.

Apple Academic Press  
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Water Security, Energy Conservation, and Green Processes



*Edited by* **Sonia Khanna, Ann Rose Abraham, Kian Hariri Asli, A. K. Haghi**

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Apple Academic Press  
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Hb: 978-1-774-91690-2 : £150  
eBook: 978-1-003-50643-0

\* For full contents and more information, visit: [www.routledge.com/9781774916902](http://www.routledge.com/9781774916902)

## Sustainable Forest Resources Management

Issues and Implications



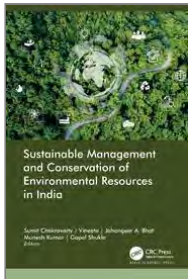
*Edited by* **Jahangeer A. Bhat, Gopal Shukla, Manmohan J. Dobriyal, Sumit Chakravarty, A. Arunachalam, Rainer W. Bussmann**

Details the issues of implicating sustainable forest management practices and highlights the aspects of forest resources, the importance of traditional knowledge, the need for conservation, the impact of climate change, and ecosystem services. It covers the scientific, technical, and socio-economical aspects of forests to further ensure the conservation of forest resources. It explains the value of forest resources by emphasizing livelihood security and traditional knowledge. It discusses the climate change effect on forest health and reviews ecosystem services from the management perspective.

Apple Academic Press  
December 2024 : 488pp  
Hb: 978-1-774-91706-0 : £150  
eBook: 978-1-003-53907-0

\* For full contents and more information, visit: [www.routledge.com/9781774917060](http://www.routledge.com/9781774917060)

## Sustainable Management and Conservation of Environmental Resources in India



*Edited by* **Sumit Chakravarty, Vineeta I, Jahangeer A. Bhat, Munesh Kumar, Gopal Shukla**

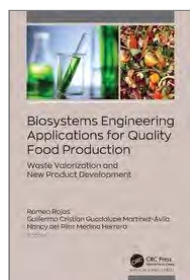
Addresses major research topics in sustainability and natural resource conservation, from traditional knowledge to environmental resources in forest settings. It discusses the possibilities of agroforestry for biodiversity conservation and for nutritional security, the implications of sustainability for improved livelihoods of local populations, such as the use of climate-resilient farming methods, silkworm-based agroforestry systems, and extraction of forest resources by indigenous populations. It also covers topics such as carbon sequestration in agroforestry systems, approaches to repairing salty and sodic soil through halophytes etc.

Apple Academic Press  
November 2024 : 526pp  
Hb: 978-1-774-91592-9 : £180  
eBook: 978-1-003-46927-8

\* For full contents and more information, visit: [www.routledge.com/9781774915929](http://www.routledge.com/9781774915929)

## Biosystems Engineering Applications for Quality Food Production

Waste Valorization and New Product Development



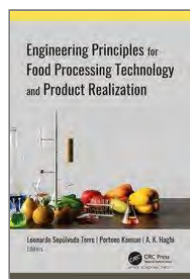
*Edited by* **Romeo Rojas , Guillermo Cristian Guadalupe Martínez-Ávila , Nancy del Pilar Medina Herrera**

Shows how the two areas of biosystems engineering and food industry come together in an interdisciplinary way to offer solutions to these problems. It presents the most recent advances in these two areas, ranging from the use of biodigesters, bioremediation of effluents from the food industry, use of microorganisms to produce polymers and their applications, waste recovery, new products development, new applications for new varieties of crops, replacement of fats in food, improvement in bovine production, and production and harvesting microalgae and cyanobacteria. It also discusses the generation of value-added products and new functional foods.

Apple Academic Press  
December 2024 : 336pp  
Hb: 978-1-774-91668-1 : £170  
eBook: 978-1-003-49255-9

\* For full contents and more information, visit: [www.routledge.com/9781774916681](http://www.routledge.com/9781774916681)

## Engineering Principles for Food Processing Technology and Product Realization



*Edited by* **Leonardo Sepúlveda Torre , Porteen Kannan , A. K. Haghi**

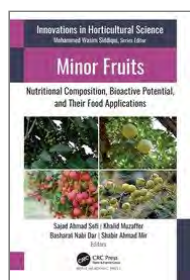
Covers essential elements of food process engineering and discusses the most critical achievements in food science along with innovations that are changing the food industry. It provides information about modern methods for engineering processing along with food safety controls and their properties. It combines engineering and product quality/safety concepts with emphasis on practical usefulness of preservation processes as well as process control. It focuses on the chemical features of food products, food microbiology, packaging, processing, distribution of quality foods, and preservation. It also reviews the most practical approaches into food product design.

Apple Academic Press  
November 2024 : 360pp  
Hb: 978-1-774-91575-2 : £150  
eBook: 978-1-032-71392-2

\* For full contents and more information, visit: [www.routledge.com/9781774915752](http://www.routledge.com/9781774915752)

## Minor Fruits

Nutritional Composition, Bioactive Potential, and Their Food Applications



*Edited by* **Sajad Ahmad Sofi , Khalid Muzaffar , Basharat Nabi Dar , Shabir Ahmad Mir**

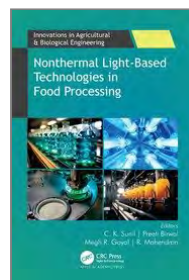
*Series: Innovations in Horticultural Science*

Highlights the potential of minor fruits in the human diet and their health benefits due to presence of phytochemicals, fibre, vitamins, and minerals. It studies several minor fruits and their nutritional and bioactive potential, general characteristics, and opportunities for their use in various functional food products. It also provides an overview of postharvest techniques used for minor fruits to preserve quality, enhance shelf life, streamline fruit processing, and develop new value-added products. It details on utilization of minor fruits in meeting the demand for food and nutritional security challenges.

Apple Academic Press  
February 2025 : 358pp  
Hb: 978-1-774-91699-5 : £170  
eBook: 978-1-003-51890-7

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## Nonthermal Light-Based Technologies in Food Processing



*Edited by* **C. K. Sunil , Megh R. Goyal , Preeti Birwal , R. Mahendran**

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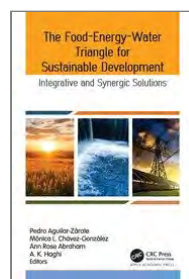
Provides in-depth knowledge and understanding of current and emerging light-based technologies and their application in food processing. This book also introduces the role of nonthermal technology for novel food product development. It covers light-based technologies, ultraviolet (UV) light technology, pulsed light (PL) technology, and light-emitting diode (LED) technology. It details a range of modern and emerging light-based food preservation technologies that include ozone, ohmic heating, high-pressure processing, cold plasma, pulsed electric field (PEF), microwave, irradiation, light-based technologies, cold plasma, and more.

Apple Academic Press  
February 2025 : 522pp  
Hb: 978-1-774-91750-3 : £180  
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\* For full contents and more information, visit: [www.routledge.com/9781774917503](http://www.routledge.com/9781774917503)

## The Food-Energy-Water Triangle for Sustainable Development

Integrative and Synergic Solutions



*Edited by* **Pedro Aguilar-Zárate , Mónica L. Chávez-González , Ann Rose Abraham , A. K. Haghi**

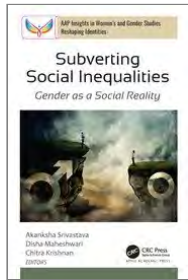
Presents case studies for the management of water, energy, agricultural growth, and food security using empirical analyses and technological interventions. It explores innovations in sustainable food production; energy solutions using biofuels, solar energy, and magnetic energy; and water conservation management. This volume provides practical information for scholars and researchers interested in the area of nexus studies, focusing on sustainable solutions for conserving, preserving, and producing food, water, and energy.

Apple Academic Press  
March 2025 : 314pp  
Hb: 978-1-774-91785-5 : £180  
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## Subverting Social Inequalities

Gender as a Social Reality



*Edited by* **Akanksha Srivastava , Disha Maheshwari , Chitra Krishnan**

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Explores gender as a social reality and its intersection with other forms of social inequality, like race, class, etc. It examines how gender is constructed and maintained through various social institutions. It looks at the challenges to gender inequalities through activism, art, and other forms of resistance. It explores the internalization of gender ideology and its construction in classroom discourse, gender disparity of boys and girls in their adoption of information and communications technology, gender-illiteracy nexus in relation to girl-child education, female entrepreneurship etc.

