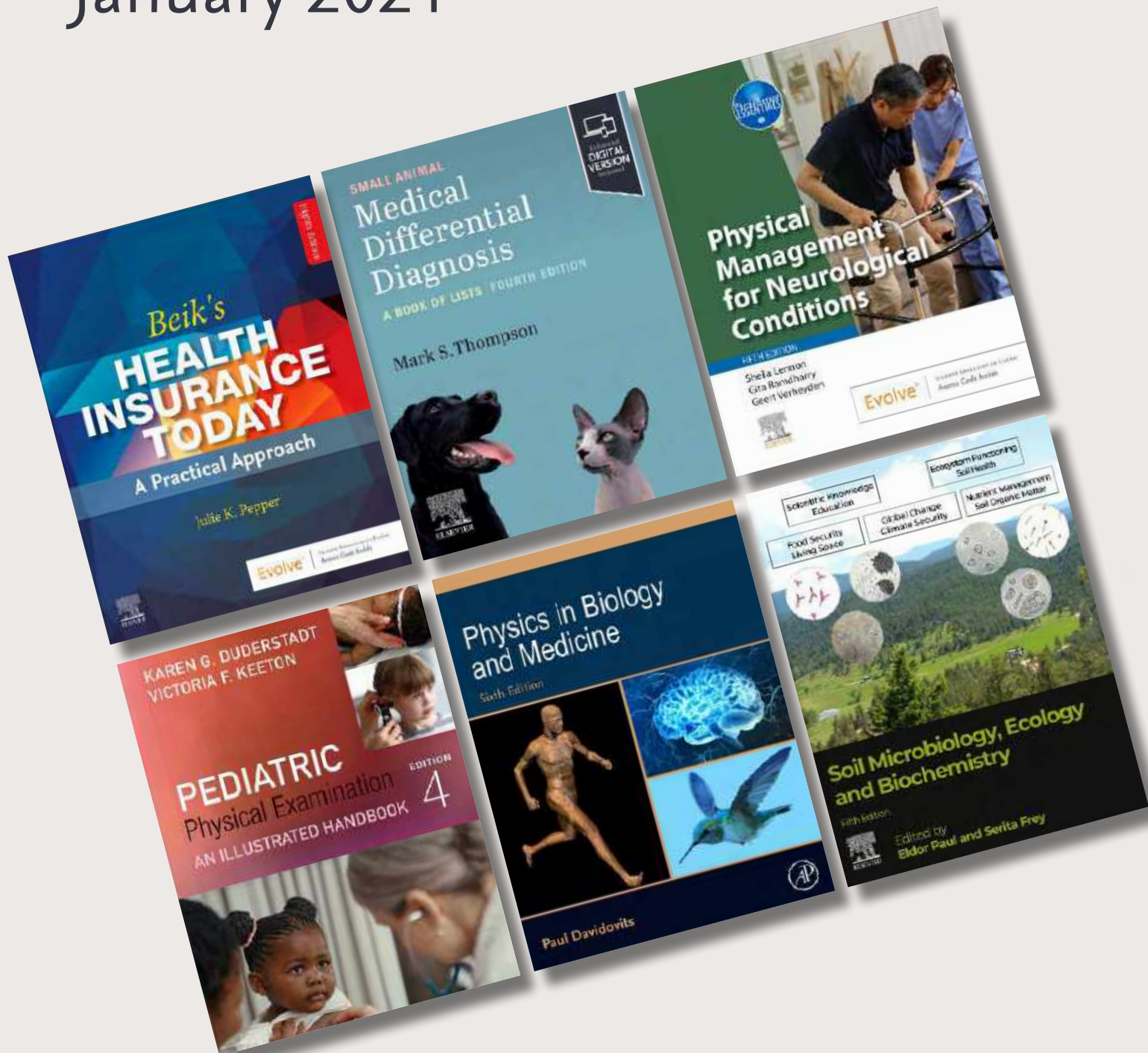


Health & Science

New Books Preview

January 2024



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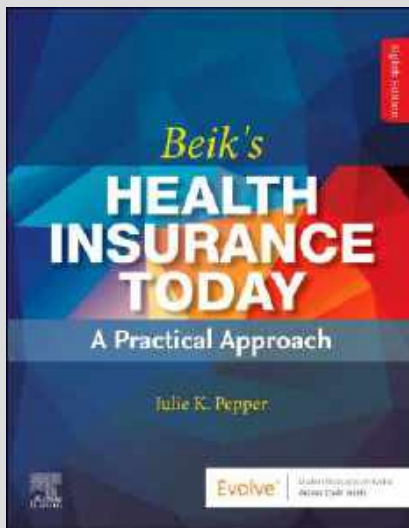
N.B. Please note prices and publication dates may be subject to change without prior notice. Late Addition titles are ones that missed the corresponding New Books Preview Month.

Support for ebook access issues

We are having some short-term difficulties with access to our new Elsevier eBooks+ platform (previously Student Consult and Expert Consult on Inkling) and to the online ancillaries accompanying Elsevier titles.

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eBooks+



Beik's Health Insurance Today, 8e

Julie Pepper, BS, CMA (AAMA), Medical Assisting Program Instructor, Health Navigator Program Director, Chippewa Valley Technical College, Eau Claire, Wisconsin

ISBN: 9780323884006
PREVIOUS ISBN: 9780323655538
PUB DATE: Jan 01, 2024
LIST PRICE: £103.99 / \$127.99 / €120.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 492
BIC CODES: MQ
THEMA CLASSIFICATION: THEMAMQ

Master the complexities of today's health insurance with this easy-to-understand guide

KEY FEATURES

- **Direct, conversational writing style** makes learning insurance and billing concepts easier.
- **Clear and attainable learning objectives**, with chapter content that follows the order of the objectives, make learning easier for students and make chapter content easier to teach for educators.
- **Learning features** include review questions, scenarios, and additional exercises to ensure comprehension, critical thought, and application to practice.
- **Hands-on practice** with a **fillable CMS-1500 form** and accompanying case studies and **unique UB-04 forms** on the companion Evolve website, ensure practicum- and job-readiness.
- **HIPAA Tips** emphasize the importance of privacy and government rules and regulations, ensuring a solid foundation in regulatory compliance.

DESCRIPTION

Master the complexities of health insurance with this easy-to-understand guide! **Beik's Health Insurance Today, 8th Edition** provides a solid foundation in basics such as the types and sources of health insurance, the submission of claims, and the ethical and legal issues surrounding insurance. It follows the claims process from billing and coding to reimbursement procedures, with realistic practice on the Evolve companion website. This edition adds up-to-date coverage of cybersecurity, COVID-19, crowdfunding for medical bills, and cost/value calculators. Making difficult concepts seem anything but, this resource prepares you for a successful career as a health insurance professional.