Apple Academic Press

May 2025 : 350pp

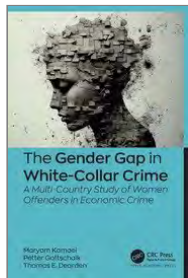
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## The Gender Gap in White-Collar Crime

A Multi-Country Study of Women Offenders in Economic Crime



*Edited by* **Maryam Kamaei , Petter Gottschalk , Thomas E. Dearden**

Studies white collar crimes, focusing on the disparity in such crimes between men and women. It looks at how pink-collar crime differs dramatically in different countries, with case studies from various countries to further enhance the understanding of the explained concepts. It offers a specific focus on the convenience theory, to explain general white-collar crime. Both theoretical arguments and empirical work examine the validity of the theory for explaining women white-collar crime. It focuses on crimes of convenience in cybercrime by considering the importance of gender in the history of internet crime and the relationship between cybercrime and white-collar crime.

Apple Academic Press

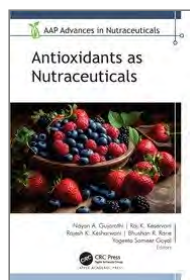
May 2025 : 288pp

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## Antioxidants as Nutraceuticals



*Edited by* **Nayan A. Gujarathi , Raj K. Keservani , Rajesh K. Kesharwani , Bhushan R. Rane , Yogeeta Sameer Goyal**

*Series:* AAP Advances in Nutraceuticals

Explores the growing field of natural compounds with health-promoting properties. It also provides a comprehensive overview of antioxidants and nutraceuticals, including their sources, mechanisms of action, and health benefits, the volume covers the latest research on a range of antioxidants and nutraceuticals, including vitamins, minerals, and phytochemicals, and provides practical information on their safe and effective use. It addresses the challenges and controversies surrounding the use of antioxidants and nutraceuticals and provides guidance on their selection and use. It covers the basics of types of antioxidants as nutraceuticals as well.

Apple Academic Press

January 2025 : 368pp

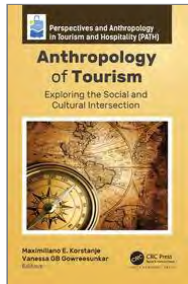
Hb: 978-1-774-91738-1 : **£180**

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## Anthropology of Tourism

Exploring the Social and Cultural Intersection



*Edited by* **Maximiliano E. Korstanje , Vanessa GB Gowreesunkar**

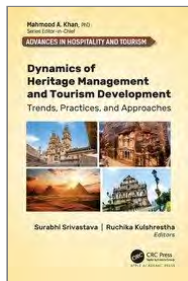
Brings out the latest in anthropology of tourism by laying the foundations of a new understanding of the intersection between tourism and social science. It offers topics on the study of tourism in our contemporary and ever-changing world. It considers tourism's new problems and old solutions after the new normal created by the COVID-19 pandemic and its effect on the tourism industry. It discusses the influence of sociodemographic characteristics of local community perceptions toward conservation and tourism; tourism destinations that embrace smart technology; the rights and obligations of tour guides; how human rights affect tourism choices; and more.

Apple Academic Press  
December 2024 : 232pp  
Hb: 978-1-774-91776-3 : £140  
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## Dynamics of Heritage Management and Tourism Development

Trends, Practices, and Approaches



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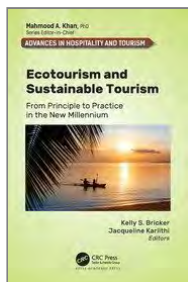
Explores the concept of "heritage tourism" and its implications for the tourism industry worldwide. It is an anthology of conceptual analysis, its implications using case studies, and research analysis on heritage management with community involvement for tourism development. It emphasizes on regulating the dynamics of historic tourism on the individual rather than the government level. It provides in-depth knowledge by covering dynamics from traditions to digitization. It focuses on what is acquired from previous generations, both material and immaterial, and what constitutes a cultural heritage.

Apple Academic Press  
April 2025 : 302pp  
Hb: 978-1-774-91804-3 : £150  
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## Ecotourism and Sustainable Tourism

From Principle to Practice in the New Millennium



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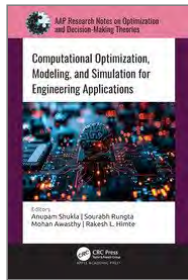
*Series: Advances in Hospitality and Tourism*

Presents case studies that demonstrate the importance of nature-based tourism and sustainable development through tourism. It explores various areas of sustainable development goals (SDGs) that exemplify the contribution of sustainable tourism to cultural heritage, protected areas, and community benefits. It explains how ecotourism can benefit the economy and wildlife in a mutual manner. It also emphasizes the importance and benefit of involving local communities in tourism planning. The book sheds light on the role of tour guides in transforming tourism outlooks. Overall, the book explores the dynamic benefits and roles of local communities and ecology in great detail.

Apple Academic Press  
March 2025 : 210pp  
Hb: 978-1-774-91682-7 : £140  
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## Computational Optimization, Modeling, and Simulation for Engineering Applications



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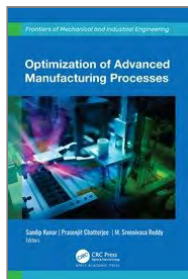
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Takes a multidisciplinary approach to the trends and challenges of computational modeling, simulation, and optimization techniques and its applications in the field of engineering sciences. It presents practical case studies and illustrations of computational techniques on materials and manufacturing in a diverse selection of applications, such as for drug delivery systems, for refrigeration models, for polymer and aluminium metal matrix composites, for automotive and aircraft applications, and even for talent management strategies on retaining talented employees.

Apple Academic Press  
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## Optimization of Advanced Manufacturing Processes



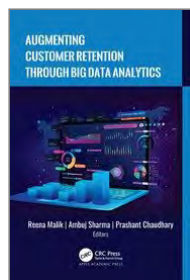
*Edited by* **Sandip Kumar , Prasenjit Chatterjee , M. Sreenivas Reddy**

Explains how to optimize various industrial systems and processes using new significant statistical and evolutionary methodologies. Statistical, multi-criteria decision-making, and evolutionary strategies for single- and multi-objective optimization are covered here, with relevant theoretical details. It presents a variety of advanced manufacturing processes and optimization techniques with basic explanations, characteristics, and applications in various technological and biomedical domains. It also addresses the processes prediction of mechanical properties, design and development of tools, impact of power supply, additive manufacturing etc.

Apple Academic Press  
November 2024 : 284pp  
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## Augmenting Customer Retention Through Big Data Analytics



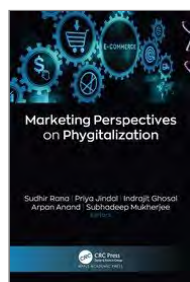
*Edited by* **Reena Malik , Ambuj Sharma , Prashant Chaudhary**

Discusses various topics related to big data customer analytics and its application for customer retention. Topics covered include, the use of big data in businesses that include personalization and customization of products and services, segmentation, digital marketing, customer relationship management, loyalty programs, and customer loyalty and retention. It provides examples and case studies that demonstrate how big data is changing the customer loyalty scenario in a highly digitalized world. It also addresses using big data analytics in areas such as metaverse, government bodies, and fashion retail.

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## Marketing Perspectives on Phygitalization



*Edited by* **Sudhir Rana , Priya Jindal , Indrajit Ghosal , Arpan Anand , Subhadeep Mukherjee**

Examines the opportunities and challenges presented by phygitalization and highlights strategies that companies can employ to leverage its full potential. It discusses the multifaceted nature of phygital marketing and provides valuable insights into how businesses can navigate this evolving landscape to stay relevant and competitive. It introduces the antecedents to brand perception and brand loyalty and builds the perception of phygitalization on it. It explores the adoption of phygitalization in various industries, including the retail, beauty, medical industry, and others. It provides a practical perspective to phygitalization through case studies and discussions.

Apple Academic Press  
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## Pharma Marketing and Pharmacoeconomics

Opportunities, Challenges, and the Way Forward



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December 2024 : 386pp  
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## Advanced Materials for Next-Generation Technologies

Challenges and New Prospects



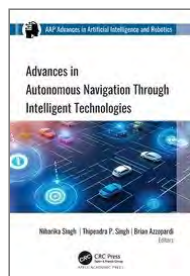
*Edited by* **Shrikaant Kulkarni, Vipul Srivastava, Rabah Khenata, Yarub Al-Douri**

Presents insight into the advances in materials with special reference to their structure, physical behaviors, and applications. It sheds light on the organizational and orientational order of the atoms responsible for characteristics and distinct architectures in these materials. It discusses how the materials can be maneuvered for attaining structural optimality. It explores novel materials for new technologies that make use of their properties, such as electronic band structure, band gap, half-metallicity, multiferoic behavior, piezoelectricity, thermoelectricity, optoelectronic behavior, and more.

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September 2025 : 316pp  
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## Advances in Autonomous Navigation through Intelligent Technologies



*Edited by* **Niharika Singh, Thipendra P. Singh, Brian Azzopardi**

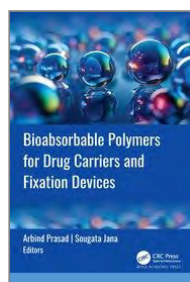
*Series:* AAP Advances in Artificial Intelligence and Robotics

Presents today's issues, solutions, and adaptation techniques for creating safe autonomous navigating vehicles with the use of advanced technologies. It discusses autonomous navigation as a major issue in robotics and artificial intelligence. It covers a range of topics that include the architecture of autonomous navigation, algorithms for robot positioning and navigation, methodologies for controlling autonomous systems, self-learning routing protocols for autonomous unmanned aerial networks (A-UAN), and more. It also covers the concepts and algorithms of mobile devices, sensors, and IoT and other related components required for autonomous navigation.

Apple Academic Press  
February 2025 : 286pp  
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## Bioabsorbable Polymers for Drug Carriers and Fixation Devices



*Edited by* **Arbind Prasad, Sougata Jana**

Deals with the latest bio-based composites, processing, and characterization for drug delivery and fixation devices. It introduces various bioresorbable polymers along with their processing and characterization. It also looks at scaffolds that are multifunctional and can be used for bone support, drug delivery, and for anti-inflammatory, anti-microbial purposes. Various materials like nanomaterials, chitosan and its derivatives, biopolymers, and ceramic-based composites along with their applications are covered. It looks at the degradation of biomaterials and propose mitigation solutions.

Apple Academic Press  
May 2025 : 314pp  
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## Contemporary Advancements in Materials Technology

Novel Solutions to Complex Problems



*Edited by* **Shrikaant Kulkarni, Vipul Srivastava, P. William**

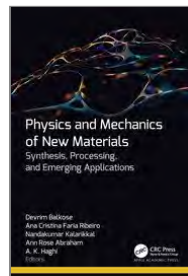
Provides novel solutions to the problems in the field of materials technology, helping to pave the way in designing new materials for the future. The authors provide a comprehensive and theoretical understanding as well as experimental findings integrated with theory for furthering research in materials science and engineering. The book looks at advances and trends, tools and technologies, and characterization of smart materials and novel materials, highlighting the correlation between structure-property-utility in the materials. It also deliberates how materials can be fabricated for acquiring optimal performance in tandem with applications.

Apple Academic Press  
September 2025 : 342pp  
Hb: 978-1-774-91794-7 : £170  
eBook: 978-1-003-56185-9

\* For full contents and more information, visit: [www.routledge.com/9781774917947](http://www.routledge.com/9781774917947)

## Physics and Mechanics of New Materials

Synthesis, Processing, and Emerging Applications



*Edited by* **Devrim Balkose, Ana Cristina Faria Ribeiro, Nandakumar Kalarikkal, Ann Rose Abraham, A. K. Haghi**

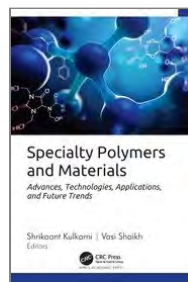
Covers advances in materials science and engineering technology useful for the design, fabrication, testing, and industrial application of advanced materials and structures. It overviews modern ferrites and presents a comprehensive survey on ferrite materials. The impact of technological change upon the application of selected materials and energy resources are also presented including discussions on 2D nanomaterials, bismuth ferrite, and barium titanate and their uses. It details case studies in thermophysics and applied mechanics for engineering technology providing an examination of the various physical, chemical, and material properties of a range of modern materials.

Apple Academic Press  
November 2024 : 304pp  
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## Specialty Polymers and Materials

Advances, Technologies, Applications, and Future Trends



*Edited by* **Shrikaant Kulkarni, Vasi Shaikh**

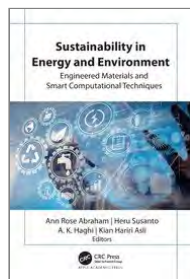
Focuses on specialty polymers and polymer-based materials in novel application areas, discussing the synthesis and preparation methods, the derived materials from them, and how they are applied. It covers applications that vary from biomedical and defense to high-performance coatings and smart materials for catalytic, agricultural, environmental, and packaging applications. Chapters explore the characteristic and distinct properties of specialty polymers, such as biodegradability, high performance, smart behaviors, and other distinct characteristics.

Apple Academic Press  
March 2025 : 338pp  
Hb: 978-1-774-91783-1 : £170  
eBook: 978-1-003-56136-1

\* For full contents and more information, visit: [www.routledge.com/9781774917831](http://www.routledge.com/9781774917831)

## Sustainability in Energy and Environment

Engineered Materials and Smart Computational Techniques



*Edited by* **Ann Rose Abraham , Heru Susanto , A. K. Haghi , Kian Hariri Asli**

Covers integrated sustainable designs for energy and environmental engineering as well as computer science. It discusses the key components of energy as well as the main elements of sustainability with an emphasis on sustainable development. It covers smart computational technologies in the domain of energy and environmental systems engineering. The book is broadly divided into three themes: energy, environment, and sustainable development. Components of energy sustainability are described and examined with various other factors. Several case studies on enhancing energy sustainability and sustainable development are also presented.

Apple Academic Press  
November 2024 : 298pp  
Hb: 978-1-774-91620-9 : £170  
eBook: 978-1-003-49212-2

\* For full contents and more information, visit: [www.routledge.com/9781774916209](http://www.routledge.com/9781774916209)

## Sustainability in Polymer Technology and Plastic Engineering

Concepts, Strategies, and Opportunities



*Edited by* **Tamara Tatrishvili , Neha Kanwar Rawat , Swati Gokul Talele , A. K. Haghi**

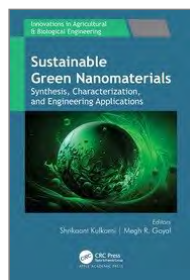
Covers the characterization of modern polymer and plastic materials with functional and sustainable applications in various sectors. In this era of rapidly advancing technology and global challenges, it has become crucial to adopt an integrated approach that bridges the gap between scientific principles and their practical applications. It provides a comprehensive overview of the engineering properties of polymer composites and plastics materials. It also brings together the most current literature and offers environmentally friendly alternatives to conventional polymeric composite materials and plastics.

Apple Academic Press  
April 2025 : 364pp  
Hb: 978-1-774-91762-6 : £180  
eBook: 978-1-003-56376-1

\* For full contents and more information, visit: [www.routledge.com/9781774917626](http://www.routledge.com/9781774917626)

## Sustainable Green Nanomaterials

Synthesis, Characterization, and Engineering Applications



*Edited by* **Shrikaant Kulkarni , Megh R. Goyal**

*Series: Innovations in Agricultural & Biological Engineering*

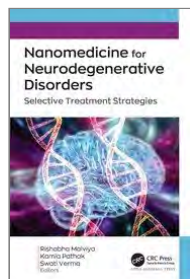
Presents an overview of fabrication, testing, and utility of green nanomaterials in sustainable agriculture, smart drug delivery, wastewater treatment, and healthcare. It first discusses the synthesis, characterization, and general applications of green nanomaterials, looking specifically at electrospun polymer nanofibers and carbon quantum dots. Later, it introduces applications of green nanomaterials in areas such as agriculture, healthcare, and wastewater treatment. It also looks at the use of artificial intelligence and machine learning for removal of heavy metals from water using green nanomaterials.

Apple Academic Press  
December 2024 : 322pp  
Hb: 978-1-774-91680-3 : £180  
eBook: 978-1-003-50157-2

\* For full contents and more information, visit: [www.routledge.com/9781774916803](http://www.routledge.com/9781774916803)

## Nanomedicine for Neurodegenerative Disorders

Selective Treatment Strategies



*Edited by* **Rishabha Malviya, Kamla Pathak, Swati Verma**

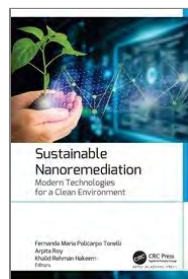
Provides an informative overview of the cutting-edge applications of various nanocarriers that encapsulate active compounds to effectively treat NDs. Provides a comprehensive review of neurological disorders, clinical strategies for the management of neuro disorders, and the challenges in their treatment, it reviews the types, diagnosis, and treatment strategies of neurodegenerative disorders. It then provides an overview of the blood-brain barrier (BBB) transport mechanisms. It discusses specific techniques such as the delivery of RNA/DNA to the brain using nanoscience, nanodiamonds as emerging nanotherapeutics for brain-targeted drug etc.

Apple Academic Press  
May 2025 : 524pp  
Hb: 978-1-774-91612-4 : **£180**  
eBook: 978-1-003-48656-5

\* For full contents and more information, visit: [www.routledge.com/9781774916124](http://www.routledge.com/9781774916124)

## Sustainable Nanoremediation

Modern Technologies for a Clean Environment



*Edited by* **Fernanda Maria Policarpo Tonelli, Arpita Roy, Khalid Rehman Hakeem**

Provides overview of low-cost and eco-friendly green synthesized nanomaterials to promote efficient nanoremediation of environmental pollution. It discusses the potential of nanomaterials, specifically green synthesized nanomaterials, as a practical and efficient solution towards sustainability. It details the advantages of green protocols to generate nanomaterials also discussing microbes and plants as sources for generating eco-friendly nanomaterials. It discusses green methods to synthesize nanoremediators; algae-based and plant-based nanomaterials for remediating environmental pollution and more.