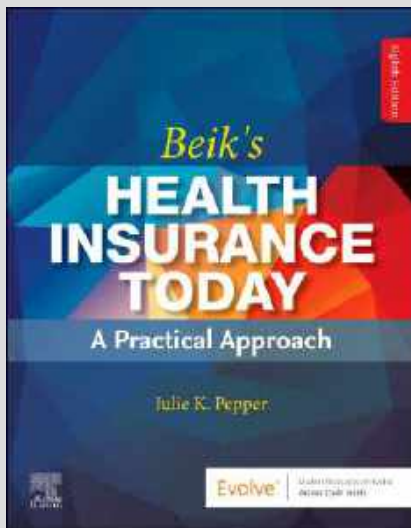
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Health Professions II (HP2) Health Information Management
<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Workbook for Beik's Health Insurance Today, 8e

Julie Pepper, BS, CMA (AAMA), Medical Assisting Program Instructor, Health Navigator Program Director, Chippewa Valley Technical College, Eau Claire, Wisconsin

ISBN: 9780323934183
 PREVIOUS ISBN: 9780323654289
 PUB DATE: Jan 01, 2024
 LIST PRICE: £41.99 / \$50.99 / €48.99
 DISCOUNT: Textbook
 FORMAT: Paperback
 TRIM: 8.50w x 10.875h
 PAGES: c. 402
 ILLUSTRATIONS: 35 illustrations
 BIC CODES: MBF
 THEMA CLASSIFICATION:
 THEMAMBF

Reinforce your understanding of health insurance concepts with this practical workbook

KEY FEATURES

- **In-class projects and discussion topics** enhance understanding of specific content from the text.
- **Performance-based activities** include hands-on, application-based learning exercises that provide practice in areas such as completing claim forms, posting payments to a patient's ledger, filling out *Release to Return to Work* forms, and filling out Medicare appeals.
- **Problem-solving and collaborative (group) activities** emphasize the importance of teamwork in the healthcare field.
- **Case studies** ask students to solve real-world problems related to health insurance, such as completing a CMS-1500 claim form or explaining how HIPAA could affect someone recently out of work.
- **Critical thinking activities** strengthen students' abilities to apply health insurance concepts to a variety of challenging situations.
- **Chapter assessments** test students' knowledge with multiple-choice, true/false, short-answer, fill-in-the-blank, and matching questions.
- **Application exercises** challenge students to apply their knowledge and skills to real-world situations.
- **Internet Exploration exercises in each chapter** help students learn how to perform and evaluate research online.
- **Defining Chapter Terms activities** prompt students to review and understand the key terms in each chapter.

DESCRIPTION

Corresponding to the chapters in *Beik's Health Insurance Today, 8th Edition*, this workbook lets you practice the skills you will need to succeed as a health insurance professional. Practical assignments reinforce the information in the text, and engaging learning activities and case studies challenge you to apply your knowledge to real-world situations. This edition adds up-to-date coverage of cybersecurity, COVID-19, crowdfunding for medical bills, and more.



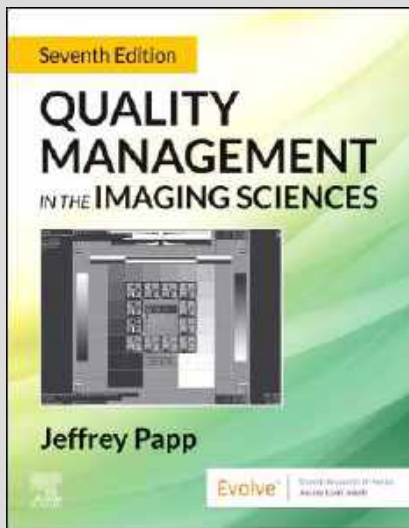
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Health Professions II (HP2) Health
 Information Management
<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Quality Management in the Imaging Sciences, 7e

Jeffrey Papp, PhD, RT(R) (QM), Professor of Physics and Diagnostic Imaging, College of DuPage, Glen Ellyn, Illinois

ISBN: 9780323832922
PREVIOUS ISBN: 9780323512374
PUB DATE: Jan 01, 2024
LIST PRICE: £70.99 / \$86.99 / €82.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 384
ILLUSTRATIONS: 400 illustrations
AUDIENCE: Radiography students (approximately 15,000 US students per year)
BIC CODES: MQH
THEMA CLASSIFICATION: THEMAMQH

Master all aspects of quality management and control in today's imaging

KEY FEATURES

- **Coverage of quality management for all imaging sciences** includes X-ray equipment, fluoroscopy, CT, MRI, sonography, and mammography.
- **Step-by-step QM procedures** include detailed instructions on how to evaluate imaging equipment, and full-sized sample documentation forms offer practice in recording results.
- **Special icon and bolded type** identify federal regulations important to quality management.
- **Learning features** include chapter outlines, learning objectives, key terms (with definitions in the glossary), lab experiments, and review questions at the end of each chapter.
- **Useful appendix** includes a review of the radiographic quality factors and a listing of agencies, organizations, and committees related to quality control and assurance.
- **Two 160-question practice exams on the Evolve website** help you prepare for the ARRT advanced certification examination in Quality Management.

DESCRIPTION

Master all aspects of quality management and control in today's imaging environment! A true one-of-a-kind text, **Quality Management in the Imaging Sciences, 7th Edition** provides the information you need to ensure that radiographic equipment operates properly and that it functions within accepted standards. Step-by-step instructions provide a guide to evaluating equipment and documenting results. Also included is coverage of the latest federal regulations, advances in technology, and current QM certification requirements. Written by physics and diagnostic imaging educator Jeffrey Papp, this resource is an excellent tool to help you prepare for the ARRT® Quality Management Advanced Level Examination.



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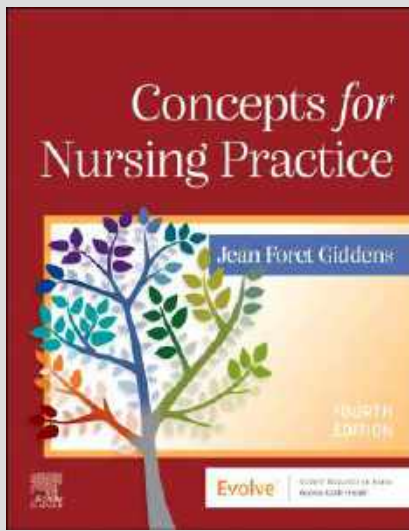


**Health Professions II (HP2)
 Rad/Imaging Technology**

<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Concepts for Nursing Practice (with eBook Access on VitalSource), 4e

Jean Foret Giddens, PhD, RN, FAAN, Robert Wood Johnson Foundation Executive Nurse Fellow, Dean and Professor, School of Nursing, Virginia Commonwealth University, Richmond, Virginia

ISBN: 9780323809825
PREVIOUS ISBN: 9780323581936
PUB DATE: Jan 19, 2024
LIST PRICE: £103.99 / \$127.99 / €120.99
DISCOUNT: Textbook
FORMAT:
TRIM: 8.50w x 10.875h
PAGES: c. 620
ILLUSTRATIONS: Approx. 320 illustrations (320 in full color)
BIC CODES:
THEMA CLASSIFICATION: THEMAMQCA

Learn a conceptual approach to nursing care and how to apply concepts to a variety of clinical settings

KEY FEATURES

- **Authoritative content written by expert contributors** and meticulously edited by concept-based curriculum (CBC) expert Jean Giddens sets the standard for the growing CBC movement.
- **Clearly defined and analyzed nursing concepts** span the areas of patient physiology, patient behavior, and the professional nursing environment.
- **Featured Exemplars sections** describe selected exemplars related to each nursing concept, covering the entire lifespan and all clinical settings, and help you assimilate concepts into practice.
- **Integrated exemplar links** connect you to concept exemplars in other purchased Elsevier nursing titles.
- **Logical framework of concepts by units and themes** helps you form immediate connections among related concepts — a key to conceptual learning.
- **Case Studies in each chapter** make it easier to apply knowledge of nursing concepts to real-world situations.
- **Interrelated Concepts illustrations** provide visual cues to understanding and help you make connections across concepts.