Apple Academic Press  
December 2024 : 652pp  
Hb: 978-1-774-91610-0 : **£180**  
eBook: 978-1-003-46895-0

\* For full contents and more information, visit: [www.routledge.com/9781774916100](http://www.routledge.com/9781774916100)

## Nanotechnology for Agriculture

A Potential Tool for Abiotic Stress Tolerance



*Edited by* **Ashwani Kumar, Ayamn El Sabagh**

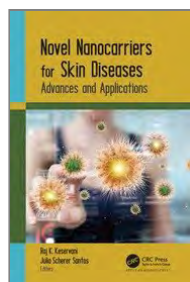
Summarizes importance of nanotechnology in abiotic stress tolerance in crop plants, with latest research on the application of nanotechnology in agriculture crop production, its applications in crop growth enhancement under different abiotic stress conditions, and the uses of various nanoparticles in agricultural fields for better yield and productivity. It highlights the prospects of nanotechnology in promoting sustainable agriculture through nanofertilizers, nanopesticides, nanoencapsulation, nanosensors, nanobarcodes, and intelligent distribution systems.

Apple Academic Press  
April 2025 : 358pp  
Hb: 978-1-774-91876-0 : **£170**

\* For full contents and more information, visit: [www.routledge.com/9781774918760](http://www.routledge.com/9781774918760)

## Novel Nanocarriers for Skin Diseases

Advances and Applications



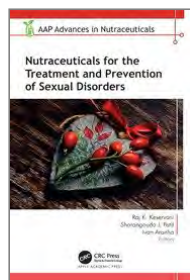
*Edited by* **Raj K. Keservani, Julia Scherer Santos**

Explores advances achieved in the use of nanocarriers as drug delivery systems to address skin diseases. It presents the progress in the treatment via nanocarriers of acne, dermatitis, psoriasis, and infections. It also looks at follicular delivery as a promising strategy of drug delivery systems. The use of nanocarriers for several skin diseases and the role of natural ingredients for skin disease treatments are presented. The roles of lipids and polymeric carriers for psoriasis and dermatitis are discussed, as is the use of natural polymers, plant extracts, and essential oils for skin disease treatment.

Apple Academic Press  
February 2025 : 440pp  
Hb: 978-1-774-91534-9 : **£145**  
eBook: 978-1-032-72595-6

\* For full contents and more information, visit: [www.routledge.com/9781774915349](http://www.routledge.com/9781774915349)

## Nutraceuticals for the Treatment and Prevention of Sexual Disorders



*Edited by* **Raj K. Keservani, Sharangouda J. Patil, Ivan Aranha**

*Series:* AAP Advances in Nutraceuticals

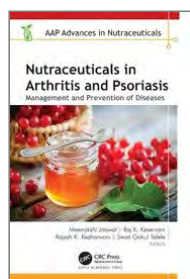
Highlights the working solutions as well as open problems and future challenges in the use of nutraceuticals in sexual disorder research. It discusses the remedial properties that nutraceuticals possess that can be applied to a range of sexual disorders. Chapters cover use of antioxidants in stress-induced male infertility, role of nutraceuticals in prostate cancer, male sex hormone disturbances, and more. It also addresses the use of nutraceuticals on female sexual disorders and remedial measures in treating breast cancer, cervical complications, pregnancy health and disorders, menstrual disturbances, etc.

Apple Academic Press  
February 2025 : 466pp  
Hb: 978-1-774-91731-2 : **£180**  
eBook: 978-1-003-50377-4

\* For full contents and more information, visit: [www.routledge.com/9781774917312](http://www.routledge.com/9781774917312)

## Nutraceuticals in Arthritis and Psoriasis

Management and Prevention of Diseases



*Edited by* **Meenakshi Jaiswal, Raj K. Keservani, Rajesh K. Kesharwani, Swati G. Talele**

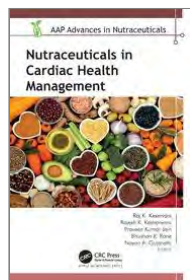
*Series:* AAP Advances in Nutraceuticals

Explores plant-derived nutraceuticals that can be used as crucial therapeutic tools in the prevention and treatment of arthritis and psoriasis. It provides detailed information on the use of plant-derived nutraceuticals, such as microalgae and other marine botanicals, omega polyunsaturated fatty acids, and others in the treatment and management of arthritis and psoriasis. It focuses on nutraceutical treatments for arthritis and then goes on to focus on the role of nutraceuticals in the prevention and treatment of psoriasis.

Apple Academic Press  
May 2025 : 346pp  
Hb: 978-1-774-91746-6 : **£180**

\* For full contents and more information, visit: [www.routledge.com/9781774917466](http://www.routledge.com/9781774917466)

## Nutraceuticals in Cardiac Health Management



*Edited by* **Raj K. Keservani, Rajesh K. Kesharwani, Praveen Kumar Jain, Bhushan R. Rane, Nayan A. Gujarathi**

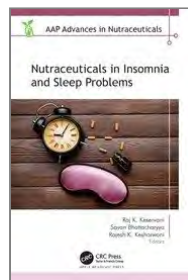
*Series:* AAP Advances in Nutraceuticals

Offers an informative update on the most recent scientific evidence addressing the use of nutraceuticals in the prevention and management of heart disease. It demonstrates various nutraceutical components used in the management and prevention of cardiovascular diseases and hypertension in human beings. It summarizes the various functional foods that are involved in preventing the risk of CVDs, the mechanisms of the bioactive components that lower the risk of chronic illnesses, as well as the dietary patterns that are involved in the prevention of CVDs. It also covers specific nutraceuticals, including probiotics, dietary fibers, garlic, green tea, vitamins, tomatoes and more.

Apple Academic Press  
February 2025 : 368pp  
Hb: 978-1-774-91756-5 : **£180**  
eBook: 978-1-003-54564-4

\* For full contents and more information, visit: [www.routledge.com/9781774917565](http://www.routledge.com/9781774917565)

## Nutraceuticals in Insomnia and Sleep Problems



*Edited by* **Raj K. Keservani, Sayan Bhattacharyya, Rajesh K. Kesharwani**

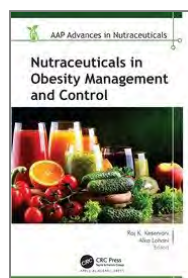
*Series:* AAP Advances in Nutraceuticals

Details the nutraceuticals from foods that help to promote good health and optimum sleep. It looks at nutraceutical diets for good sleep, the nutraceutical components related to sleep and insomnia, and new technologies and future directions in the use of nutraceuticals for insomnia and sleep. The authors discuss the importance of sleep, the role of diet in sleep, the role of specific vitamins and minerals, amino acids and opioids as nutraceuticals for sleep, newer technologies of nutraceuticals for treating insomnia, and more. It also details foods that cause insomnia, such as processed, chemical-rich, and refined foods.

Apple Academic Press  
May 2025 : 414pp  
Hb: 978-1-774-91806-7 : **£170**  
eBook: 978-1-003-56089-0

\* For full contents and more information, visit: [www.routledge.com/9781774918067](http://www.routledge.com/9781774918067)

## Nutraceuticals in Obesity Management and Control



*Edited by* **Raj K. Keservani, Alka Lohani**

*Series:* AAP Advances in Nutraceuticals

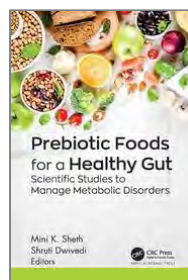
Details nutraceuticals that can help control and manage obesity. It clarifies key aspects of nutraceuticals that include sources, extraction, chemistry, mechanisms of action, pharmacology, bioavailability, safety, and various applications. It overviews the prevalence, complications, and current treatment regimens related to obesity. It weighs the significance of functional foods and nutraceuticals for the management of bodyweight and for alleviating obesity comorbidities. It discusses the effect of common naturally occurring nutraceutical substances, along with their mechanisms of action in controlling obesity.

Apple Academic Press  
February 2025 : 462pp  
Hb: 978-1-774-91766-4 : **£180**  
eBook: 978-1-003-55788-3

\* For full contents and more information, visit: [www.routledge.com/9781774917664](http://www.routledge.com/9781774917664)

## Prebiotic Foods for a Healthy Gut

Scientific Studies to Manage Metabolic Disorders



*Edited by* **Mini K. Sheth, Shruti Dwivedi**

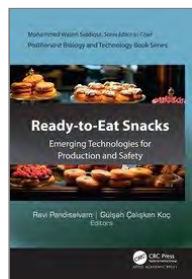
Introduces prebiotics as a food component and covers the potential of various prebiotics and their safety, their proven health implications, their mechanisms of action, and their use in day-to-day consumption. It provides an overview of highly dynamic gut molecular ecology and diversity and discusses potential factors that define a healthy gut. It also provides insight into recent developments in shaping the gut microbiota for improved human health. It covers topics including certain prebiotics as functional foods, prebiotic regulatory issues, consumer attitudes, commercialization of such prebiotic therapeutic products, etc.

Apple Academic Press  
April 2025 : 336pp  
Hb: 978-1-774-91852-4 : **£180**  
eBook: 978-1-003-56880-3

\* For full contents and more information, visit: [www.routledge.com/9781774918524](http://www.routledge.com/9781774918524)

## Ready-to-Eat Snacks

Emerging Technologies for Production and Safety



*Edited by* **Ravi Pandiselvam , Gülsah Çaliskan Koç**

Overviews latest on ready-to-eat snacks, focusing on traditional production methods as well as emerging technologies of ready-to-eat snacks, along with their disadvantages. It discusses the significance of ready-to-eat snacks and the benefits and drawbacks of conventional production techniques. It covers the uses of developing technologies for the manufacture of ready-to-eat snacks as well as the difficulties and future opportunities. It investigates how the bioactive components of ready-to-eat snacks are changed during processing. Topics cover 3D printing technology; hot-extrusion technology; roasting technology; osmotic dehydration combined with drying technology and more.

Apple Academic Press

May 2025 : 504pp

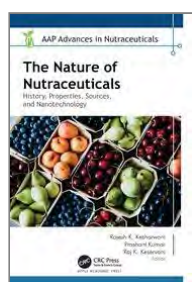
Hb: 978-1-774-91864-7 : **£170**

eBook: 978-1-003-57012-7

\* For full contents and more information, visit: [www.routledge.com/9781774918647](http://www.routledge.com/9781774918647)

## The Nature of Nutraceuticals

History, Properties, Sources, and Nanotechnology



*Edited by* **Rajesh K. Kesharwani , Prashant Kumar , Raj K. Keservani**

*Series: AAP Advances in Nutraceuticals*

Provides an overview of the health benefits of various natural sources such as fruits, vegetables, herbs, and spices. It covers multiple topics, including the history of nutraceuticals, their advantages and disadvantages, and the various nutrients found in natural food sources. It also details on how to incorporate nutraceuticals into a healthy diet and helpful tips on identifying and purchasing nutraceuticals. It examines the current state of nutraceuticals, including their development and use in the medical and commercial fields, nanotechnology-based nutraceuticals, and the use of nanoparticulate delivery system in nutraceuticals.

Apple Academic Press

March 2025 : 488pp

Hb: 978-1-774-91702-2 : **£200**

eBook: 978-1-003-51896-9

\* For full contents and more information, visit: [www.routledge.com/9781774917022](http://www.routledge.com/9781774917022)

## Yoga and Meditation

Past and Present Evidence



*Edited by* **Sachi Nandan Mohanty , Rabindra Kumar Pradhan , Sugyanta Priyadarshini**

Provides insight into the perennial bliss of practicing yoga on body, mind, and spirit. It emphasizes how physical, mental, spiritual, and social health can be improvised by practicing yoga diligently. It details the beneficial effects of yoga for improvising certain medical conditions like polycystic ovarian syndrome and diabetes, and for, in general, its ability to improve quality of life. It explores the benefits of practicing yoga on social life and humanity, discussing the impact of yoga on the socioemotional development and focusing on notions of happiness.

Apple Academic Press

April 2025 : 358pp

Pb: 978-1-774-91835-7 : **£82.99**

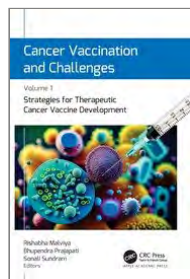
Hb: 978-1-774-91834-0 : **£130**

eBook: 978-1-003-56830-8

\* For full contents and more information, visit: [www.routledge.com/9781774918357](http://www.routledge.com/9781774918357)

## Cancer Vaccination and Challenges

Volume 1: Strategies for Therapeutic Cancer Vaccine Development



*Edited by* **Rishabha Malviya , Bhupendra Prajapati , Sonali Sundram**

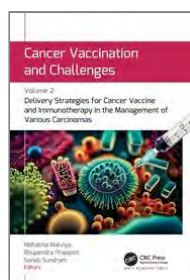
Deals with the very relevant issue of cancer vaccines and the various challenges their development and delivery present. It deals with different strategies of cancer vaccine development. The primary focus of this volume is the techniques for the development of therapeutic cancer vaccines. It helps clarify the current need for vaccines in cancer treatment, exploring deeper information such as the roles of tumor antigens, proteins/peptides, microbial genes, and stem cells for the development of vaccines for cancer management. The volume also provides latest insights on DNA- and RNA-based cancer vaccines.

Apple Academic Press  
November 2024 : 416pp  
Hb: 978-1-774-91674-2 : **£180**  
eBook: 978-1-003-50171-8

\* For full contents and more information, visit: [www.routledge.com/9781774916742](http://www.routledge.com/9781774916742)

## Cancer Vaccination and Challenges

Volume 2: Delivery Strategies for Cancer Vaccine and Immunotherapy in the Management of Various Carcinomas



*Edited by* **Rishabha Malviya , Bhupendra Prajapati , Sonali Sundram**

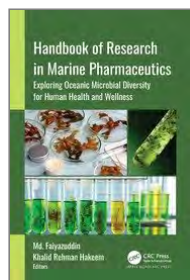
Presents an understanding of delivery strategies of cancer vaccines for the management of various forms of carcinoma. It discusses the management of various carcinomas using vaccines, examining the prospects of delivering immunology therapies, focusing specifically on the affective drug delivery strategies for treatment of lung, prostate, and pancreatic carcinomas. It overviews the current vaccine systems, adjuvants, and delivery methods that are being explored or have been approved. It also focuses on therapeutic cancer vaccines that could be used to prevent the spread of advanced malignancies that are resistant to standard treatments.

Apple Academic Press  
November 2024 : 390pp  
Hb: 978-1-774-91676-6 : **£180**  
eBook: 978-1-003-50307-1

\* For full contents and more information, visit: [www.routledge.com/9781774916766](http://www.routledge.com/9781774916766)

## Handbook of Research in Marine Pharmaceutics

Exploring Oceanic Microbial Diversity for Human Health and Wellness



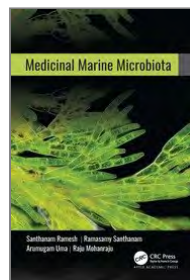
*Edited by* **Md. Faiyazuddin , Khalid Rehman Hakeem**

Presents a range of novel antibacterial, antiviral, and anticancer chemicals identified from marine sources, and their potential applications in drugs for treatment of diseases. It covers topics like the use of marine polysaccharides, marine biopolymers, algae and macroalgae, etc., in new drug development. It explores the development of cosmeceuticals and nutraceuticals from the sea as well as the medicinal qualities of cyanobacteria for drug delivery and development. It details chemical characteristics helpful in identifying new uses of marine natural products for new drugs.

Apple Academic Press  
February 2025 : 678pp  
Hb: 978-1-774-91742-8 : **£216**  
eBook: 978-1-003-53740-3

\* For full contents and more information, visit: [www.routledge.com/9781774917428](http://www.routledge.com/9781774917428)

## Medicinal Marine Microbiota



*Edited by* **Santhanam Ramesh , Ramasamy Santhanam , Arumugam Uma**

Presents a comprehensive take on the topic of medically important marine microbiota, exploring medicinal compounds of marine microalgae, bacteria, and fungi associated with marine plants and animals. First of its kind, it combines the fields of marine biopharmacy, marine microbiology, and marine biology. The chapters cover each type of medicinal microbiota in depth. It introduces marine microbiota, followed by details on the toxins of marine microalgae and their potential therapeutic applications. It then covers medicinal marine microalgae and their compounds and bioactivities, medicinal bacteria and medicinal fungi associated with marine plants and animals.

Apple Academic Press  
December 2024 : 546pp  
Hb: 978-1-774-91640-7 : **£120**  
eBook: 978-1-003-50496-2

\* For full contents and more information, visit: [www.routledge.com/9781774916407](http://www.routledge.com/9781774916407)

## Neuro-Nutraceuticals and Drug Discovery and Delivery in Alzheimer's Disease

2-volume set



*Edited by* **Varinder Singh , Amit Kumar , Parul Sood**

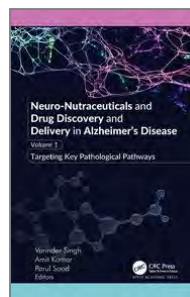
Represents a collective effort to delve into the potential of nature's pharmacopeia against Alzheimer's disease. It provides essential insights into the disease and potential therapeutic interventions covering pathophysiology and diagnosis, and more. It offers a comprehensive exploration into the cutting-edge strategies for the pursuit of effective Alzheimer's management. It explores nutraceuticals, and provides insights into their mechanisms, efficacy, and potential integration into holistic Alzheimer's management strategies. Together, these volumes reflect the current state of knowledge and pave the way for future exploration in the field.