DESCRIPTION

Learn a conceptual approach to nursing care and how to apply concepts to a wide variety of clinical settings! **Concepts for Nursing Practice, 4th Edition** uses a straightforward, intuitive approach to describe 60 important concepts, spanning the areas of patient physiology, patient behavior, and the professional nursing environment. Exemplars identified for each concept provide useful examples and models, helping you more easily understand concepts and apply them to any clinical setting. To reinforce understanding, this text also makes connections among related concepts via ebook links to exemplars of those concepts in other Elsevier textbooks in your ebook library. New to this edition are six new concepts and a focus on related core competencies. Written by conceptual learning expert Jean Giddens, this authoritative text will help you build clinical judgment skills and prepare confidently for almost any clinical nursing situation.



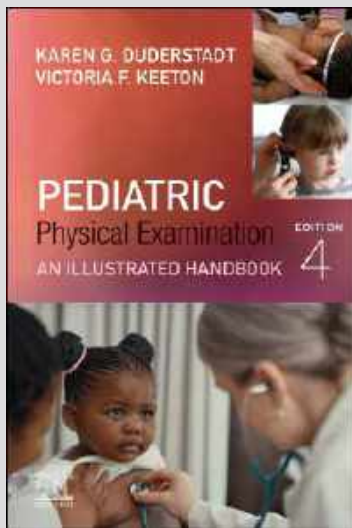
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Nursing Nursing
<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Pediatric Physical Examination, 4e

An Illustrated Handbook

Karen G. Duderstadt, PhD, RN, CPNP, FAAN, Clinical Professor and Coordinator of PNP Specialty, University of California San Francisco and **Victoria F. Keeton**, PhD, RN, CPNP-PC, CNS, Assistant Professor

ISBN: 9780323831550

PREVIOUS ISBN: 9780323476508

PUB DATE: Jan 29, 2024

LIST PRICE: £58.99 / \$71.99 / €67.99

DISCOUNT: Reference

FORMAT: Spiral bound

TRIM: 6.00w x 9.00h

PAGES: c. 374

AUDIENCE: Nurse Practitioner students in master's programs, Nurse Practitioner students in Doctor of Nursing Practice programs, Clinical Nurse Specialist students

BIC CODES: MJW

THEMA CLASSIFICATION:

THEMAMKD; THEMAMJAD

Confidently assess children of any age with this portable, photo-rich guide

KEY FEATURES

- **Expert guidance for the pediatric physical exam** employs the "quiet-to-active" approach, starting with the listening parts of the physical exam and moving on to the hands-on components, the physical assessment approach that yields the best results in the pediatric age group.
- **Quick-reference features include special tables/boxes**, such as *Information Gathering, Conditions, Pediatric Pearls, Red Flags, Interprofessional Collaboration Notes, Evidence-Based Practice, and EHR Documentation*.
- **Easy-to-use layout** provides quick access to concise guidance for the pediatric physical exam.
- **Richly illustrated, full-color format** facilitates readability and learning with more than 300 photos and line drawings of assessment techniques and common assessment findings.
- **Inclusive and ethnically diverse illustrations** better represent the diverse populations pediatric health care providers work with every day.

DESCRIPTION

Known for its accuracy, consistency, and portability, **Pediatric Physical Examination: An Illustrated Handbook, 4th Edition** teaches the unique range of skills that Nurse Practitioners and primary care providers need to assess children of all ages. Spiral-bound for quick reference in clinical settings, this photo-rich, step-by-step guide to physical examination prepares you to expertly examine children from birth through adolescence. Body system chapters begin with fetal development and take you through the key developmental stages of childhood. This edition features new sections with *Telehealth Tips* and *Considerations for Special Populations* in many chapters, as well as expanded coverage of maltreatment, mental health, and social disparities of health.



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Nursing Nursing

<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Harnessing Digital Technology and Data for Nursing Practice

Edited by : **Natasha Phillips**, Chief Nursing Information Officer for England (NHSx); **Gemma Stacey**, Director of Academy, The Florence Nightingale Foundation and **Dawn Dowling**, PhD, RN, FAAN, Chair in Clinical Decision-Making, Division of Nursing, Midwifery & Social Work, The University of Manchester, Oxford Rd, Manchester, M13 9PL, UK

ISBN: 9780443111600
PUB DATE: Jan 15, 2024
LIST PRICE: £32.99 / \$40.99 / €38.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 0
BIC CODES:
THEMA CLASSIFICATION:
 THEMAMQC

Take the lead in the digital transformation of health care

KEY FEATURES

- Written specifically for nurses and midwives – explains how you can play a central role in shaping the digital future of health care
- Provides historical, theoretical and practical perspectives – offers a sound base from which to understand the role of data technology in your work
- Covers a wide spectrum of topics, including:
 1. digital transformation of health care
 2. nursing informatics
 3. user-centred design
 4. data-driven practice
 5. person-centred care
 6. health inequalities
 7. telehealth and remote monitoring
 8. ethical and legal considerations
 9. population health
 10. research
- Provides practical insights and case studies to help you apply digital technologies in practice
- Acknowledges the challenges in adopting digital health, and stresses the importance of digital literacy and nurse involvement in the design and implementation of digital solutions

DESCRIPTION

As new technologies and data become essential for the delivery of optimal care, nurses and midwives will play an increasingly vital role in developing and implementing digital health strategies. This timely book is designed to help you develop proficiency and confidence to lead this digital transformation.

Harnessing Digital Technology and Data for Nursing and Midwifery Practice provides comprehensive coverage of the historical, theoretical and practical dimensions of the digital transformation in nursing. It considers a wide range of topics, from person-centered practice and user-centered design to nursing workforce development, evolving nursing practices, and the role of data in improving patient care and research. Expert insights are supported by learning activities and real-life case studies, with application of theory to practice throughout.



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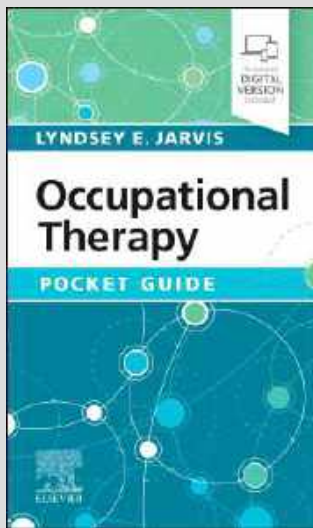


Nursing UK Post - Registration

<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Occupational Therapy Pocket Guide

Lyndsey Jarvis, OTR/L

ISBN: 9780323935005
PUB DATE: Jan 01, 2024
LIST PRICE: £43.99 / \$59.99 / €50.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 4.38w x 7.38h
PAGES: c. 230
BIC CODES: MQT
THEMA CLASSIFICATION:
THEMAMQT

The quick, easy-to-use guide to clinical OT information

KEY FEATURES

- **Concise coverage** provides a quick yet thorough overview of each OT topic
- **Logical organization** includes six separate sections: *Assessment, Conditions, Additional Intervention, Education, Documentation, and Reference Tools*.
- **eBook version** is included with print purchase. The eBook allows you to access all of the text, figures, and references, with the ability to search, customize your content, make notes and highlights, and have content read aloud.

DESCRIPTION

Put essential OT information at your fingertips! **Occupational Therapy Pocket Guide** provides a quick reference that's ideal for use in the clinical setting. From evaluation and assessment through diagnoses and interventions, this handbook summarizes the details you need to know for safe, effective client rehabilitation. It also includes normal ranges for vitals and laboratory tests. Written by experienced occupational therapist Lyndsey Jarvis, this compact clinical reference makes lookup easy and helps you perform OT tasks and skills with confidence.



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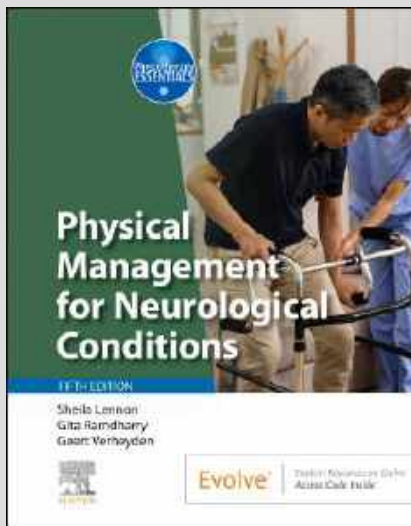


**Health Professions I (HP1)
Occupational Therapy**

<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Physical Management for Neurological Conditions, 5e

Edited by : **Sheila Lennon**, PhD MSc BSc FCSP, Emeritus Professor of Physiotherapy, College of Nursing and Health Sciences, Flinders University of South Australia, Adelaide,; **Gita Ramdharry**, BSc (Hons) PG Cert, MSc, PhD, Associate Professor, Faculty of Health, Social Care and Education, Kingston University and St George's, University of London; Consultant Allied Health Professional, Queen Square Centre for Neuromuscular Diseases, The National Hospital for Neurology and Neurosurgery, University College London NHS Foundation Trust, London and **Geert Verheyden**, PhD, Associate Professor, Department of Rehabilitation Sciences, KU Leuven, University of Leuven, Leuven

ISBN: 9780323881326
PREVIOUS ISBN: 9780702071744
PUB DATE: Jan 01, 2024
LIST PRICE: £42.99 / \$53.99 / €50.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 592
AUDIENCE: Physiotherapy students, physiotherapy lecturers
BIC CODES: MQV, MQT, MQS
THEMA CLASSIFICATION: THEMAMQS

Comprehensive and handy reference guide for physios

A Volume in the *Physiotherapy Essentials* Series

KEY FEATURES

- Fully updated to provide comprehensive information on optimal physical management within movement limitations suitable for any health care context or environment
- Using international case studies to apply theory to clinical practice
- Easy to navigate and understand – for students, new graduates and therapists returning to practice or changing scope of practice.

DESCRIPTION

Physical Management for Neurological Conditions comprehensively covers the essentials of neurorehabilitation starting with thirteen guiding principles, and a new chapter on clinical reasoning and assessment. It discusses the physical management of common neurological conditions such as stroke, traumatic brain injury, spinal cord injury, multiple sclerosis and Parkinson's followed by less common conditions such as inherited neurological conditions, motor neuron disease, polyneuropathies and muscle disorders.

Produced by a team of international editors and experts, this fifth edition is the most up-to-date evidence-based textbook available for undergraduate students and qualified health professionals alike, focusing on selecting appropriate evidence-based tools rather than subscribing to any specific treatment approaches. It is a core physiotherapy textbook designed to provide students with everything they need to pass the neurological component of their degree.



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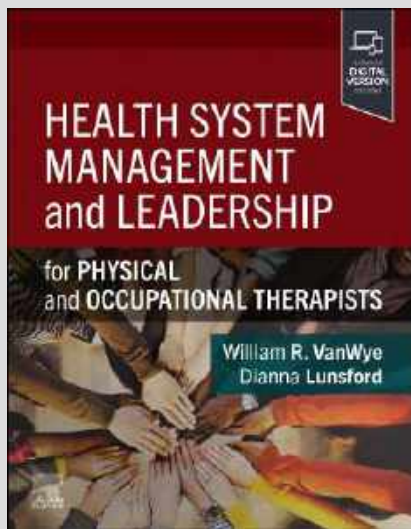


Health Professions I (HP1) UK
 Physical Therapy

<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Health System Management and Leadership

for Physical and Occupational Therapists

William R. Vanwye, PT, DPT, PhD, Board-Certified Clinical Specialist in Cardiovascular and Pulmonary Physical Therapy, Associate Professor, Florida Southern College, School of Physical Therapy, 111 Lake Hollingsworth Drive, Lakeland, FL 33801 and **Dianna Lunsford**, OTD M.Ed. OTRL CHT

ISBN: 9780323883849
PUB DATE: Jan 01, 2024
LIST PRICE: £64.99 / \$79.99 / €75.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 378
AUDIENCE: Physical Therapy (DPT) students 256 accredited programs; 11 developing programs 34,202 students enrolled Occupational Therapy students Doctor of Occupational Therapy (DOT) 36 accredited programs (46 candidate, 90 applicant) 3,901 students enrolled Master of Occupational Therapy (MOT) 127 accredited programs (12 candidate, 19 applicant) 18,743 students enrolled
BIC CODES: MQS
THEMA CLASSIFICATION: THEMAMQS

Prepare to be an effective physical or occupational therapy professional with skills in healthcare leadership, management, and policy

KEY FEATURES

- **Objectives and Key Terms at the beginning of each chapter** guide your study and ensure that you understand important concepts and terminology.
- **Chapter Summaries** review the key content in each chapter.
- **Figures with discussion prompts and key points** are provided throughout the text.
- **An eBook version is included with print purchase.** The eBook allows you to access all of the text, figures and references, with the ability to search, customize your content, make notes and highlights, and have content read aloud.

DESCRIPTION

Prepare to be a more effective physical or occupational therapy professional by learning skills in healthcare leadership, management, and policy! **Health System Management and Leadership for Physical and Occupational Therapists** provides a guide to essential topics such as health legislation, current issues in health care, professionalism, proposal and grant writing, business administration, quality assurance, insurance and billing, and managing a therapy practice in a variety of care settings. Written by a team of expert contributors led by physical and occupational therapy educators, William R. VanWye and Dianna Lunsford, this resource helps readers become well-informed and knowledgeable physical and occupational therapy professionals.



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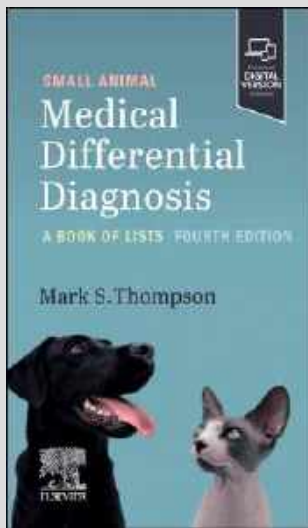


Health Professions I (HP1) Physical Therapy

<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Small Animal Medical Differential Diagnosis, 4e

A Book of Lists

Mark Thompson, DVM, DABVP(Canine and Feline), Brevard Animal Hospital, Brevard, North Carolina.