Apple Academic Press  
April 2025 : 696pp  
Hb: 978-1-774-91844-9 : **£315**

\* For full contents and more information, visit: [www.routledge.com/9781774918449](http://www.routledge.com/9781774918449)

## Neuro-Nutraceuticals and Drug Discovery and Delivery in Alzheimer's Disease

Volume 1: Targeting Key Pathological Pathways



*Edited by* **Varinder Singh , Amit Kumar , Parul Sood**

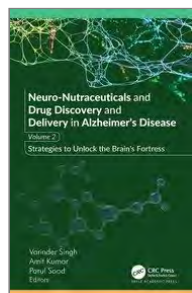
Details the underlying pathological, biochemical, molecular, and genetic aspects of Alzheimer's disease. It provides essential insights into the disease and serves as a springboard for the subsequent discussions on potential therapeutic interventions. Chapters cover pathophysiology and diagnosis, the connection of gut microbiome and Alzheimer's disease, drug-induced Alzheimer's disease, and more. It explores various medicinal plants and their secondary metabolites that show promise in treating the condition. Covered are the role of diet, micronutrients, and macronutrients in managing Alzheimer's disease.

Apple Academic Press  
April 2025 : 374pp  
Hb: 978-1-774-91942-2 : **£170**  
eBook: 978-1-003-57035-6

\* For full contents and more information, visit: [www.routledge.com/9781774919422](http://www.routledge.com/9781774919422)

## Neuro-Nutraceuticals and Drug Discovery and Delivery in Alzheimer's Disease

Volume 2: Strategies to Unlock the Brain's Fortress



*Edited by* **Varinder Singh, Amit Kumar, Parul Sood**

Offers a comprehensive exploration on the latest strategies for the pursuit of effective Alzheimer's management. It explores nutraceuticals and their pivotal role in managing Alzheimer's disease. It discusses natural antioxidant therapeutics, natural steroidal phytopharmaceuticals and Terpenes (aromatic compounds found in many plants), anti-apoptotic natural products, polysaccharides, neuro-protective role of vitamin D, non-flavonoidal agents for the effective treatment of Alzheimer's. Recent developments and advancements in the delivery of nutraceuticals are explored as well, looking at nanotechnology and advanced drug delivery systems.

Apple Academic Press  
April 2025 : 322pp  
Hb: 978-1-774-91944-6 : £170

\* For full contents and more information, visit: [www.routledge.com/9781774919446](http://www.routledge.com/9781774919446)

## Novel Drug Delivery Systems in the Management of Chronic Diseases



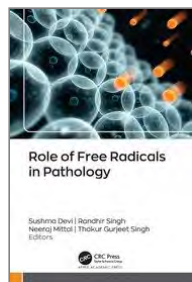
*Edited by* **Raj K. Keservani, Umesh D. Laddha, Eknath D. Ahire, Sanjay J. Kshirsagar**

Covers recent trends of NDDS highlighting the most frequently occurring chronic diseases. It details recent developments in research on drug delivery systems and addresses many problems arising as a result of conventional approaches. It covers the fundamental aspects of chronic diseases in conjunction with NDDS, detailing the usefulness of NDDS in the management of chronic diseases and outlining materials that can help prepare NDDS with desired properties. It looks at NDDS applications for central nervous system (CNS) diseases, including Alzheimer's and Parkinson's, diabetes, asthma and respiratory complications, diabetic retinopathy and also herbal drug delivery.

Apple Academic Press  
November 2024 : 430pp  
Hb: 978-1-774-91586-8 : £170  
eBook: 978-1-032-65488-1

\* For full contents and more information, visit: [www.routledge.com/9781774915868](http://www.routledge.com/9781774915868)

## Role of Free Radicals in Pathology



*Edited by* **Sushma Devi, Randhir Singh, Neeraj Mittal, Thakur Gurjeet Singh**

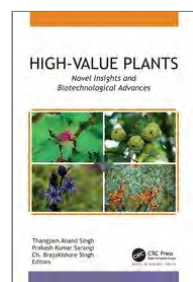
Describes the role of free radicals and their deleterious impact on human health. This comprehensive book helps to bridge the gap between scientific research and its applicability, offering a deep understanding of the molecular and cellular processes involved in disease progression. It examines different diseases that are caused by deleterious free radicals. It unravels the origin of free radicals and their intricate relationship with vital biomolecules. It uncovers their role in the pathology of conditions such as cancer, cardiovascular disorders, neurodegenerative diseases, diabetes, stroke, and others.

Apple Academic Press  
April 2025 : 674pp  
Hb: 978-1-774-91798-5 : £200

\* For full contents and more information, visit: [www.routledge.com/9781774917985](http://www.routledge.com/9781774917985)

## High-Value Plants

Novel Insights and Biotechnological Advances



*Edited by* **Thangjam Anand Singh , Prakash Kumar Sarangi , Ch. Brajakishore Singh**

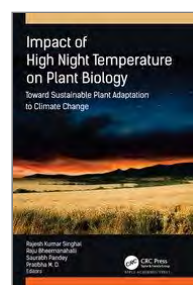
High-value crops are non-staple plants that give much higher return per unit area than staple crops. This volume explores the biotechnological applications for the unique high-value crops in response to the impending high-value agriculture revolution. It discusses traditional knowledge, nutritional value, phytochemical activity, value addition quality, and postharvest management of some select unique high-value crops, including black ginger, bastard oleaster, Swertia chirayita, Garcinia, Parkia timoriana (or tree bean), King chili, Chenopodium (or goosefoots), sea buckthorn, broom grass, lichens, and others.

Apple Academic Press  
November 2024 : 284pp  
Hb: 978-1-774-91474-8 : **£150**  
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## Impact of High Night Temperature on Plant Biology

Toward Sustainable Plant Adaptation to Climate Change



*Edited by* **Rajesh Kumar Singhal , Raju Bheemanahalli , Saurabh Pandey , M.D. Pratibha**

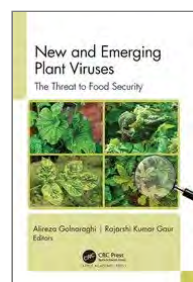
Provides a comprehensive understanding of the physiology of night-time warming, trait responses, advanced tools for phenotyping, and alleviation and mitigation strategies. It discusses HNT by starting with an introduction, responsible factors, and its effect on plant growth and development and then goes on to cover the impact of HNT on plant metabolism and crucial plant processes with reproductive stage effects. It focuses on advancing technologies and approaches that involve breeding, omics, transgenics, and bioengineering of metabolic pathways in unique ways, which aim to help develop climate-resilient crops under HNT.

Apple Academic Press  
December 2024 : 234pp  
Hb: 978-1-774-91733-6 : **£120**  
eBook: 978-1-003-50341-5

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## New and Emerging Plant Viruses

The Threat to Food Security



*Edited by* **Alireza Golnaraghi , Rajarshi Kumar Gaur**

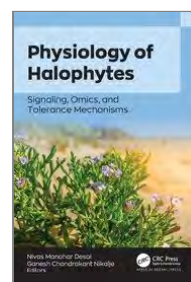
Reviews the progress made and the challenges ahead in the field of plant viruses and agricultural production. It sheds light on previously undiscovered plant viruses, bringing together information on the detection and tracking, host interaction, evolution, and management. It comprehensively covers plant viruses, focusing on their diversity and pathogenic expressions. It covers the various hidden sources of plant viruses such as from wild plants, weeds, and tobacco as well as other undetermined plant virus sources. It also looks at the implications of mixed infection on disease pathogenicity and epidemiology along with an overview of plant viruses.

Apple Academic Press  
December 2024 : 380pp  
Hb: 978-1-774-91658-2 : **£170**  
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## Physiology of Halophytes

Signaling, Omics, and Tolerance Mechanisms



*Edited by* **Nivas Manohar Desai , Ganesh Chandrakant Nikalje**

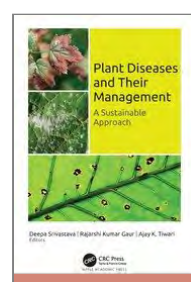
Provides scientific knowledge and expertise on the mechanisms of plant responses to various environmental stresses. It covers the molecular, biochemical, and physiological mechanisms behind salt tolerance on halophytes and saline adaptations. It overviews metabolomic, proteomic, and ionic adjustment and adaptive mechanisms of halophytes under salinity stress. It also focuses on the role of halophytes for sustainable, eco-friendly environmental and agricultural development. It also covers endophytes-assisted salinity tolerance in halophytes while also discussing salt signaling in halophytes.