ISBN: 9780323875905

PREVIOUS ISBN: 9780323498302

PUB DATE: Jan 16, 2024

LIST PRICE: £48.99 / \$66.99 / €56.99

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 4.38w x 7.38h

PAGES: c. 426

AUDIENCE: Small and mixed animal practitioners (90,000)

BIC CODES: MZC

THEMA CLASSIFICATION:
THEMAMZC

DESCRIPTION

Get instant access to the critical data you need to make accurate diagnoses and effectively plan treatment. **Small Animal Medical Differential Diagnosis, 4th Edition** combines over 400 expert resources and boils them down into one easy-to-use reference covering the differential diagnosis, etiology, clinical signs, and relevant laboratory abnormalities of the most common conditions you will encounter in dogs and cats. And because of its pocket size and intuitive organization, you can have it on hand as a quick consultative device throughout the day to make reliable on-the-scene decisions.



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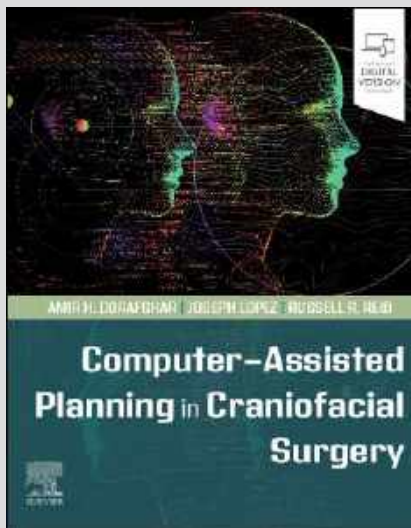


Health Professions I (HP1)
Veterinary Medicine

<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Computer-Assisted Planning in Craniofacial Surgery

Amir H Dorafshar, MBChB, FACS, FAAP, The John W. Curtain, MD, Chair of Plastic and Reconstructive Surgery, Professor of Surgery and Neurological Surgery, Rush University Medical Center, Chicago, Illinois; **Joseph Lopez**, MD and **Russell R. Reid**, MD, PhD, Bernard G. Sarnat Professor of Surgery and Craniofacial Research, Director of Cleft and Craniofacial Services, Residency Program Director, Section of Plastic Surgery, The University of Chicago Medicine & Biological Science, Chicago, Illinois

ISBN: 9780323826686

PUB DATE: Jan 12, 2024

LIST PRICE: £118.99 / \$146.99 / €138.99

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.25w x 10.25h

PAGES: c. 224

AUDIENCE: Plastic and Reconstructive Surgery; Craniofacial Surgery

BIC CODES: MJP

THEMA CLASSIFICATION:

THEMAMNP

A first-of-its-kind, comprehensive reference for the entire field of craniofacial surgery

KEY FEATURES

- Follows a standard format in each chapter: history of the topic, current literature and applications, key steps and techniques of virtual planning and navigation (with video), and pearls/pitfalls shared by a master surgeon with expertise in each particular area.
- Includes preoperative photographs and postoperative results, radiological and computerized imaging, and clinical photos throughout.
- Covers potential complications to be aware of in the postoperative period.
- Offers expert perspectives on computer-assisted planning from surgeons, physicists, engineers, and other industry leaders.
- An eBook version is included with purchase. The eBook allows you to access all of the text, figures and references, with the ability to search, customize your content, make notes and highlights, and have content read aloud.

DESCRIPTION

Recent advances in both scanning instruments and supporting software have made intraoperative 3D imaging a reality in today's plastic and reconstructive surgery. Computer-Assisted Planning in Craniofacial Surgery provides authoritative, state-of-the-art information on when and how to apply technologies such as virtual planning, stereolithography, and navigation in the practice of craniofacial surgery. This unique, clinically focused title discusses the history and evolution of current techniques, extensively covers the application of current technologies, and includes multidisciplinary perspectives throughout, providing a comprehensive, holistic view of this important topic.



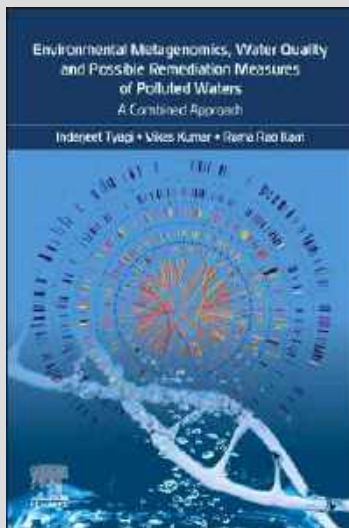
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Speciality Medicine Plastic Surgery
<https://virtuale.elsevier.com>, www.elsevier.com

Also includes resources via:





Environmental Metagenomics, Water Quality and Suggested Remediation Measures of Polluted Waters: A Combined Approach

Inderjeet Tyagi, Scientist, ZSI, Ministry of Environment Forest and Climate Change, Kolkata, India; **Vikas Kumar**, ZSI, Zoological Survey of India, Centre for DNA Taxonomy, Kolkata, India and **Rama Rao Karri**, Professor, Faculty of Engineering, University of Technology of Brunei, India

ISBN: 9780443136597

PUB DATE: Jan 01, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 335

AUDIENCE: Graduate, Postgraduate and PhD students and academics in Environmental Sciences (and Life Sciences – Applied Microbiology).

Researchers working in environmental sciences and e-DNA. Researchers working on surveillance of pathogen; sustainable anti-bacterial materials for possible remediation; bacterial and pathogenic diversity sensing. Researchers from industries that implement professional policies in respect to water, quality, remediation, and e-DNA. Researchers working in wastewater purification. Policymakers working in sustainable development goals. Scientists, engineers and professionals related to environmental sciences

BIC CODES: KCN, RN

THEMA CLASSIFICATION: THEMAKCVG; THEMATQ

Includes the latest information on environmental metagenomics of polluted areas, associated water quality, and possible remediation methods

KEY FEATURES

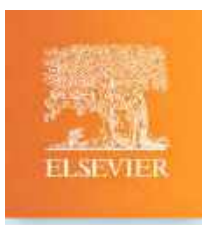
- Includes a range of applications and case studies in wetland, riverine, drinking, and groundwater metagenomics, along with approaches for the remediation of pollutants from wastewater
- Offers the latest updates on environmental metagenomics and its correlation with water environments, remediation measures, and SDGs
- Provides key contributions from global researchers in the fields of water chemistry, environmental science, engineering, and public health

DESCRIPTION

Environmental Metagenomics, Water Quality and Suggested Remediation Measures of Polluted Waters: A Combined Approach is a reference handbook for scientists, engineers and early-career researchers seeking guidance in the areas of water quality and remediation studies. The comprehensive book, which includes case studies and applications from a range of contributors in the field, offers an essential resource in the science of water quality assessment.

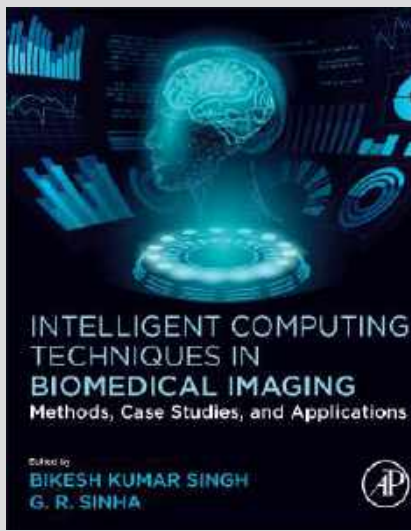


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EARTH & ENVIRONMENT

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Intelligent Computing Techniques in Biomedical Imaging

Methods, Case Studies, and Applications

Edited by : **Bikesh Kumar Singh**, Assistant Professor and Head, Department of Biomedical Engineering, National Institute of Technology Raipur, India and **G. R. Sinha**, Adjunct Professor, International Institute of Information Technology Bengaluru (IIITB), Bangalore, Karnataka, India

ISBN: 9780443159992

PUB DATE: May 01, 2024

LIST PRICE: £138.00 / \$180.00 / €160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 279

AUDIENCE: Biomedical engineers, computer scientists, and biomedical researchers with an interest in developing applied computational intelligence for medical imaging applications, researchers in Artificial Intelligence and Machine Learning, Research clinicians, clinicians, and scientists utilizing medical imaging and automation in disease detection, medical image description and representation, researchers interested in application of Artificial Intelligence in medical image analysis

BIC CODES: MQW, UYQ

THEMA CLASSIFICATION:

THEMATCB; THEMAMQW;

THEMAUYQ

Introduces basic Fourier theory and signal analysis tailored to applications in optical communication devices and systems

KEY FEATURES

- Introduces Fourier theory and signal analysis tailored to applications in optical communications devices and systems
- Provides strong theoretical background, making it a ready resource for researchers and advanced students in optical communication and optical signal processing
- Starts from basic theory and then develops descriptions of useful applications

DESCRIPTION

Intelligent Computing Techniques in Biomedical Imaging: Methods, Case Studies, and Applications provides comprehensive and state-of-the-art applications of Computational Intelligence techniques used in biomedical image analysis for disease detection and diagnosis. The book offers readers a stepwise approach from fundamental to advanced techniques using real-life medical examples and tutorials. The editors have divided the book into five sections, from prerequisites to case studies. Section I presents the prerequisites, where the reader will find fundamental concepts needed for advanced topics covered later in this book. This primarily includes a thorough introduction to Artificial Intelligence, probability theory and statistical learning. The second section covers Computational Intelligence methods for medical image acquisition and pre-processing for biomedical images. In this section, readers will find AI applied to conventional and advanced biomedical imaging modalities such as X-rays, CT scan, MRI, Mammography, Ultrasound, MR Spectroscopy, Positron Emission Tomography (PET), Ultrasound Elastography, Optical Coherence Tomography (OCT), Functional MRI, Hybrid Modalities, as well as pre-processing topics such as medical image enhancement, segmentation, and compression. Section III covers description and representation of medical images. Here the reader will find various categories of features and their relevance in different medical imaging tasks. This section also discusses feature selection techniques based on filter method, wrapper method, embedded method, and more. The fourth section covers Computational Intelligence techniques used for medical image classification, including Artificial Neural Networks, Support Vector Machines, Decision Trees, Nearest Neighbor Classifiers, Random Forest, clustering, extreme learning, Convolution Neural Networks (CNN), and Recurrent Neural Networks. This section also includes a discussion of computer aided diagnosis and performance evaluation in radiology.

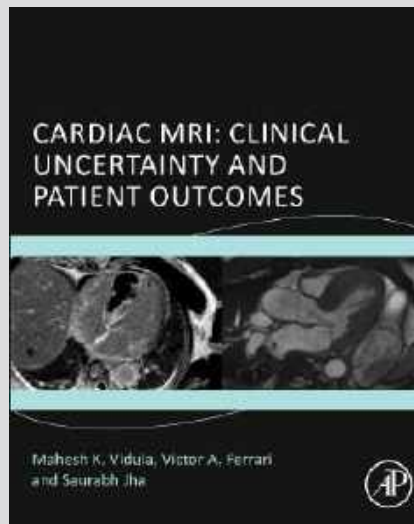


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ENGINEERING Biomedical

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Cardiac MRI

Clinical Uncertainty and Patient Outcomes

Victor Ferrari, Professor of Medicine and Radiology, Department of Medicine, Hospital of the University of Pennsylvania, PA, USA; **Saurabh Jha**, Associate Professor of Radiology, Department of Radiology, Hospital of the University of Pennsylvania, PA, USA and **Mahesh K. Vidula**, Perelman Center for Advanced Medicine, Pennsylvania, United States of America

ISBN: 9780128244425
PUB DATE: Nov 04, 2024
LIST PRICE: £118.00 / \$150.00 / €132.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 200
AUDIENCE: Cardiologists, radiologists, residents, medical students
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Comprised of a selection of cases from a leading academic center, the book combines clinical uncertainty with outcomes in a case-based approach, showcasing how Cardiac MRI can serve as a valuable tool in the diagnosis of complex cardiac pathologies and aid in the complex treatment management of patients

KEY FEATURES

- Describes the clinical uncertainty the clinician faces, guiding readers with simple and complex decision making; then discusses the findings on the CMR, showing how these findings alter clinical uncertainty and change management
- Written in a simple and easy to follow manner, the book includes over 40 original clinical cases and is organized under the diagnosis of the disease
- Suitable for both cardiologists and radiologists, elucidating how CMR can be utilized as a clinical diagnostic tool to guide management

DESCRIPTION

Cardiac MRI: Clinical Uncertainty and Patient Outcomes weaves together the essentials of clinical cardiology with advanced principles of cardiac magnetic resonance imaging. This case-based atlas reviews a variety of cases where clinical management was modified after CMR revealed an alternative diagnosis than initially suggested by clinical data. It includes over 40 clinical scenarios covering a wide spectrum of common and uncommon cardiac conditions, and how CMR can be utilized in differentiating these disease processes which often have no other method of being diagnosed. This book defines how Cardiac MRI can serve as a valuable tool in the diagnosis of complex cardiac pathologies and aid in the complex treatment management of these patients, whilst key points regarding the limitations of cardiac tests (e.g. EKG, echocardiography, stress tests, catheterization etc.) are highlighted. Additional imaging pearls regarding CMR modalities and image acquisition are also included with each case. Through this book, clinicians in both sub-specialty and primary can understand when to order a cardiac MRI for their patient and the clinical questions it can help the provider solve. The book serves as a reference tool for both cardiologists and radiologists in terms of elucidating how CMR can be utilized as a clinical diagnostic tool to guide management. Whether you take care of complex patients or interpret advanced imaging modalities, like echocardiography or Cardiac MRI, this book is for you!



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The Lung, 3e

Development, Aging and the Environment

Edited by : **Kent Pinkerton**, Professor of Pediatrics, School of Medicine, University of California, Davis, USA and **Richard Harding**, Emeritus Professor, Department of Anatomy and Developmental Biology, Monash University, Clayton, Australia

ISBN: 9780323918244

PREVIOUS ISBN: 9780127999418

PUB DATE: Mar 01, 2024

LIST PRICE: £144.00 / \$185.00 /

€165.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 8.50w x 10.875h

PAGES: c. 590

AUDIENCE: Pulmonologists,
researchers in respiratory medicine/
lung development/ lung aging / public
health, basic scientists, physicians

BIC CODES: PSC, PSA, MFG, MJL

THEMA CLASSIFICATION:

THEMAMFG; THEMAMJL;

THEMAPSC; THEMAPS;

THEMAMFC

A multifaceted examination of lung development, aging and how the environment influences these processes

KEY FEATURES

- Describes the normal processes of lung development, growth and aging
- Considers the effects of environmental contaminants in the air, water, soil and diet on lung development, growth and health
- Describes genetic factors involved in susceptibility to lung disease
- Covers respiratory health risk in children
- Includes a number of new hot topics surrounding epigenetics, climate influences on growth, development and aging, biomarkers, sex differences, wildfires, coronavirus, E-cigarette vaping, and microbiome

DESCRIPTION

The Lung: Development, Aging and the Environment, Third Edition provides an understanding of the multifaceted nature of lung development, aging and the environment influences of these processes. As an essential resource to respiratory, pulmonary and thoracic scientists and physicians, this book provides an interface between the "normal" and "disease" cluster of chapters, allowing for a natural complement. The interface between different lung diseases affecting the pediatric lung also adds a useful source for comparing how different lung diseases share key pathophysiological features. This same complementarity comes across in the logical line up of chapters dealing with the "normal" pediatric lung.