Apple Academic Press  
March 2025 : 508pp  
Hb: 978-1-774-91735-0 : **£200**  
eBook: 978-1-003-50408-5

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## Plant Diseases and Their Management

A Sustainable Approach



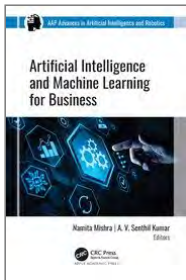
*Edited by* **Deepa Srivastava , Rajarshi Kumar Gaur , Ajay K. Tiwari**

Studies latest methods in control and management of plant diseases. It covers a range of themes on the biological, cultural, chemical, and genome engineering controls for plant diseases brought on by viruses, bacteria, phytoplasma, and fungi. It details how natural materials, organic disease control, and new-generation fungicides can be utilized to thwart plant pathogen activity. It also details methods to increase shelf life of produce, approaches to plant disease management, and molecular approaches to disease detection and identification in plants. It discusses several pathogens and their disease management.

Apple Academic Press  
December 2024 : 556pp  
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## Artificial Intelligence and Machine Learning for Business



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Demonstrates how artificial intelligence and machine learning can be used in every aspect of business and as a foundation for complex decision-making. It overviews artificial intelligence (AI) techniques that are used in business. Covering such topics as use of AI in employee training, in stock market prediction, in traffic detection, in opinion mining, in fraud detection, for retail purchase predictions, in online customer support interactions, and more. The use of AI is explored in fields such as garbage systems, agriculture, precious metals, banking, HR hiring, and so on. It provides an overview of frequently used methods, procedures, and models to control business activity.

Apple Academic Press

April 2025 : 320pp

Hb: 978-1-774-91723-7 : £150

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Research Trends and Challenges



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Blockchain-based digital twins are poised to influence and be influenced by artificial intelligence, machine learning, and the Internet of Things in integrating and implementing smart contracts across industries. This is detailed in this book, as it introduces and analyzes the challenges and opportunities, details modeling and simulation, and explores the various applications of blockchain-based digital twins. It discusses the security benefits of blockchain and analyses its use for the future of the Internet. The use of a blockchain-based digital twin model in various industries is also explored, including in the healthcare industry, agriculture industry, and mechanics.

Apple Academic Press

April 2025 : 324pp

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Showcases digital analytics (DA) as a new trend using new technologies to measure, collect, analyze, and report on data about learners and their contexts to understand and optimize learning and learning environments. It looks at digital technologies as a means to foster sustainable educational innovations for improving the teaching, learning, and assessment from K-12 to higher education. Such technological tools for quantitative and qualitative data analysis and data mining techniques as artificial intelligence, deep learning, cloud computing, big data, machine learning are discussed in the context of educational digital analytics.

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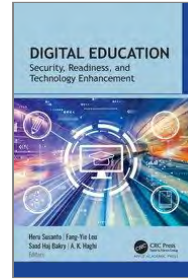
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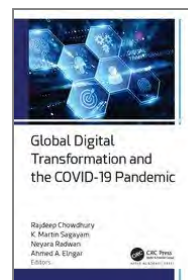
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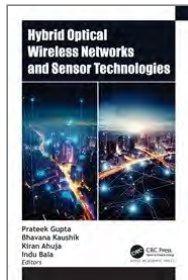
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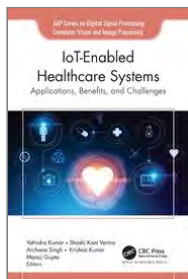
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## IoT-Enabled Healthcare Systems

Applications, Benefits, and Challenges



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Highlights the latest in IoT technology for revolutionizing current healthcare systems. It discusses the current state of healthcare systems, focusing on how IoT can make healthcare smarter and more beneficial for people. It details a range of technologies developed for improving healthcare. It proposes such technologies as medical blockchain, safety and security straps for soldiers, biosensing for bioanalyses, pesticide monitoring in humans, and more. It also discusses how the cloud platform can be used for health monitoring systems and the applications of IoT for cancer.

Apple Academic Press

December 2024 : 256pp

Hb: 978-1-774-91684-1 : £140

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## Leveraging Artificial Intelligence (AI) Competencies for Next-Generation Cybersecurity Solutions



*Edited by* **Pethuru Raj , B. Sundaravadivazhagan , V. Kavitha**

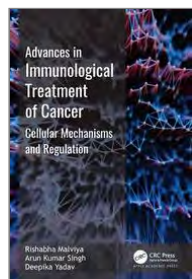
Describes the various types of cybersecurity problems faced by businesses and how advanced AI algorithms and models can help eliminate them. It discusses how AI can contribute in attack prediction and in formulation of prescription strategies in response to these attacks. It also conceptualizes how AI can battle bots that are a serious cybersecurity issue. It also details other security uses of AI, including facilitating cyber resilience, guaranteeing endpoint protection, etc, highlighting many new and emerging AI technologies and approaches that can be harnessed to combat cyberattacks, including big data analytics techniques, cloud computer networks etc.

Apple Academic Press  
November 2024 : 580pp  
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## Advances in Immunological Treatment of Cancer

Cellular Mechanism and Regulations



*Edited by* **Rishabha Malviya , Arun Kumar Singh , Deepika Yadav**

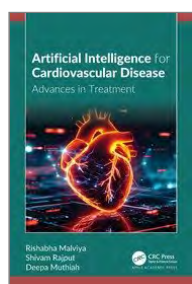
Provides an overview of cancer immunology and immunotherapy. It explores the cutting-edge research behind cancer's driving mechanism of immune suppression, as well as some cutting-edge therapeutic approaches to combating cancer. It offers novel approaches to cancer therapy with a special emphasis on the emerging new principles of immune suppression that drive the disease. Further, the book explains the fundamental principles of immune suppression that are driving research in this area. It also shows that conventional chemotherapeutic drugs and molecularly targeted therapeutics can both have significant anti-tumor effects in animal models.

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December 2024 : 250pp  
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## Artificial Intelligence for Cardiovascular Disease

Advances in Treatment



**Rishabha Malviya , Shivam Rajput , Deepa Muthiah**

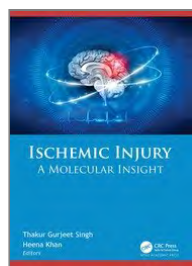
Details use of nanoparticles as nanofertilizers and their prospective applications in agricultural science, including their use in minimizing the consequences of climate change, enhancing nutrient utilization efficiency, and achieving abiotic stress management. It summarizes the importance of nanotechnology in abiotic stress tolerance in crop plants, presenting the latest research on the application of nanotechnology in agriculture crop production, its various applications in crop growth enhancement under different abiotic stress conditions, and the uses of various nanoparticles in agricultural fields for better yield and productivity.

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## Ischemic Injury

A Molecular Insight



*Edited by* **Thakur Gurjeet Singh , Heena Khan**

Details studies on ischemic injury, emphasising the molecular-level mechanisms and the role of signaling pathways in the body, their structure, and their mechanism of action. It explains research on new therapeutic molecules to combat this life-threatening disease, reviewing significant etiologies of ischemic and hemorrhagic stroke in detail. It discusses stroke occurrence at different stages of life, the COVID-19 pandemic, treatment and diagnosis of patients with cardiovascular events, effect of stroke in daily life and complications from stroke.