New research, including cell-based strategies for infant lung function, epigenetics and prenatal environmental exposure (including wildfires) on lung development and function are some of the important additions to this edition of this reference work.

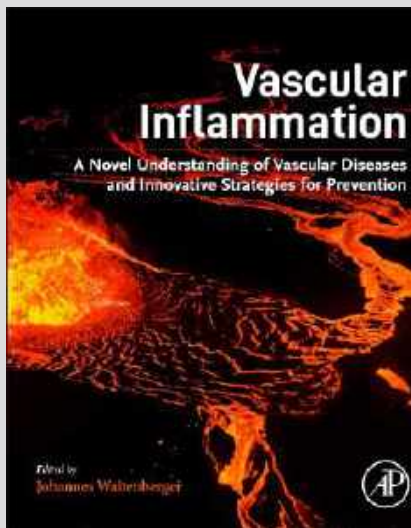


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Vascular Inflammation

A Novel Understanding of Vascular Diseases and Innovative Strategies for Prevention

Edited by : **Johannes Waltenberger**, Professor of Internal Medicine, Cardiology and Vascular Medicine, University of Muenster, Germany

ISBN: 9780323918299
PUB DATE: Sep 01, 2024
LIST PRICE: £127.00 / \$165.00 / €144.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 250
AUDIENCE: Basic scientists interested in inflammation; Immunologists; Nephrologists; Clinicians interested in atherosclerosis; Clinicians interested in prevention; Epidemiologists
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

An essential reference to understand vascular pathology, vascular development, adaptation to pathological conditions and physiological vascular function

KEY FEATURES

- Provides a comprehensive overview on vascular inflammation that explores a range of relevant topics, including its history, mechanisms, genetic basis, disease manifestations and treatment approaches
- Contains contributions from leading international authors as edited by renowned experts with broad influence in the field
- Adopts a translational approach, linking basic science to novel therapeutic applications
- Presents a cross-disciplinary approach that is suitable for readers in various specialties, including clinicians, scientists, academics, and more

DESCRIPTION

Vascular Inflammation: A Novel Understanding of Vascular Diseases and Innovative Strategies for Prevention presents a novel approach to understanding vascular function, vascular dysfunction and vascular diseases. In this title, renowned international experts provide answers with regards to the definition of vascular inflammation, explore a range of relevant aspects of the concept, along with their impact in both understanding as well as treating vascular inflammation and its consequences. Topic include history, mechanisms, genetic basis, disease manifestations and treatment approaches. This cross-disciplinary book is intended for researchers and physicians in the fields of vascular biology, immunology and atherosclerosis.

Although there is a large and growing body of evidence about the functional impact of vascular inflammation, the concept as such has never been well defined. Vascular Inflammation is key in understanding any vascular pathology, as well as vascular development and physiological vascular function.

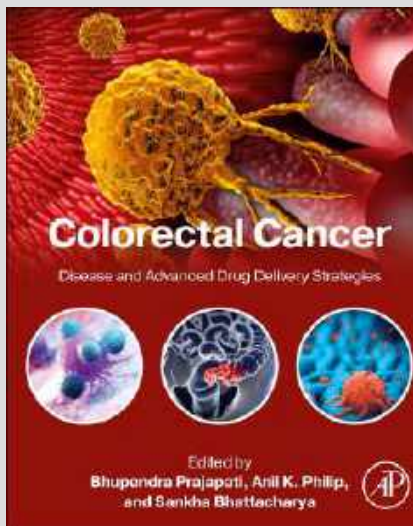


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Colorectal Cancer

Disease and Advanced Drug Delivery Strategies

Edited by : **Bhupendra Prajapati**, Mehsana-Gozaria Highway, Kherva, Ganpat Vidyanagar, Mehsana, Gujarat, India; **Anil K. Philip**, Associate Dean (Head), School of Pharmacy, University of Nizwa, Oman and **Sankha Bhattacharya**, Associate Professor, Department of Pharmaceutics, School of Pharmacy and Technology Management, SVKM'S NMIMS Deemed-to-be University, Shirpur, Maharashtra, India

ISBN: 9780443138706

PUB DATE: Jan 15, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 294

AUDIENCE: Researchers and graduate students on cancer research and bioinformatics, oncologists, Nano drug delivery systems, Pharmaceutical, Nano-material Sciences and Medical, Nursing, and other health care professionals, Clinical researchers

BIC CODES: UFL, MBF

THEMA CLASSIFICATION:

THEMAKJT; THEMAUFL

Covers tumor microenvironment, their challenges, and opportunities in colorectal cancer research

KEY FEATURES

- Provides a wealth of information on the latest research and developments in the science and treatment of colorectal cancer
- Contains new and innovative ways to treat colorectal cancer
- Reflects on basic clinical and medical methods and recent advances in colorectal cancer science
- Gives specific details about how nanoparticles can be used to target cancer cells or cancer treatment
- Covers tumor microenvironment, their challenges, and opportunities in colorectal cancer research

DESCRIPTION

Colorectal Cancer: Disease and Advanced Drug Delivery Strategies examines the combined impact of basic clinical and medical treatments as well as recent advances in the field of colorectal cancer.

With a strong focus towards colorectal cancer diagnosis, disease drug delivery, and diagnosis, the book also examines the Tumor microenvironment-responsive and site-specific nanoparticles for cancer theragnostics.

In 16 chapters *Colorectal Cancer: Disease and Advanced Drug Delivery Strategies* not only provides the opportunity to understand and diagnose the disease, but it also describes screening methods, drugs including nano- and immunotherapy, and gives insight into the role of nanoparticles, lipids, and biomarkers in colorectal cancer. Content includes clinical trials in colorectal cancer research and disease models. This book directs researchers and clinicians how to better diagnose and treat colorectal cancer.