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November 2024 : 564pp  
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|                                                                                                  |  |                                                                                                               |                                                                                                          |                                                                                                                          |
|--------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>5.</b> .....                                                                                  |  | Engineering Design and Technical Applications of Physical Science . . . . . 10                                | Neuro-Nutraceuticals and Drug Discovery and Delivery in Alzheimer's Disease . . . . . 29                 | Sustainable Environmental Engineering . . . . . 14                                                                       |
| 5G Green Communication Networks for Smart Cities . . . . . 10                                    |  | Engineering Principles for Food Processing Technology and Product Realization . . . . . 16                    | Neuro-Nutraceuticals and Drug Discovery and Delivery in Alzheimer's Disease . . . . . 28                 | Sustainable Environment and Health . . . . . 14                                                                          |
| <b>A.</b> .....                                                                                  |  | <b>F.</b> .....                                                                                               | Neuro-Nutraceuticals and Drug Discovery and Delivery in Alzheimer's Disease . . . . . 28                 | Sustainable Forest Resources Management . . . . . 15                                                                     |
| Advanced Materials for Next-Generation Technologies . . . . . 22                                 |  | Fusion of Artificial Intelligence and Machine Learning in Advanced Image Processing . . . . . 11              | New Advances in Crop Disease Management . . . . . 2                                                      | Sustainable Green Nanomaterials . . . . . 23                                                                             |
| Advances in Autonomous Navigation through Intelligent Technologies . . . . . 22                  |  | <b>G.</b> .....                                                                                               | New Age Technology in Supply Chain Management . . . . . 7                                                | Sustainable Management and Conservation of Environmental Resources in India . . . . . 15                                 |
| Advances in Immunological Treatment of Cancer . . . . . 34                                       |  | Gene Therapy for Neurological Disorders . . . . . 6                                                           | New and Emerging Plant Viruses . . . . . 30                                                              | Sustainable Nanoremediation . . . . . 24                                                                                 |
| Advances in Natural Dyes for Environmental Protection . . . . . 14                               |  | Geoinformatics . . . . . 2                                                                                    | New Perspectives for Leadership after the COVID-19 Pandemic . . . . . 7                                  | Sustainable Strategic Business Infrastructure Development and Contemporary Digital Practices in Industry 5.0 . . . . . 8 |
| Advances in Organic Farming . . . . . 2                                                          |  | Global Digital Transformation and the Covid-19 Pandemic . . . . . 31                                          | Nonthermal Light-Based Technologies in Food Processing . . . . . 16                                      | Sustainable Water Engineering . . . . . 10                                                                               |
| Advances in Water and Wastewater Treatment . . . . . 14                                          |  | Green Supply Chain Management . . . . . 7                                                                     | Noon . . . . . 12                                                                                        | <b>T.</b> .....                                                                                                          |
| Anthropology of Tourism . . . . . 19                                                             |  | <b>H.</b> .....                                                                                               | Novel Drug Delivery Systems in the Management of Chronic Diseases . . . . . 29                           | Technological Advancement in Clean Energy Production . . . . . 10                                                        |
| Antioxidants as Nutraceuticals . . . . . 18                                                      |  | Handbook of Research in Marine Pharmaceutics . . . . . 28                                                     | Novel Nanocarriers for Skin Diseases . . . . . 24                                                        | The Food-Energy-Water Triangle for Sustainable Development . . . . . 16                                                  |
| Applications of Artificial Intelligence in Business and Finance 5.0 . . . . . 31                 |  | Herbals as Nutraceuticals . . . . . 4                                                                         | Nutraceuticals for the Treatment and Prevention of Sexual Disorders . . . . . 25                         | The Gender Gap in White-Collar Crime . . . . . 17                                                                        |
| Artificial Intelligence and Machine Learning for Business . . . . . 31                           |  | High-Value Plants . . . . . 30                                                                                | Nutraceuticals in Arthritis and Psoriasis . . . . . 25                                                   | The Nature of Nutraceuticals . . . . . 26                                                                                |
| Artificial Intelligence for Cardiovascular Disease . . . . . 34                                  |  | Himalayan Medicinal Plants for the Treatment of Depression . . . . . 4                                        | Nutraceuticals in Cardiac Health Management . . . . . 25                                                 | <b>Y.</b> .....                                                                                                          |
| Artificial Intelligence for Chemical Sciences . . . . . 9                                        |  | Hybrid Optical Wireless Networks and Sensor Technologies . . . . . 32                                         | Nutraceuticals in Insomnia and Sleep Problems . . . . . 25                                               | Yoga and Meditation . . . . . 27                                                                                         |
| Augmenting Customer Retention Through Big Data Analytics . . . . . 21                            |  | <b>I.</b> .....                                                                                               | <b>O.</b> .....                                                                                          |                                                                                                                          |
| <b>B.</b> .....                                                                                  |  | Impact of High Night Temperature on Plant Biology . . . . . 30                                                | Optimization of Advanced Manufacturing Processes . . . . . 20                                            |                                                                                                                          |
| Bioabsorbable Polymers for Drug Carriers and Fixation Devices . . . . . 22                       |  | Intelligent Learning Paradigm and Student Empowerment . . . . . 13                                            | <b>P.</b> .....                                                                                          |                                                                                                                          |
| Bioengineered Fruit and Vegetables . . . . . 6                                                   |  | Interdisciplinary Approaches in Management Education . . . . . 13                                             | Pharma Marketing and Pharmacoeconomics . . . . . 21                                                      |                                                                                                                          |
| Biofluid Dynamics of Human Body Systems . . . . . 5                                              |  | IoT-Enabled Healthcare Systems . . . . . 32                                                                   | Physics and Mechanics of New Materials . . . . . 22                                                      |                                                                                                                          |
| Biosystems Engineering Applications for Quality Food Production . . . . . 16                     |  | Ischemic Injury . . . . . 34                                                                                  | Physiology of Halophytes . . . . . 30                                                                    |                                                                                                                          |
| Biotechnological Transformation for Sugarcane Management . . . . . 2                             |  | <b>L.</b> .....                                                                                               | Plant Diseases and Their Management . . . . . 30                                                         |                                                                                                                          |
| Blockchain-Based Digital Twins . . . . . 31                                                      |  | Leveraging Artificial Intelligence (AI) Competencies for Next-Generation Cybersecurity Solutions . . . . . 33 | Prebiotic Foods for a Healthy Gut . . . . . 25                                                           |                                                                                                                          |
| <b>C.</b> .....                                                                                  |  | <b>M.</b> .....                                                                                               | <b>R.</b> .....                                                                                          |                                                                                                                          |
| Cancer Vaccination and Challenges . . . . . 28                                                   |  | Management for Sustainable Development . . . . . 7                                                            | Ready-to-Eat Snacks . . . . . 26                                                                         |                                                                                                                          |
| Cancer Vaccination and Challenges . . . . . 28                                                   |  | Marketing Perspectives on Phygitization . . . . . 21                                                          | Resilience and Sustainability for Energy and Water . . . . . 14                                          |                                                                                                                          |
| Climate Change and Biotic Factors . . . . . 14                                                   |  | Mastering Grid Computing . . . . . 11                                                                         | Role of Free Radicals in Pathology . . . . . 29                                                          |                                                                                                                          |
| Computational Optimization, Modeling, and Simulation for Engineering Applications . . . . . 20   |  | Medicinal Marine Microbiota . . . . . 28                                                                      | <b>S.</b> .....                                                                                          |                                                                                                                          |
| Contemporary Advancements in Materials Technology . . . . . 22                                   |  | Medicinal Spices and Herbs from India . . . . . 4                                                             | Smart Mobility and Intelligent Transportation Systems for Commercial and Hazardous Vehicles . . . . . 10 |                                                                                                                          |
| Contemporary Digital Transformation and Organizational Effectiveness in Business 4.0 . . . . . 7 |  | Medicinal Spices and Herbs from India . . . . . 4                                                             | Smart Technologies in Sustainable Agriculture . . . . . 3                                                |                                                                                                                          |
| <b>D.</b> .....                                                                                  |  | Metals in Medicine . . . . . 6                                                                                | Specialty Polymers and Materials . . . . . 22                                                            |                                                                                                                          |
| Data-Driven Analytics for Healthcare . . . . . 6                                                 |  | Metals in Medicine . . . . . 6                                                                                | Subverting Social Inequalities . . . . . 17                                                              |                                                                                                                          |
| Detection and Management of New and Emerging Mystery Plant Virus Sources . . . . . 6             |  | Minor Fruits . . . . . 16                                                                                     | Sugarcane Cultivation and Management . . . . . 3                                                         |                                                                                                                          |
| Digital Analytics Applications for Sustainable Training and Education . . . . . 31               |  | <b>N.</b> .....                                                                                               | Sustainability in Energy and Environment . . . . . 23                                                    |                                                                                                                          |
| Digital Education . . . . . 31                                                                   |  | Nano-Biochar and Nanoparticles for Soil Health Improvement . . . . . 2                                        | Sustainability in Polymer Technology and Plastic Engineering . . . . . 23                                |                                                                                                                          |
| Digital Transformation in the Customer Experience . . . . . 31                                   |  | Nanomaterials and Nano-Biochar in Reducing Soil Stress . . . . . 2                                            | Sustainable Agricultural and Food Systems Engineering . . . . . 3                                        |                                                                                                                          |
| Dynamics of Heritage Management and Tourism Development . . . . . 19                             |  | Nanomedicine for Neurodegenerative Disorders . . . . . 24                                                     | Sustainable Agricultural Production Systems . . . . . 3                                                  |                                                                                                                          |
| <b>E.</b> .....                                                                                  |  | Nanotechnology for Agriculture . . . . . 24                                                                   | Sustainable Agriculture and Global Environmental Health . . . . . 3                                      |                                                                                                                          |
| Ecotourism and Sustainable Tourism . . . . . 19                                                  |  |                                                                                                               | Sustainable Engineering and Agro-Food Processing . . . . . 3                                             |                                                                                                                          |





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