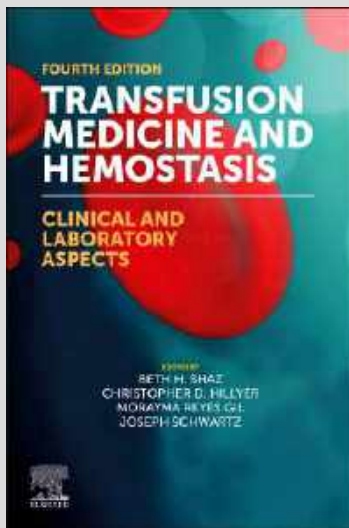


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Transfusion Medicine and Hemostasis, 4e

Clinical and Laboratory Aspects

Edited by : **Beth H. Shaz**, MD, Chief Medical and Scientific Officer and Executive Vice President, New York Blood Center and Adjunct Assistant Professor, Department of Pathology and Cell Biology, Vagelos College of Physicians and Surgeons, Columbia University, New York, NY, USA; **Christopher D. Hillyer**, MD, President and Chief Executive Officer, New York Blood Center and Professor, Department of Medicine, Weill Cornell Medical College, New York, NY, USA; **Joseph (Yossi) Schwartz**, MD, MPH, Professor of Pathology, Molecular and Cell-based Medicine, Icahn School of Medicine, Mount Sinai, NY, USA and **Morayma Reyes Gil**, Director of Hematology and Coagulation Laboratories, Montefiore Medical Center and Associate Professor, Department of Pathology and Laboratory Medicine, Albert Einstein College of Medicine, New York, NY, USA

ISBN: 9780323960144

PREVIOUS ISBN: 9780128137260

PUB DATE: May 01, 2024

LIST PRICE: £95.95 / \$195.00 / €109.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 980

AUDIENCE: Transfusion Medicine practitioners, Transfusion Medicine fellows, Pathology residents, Hematology practitioners, Hematology fellows, Laboratory personnel

BIC CODES: PSA

THEMA CLASSIFICATION: THEMPSA

A "pocket-size" handbook which offers practical clinical and laboratory information for the overlapping fields of hemostasis and transfusion medicine

KEY FEATURES

- Includes COVID-19 coagulopathy and Vaccine Induced Thrombotic Immune N94 Thrombocytopenia
- Provides all information regarding the clinical and laboratory aspects of Transfusion Medicine and Hemostasis in one place
- Presents user-friendly, up-to-date information in a book that can be carried around either to the lab or bedside

DESCRIPTION

Transfusion Medicine and Hemostasis: Clinical and Laboratory Aspects, Fourth Edition continues to be the only "pocket-size" quick reference for pathology and transfusion medicine for residents and fellows. It is helpful to all physicians and allied health professionals who order and administer blood components, cellular therapies, specialized factors for hemostatic abnormalities, coagulation testing, and those who consult and care for these often very ill patients. This book is ideal for pathology, medicine, surgery, and anesthesia residents, transfusion, hematology, and anesthesia fellows, and certified and specialized practitioners, as well as medical technologist in transfusion, cellular therapy, hematology, and coagulation. This new edition covers the many new developments that have occurred since the previous edition to include new blood products, new indications, or clinical conditions in which blood products are used. Similarly, new hemostasis testing is introduced as well as new clinical scenarios due the COVID-19 pandemic that area relevant to hemostasis and transfusion medicine. This includes COVID coagulopathy, Vaccine Induced Thrombotic Immune Thrombocytopenia, Pediatric reference range in coagulation testing, Platelet rich plasma and MNC products – CAR-T cells.

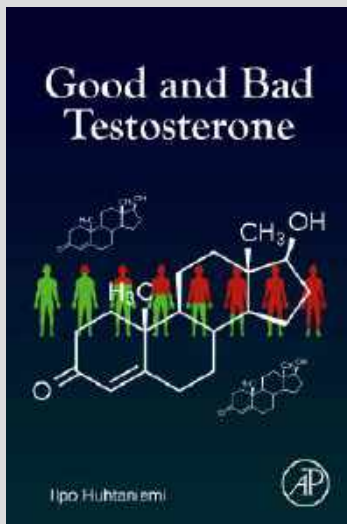


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Good and Bad Testosterone

Ilpo Huhtaniemi, Department of Metabolism, Digestion and Reproduction, Institute of Reproductive and Developmental Biology, Imperial College London, Hammersmith Hospital Campus, Du Cane Road, London, UK

ISBN: 9780443134326

PUB DATE: Jan 01, 2024

LIST PRICE: £126.00 / \$165.00 / €143.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 7.50w x 9.25h

PAGES: c. 714

AUDIENCE: Readers interested in the biological, medical, psychological and cultural aspect of the male sex/gender, sex/gender differences, and their dependence on comprehensive actions of the male sex hormone testosterone, Students of biology, medicine, psychology and nursing, sexologists, physicians of various specialties (GP, gynecology, pediatrics, urology, andrology, endocrinology)

BIC CODES: PSA

THEMA CLASSIFICATION: THEMAPS

Comprehensively covers testosterone physiology and psychology, as well its effect on the behavior of the male sex/gender

KEY FEATURES

- Discusses groundbreaking discoveries about the function of endocrine glands and hormones from the 19th century until present
- Includes information on the biology of testosterone production and its effects in women, including effects of high and low testosterone
- Presents male contraception with its successes and failures as well as future directions and strategies in the development of novel effective male contraceptives

DESCRIPTION

Testosterone takes an historical approach to understanding testosterone, bringing a comprehensive description of the functions of testosterone and its role in determining the biological, medical, psychological, behavioral, and cultural features of the male sex/gender and the male/female differences. This book is a unique reference that explains not only the biological aspects of the function of testosterone, but also the psychophysical aspects. Unlike most other hormones, testosterone not only regulates biological functions of the body, its functions are also psychological. This wide spectrum of effects influences nearly all biological and behavioral features of a male, makes testosterone particularly exciting. As sex/gender issues are of great interest for a wide readership of experts within various disciplines and specialties, including GP, gynecology, pediatrics, urology, andrology, and endocrinology, this book is an ideal reference on the topics presented.

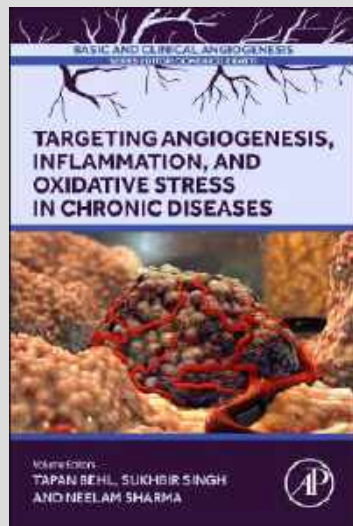


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Targeting Angiogenesis, Inflammation and Oxidative Stress in Chronic Diseases

Edited by : **Tapan Behl**, Associate Professor, School of Health Sciences and Technology, University of Petroleum and Energy Studies, Dehradun, Uttarakhand, India; **Sukhbir Singh**, Department of Pharmaceutics, MM College of Pharmacy, Maharishi Markandeshwar (Deemed to be University), Mullana-Ambala, Haryana, India and **Neelam Sharma**, Department of Pharmaceutics, MM College of Pharmacy, Maharishi Markandeshwar (Deemed to be University), Mullana-Ambala, Haryana, India

ISBN: 9780443135873
PUB DATE: Jan 01, 2024
LIST PRICE: £154.99 / \$190.00 / €180.99

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 233

AUDIENCE: Researchers, students, teachers, industry professionals and many others who are exploring novel targets, molecular pathways, and drug delivery approaches in chronic diseases. Pharmaceutical companies, pharmaceutical institutions, academic institutions, and senior academic researchers, Students/researchers working in the field of targeting molecular pathways involved in pathogenesis of chronic disease, drug discovery and drug delivery will find the book useful as the complete information gathered in the book can be adopted and endorsed

BIC CODES: PSA, UFL, MBF

THEMA CLASSIFICATION:

THEMAKJT; THEMAUFL; THEMAPS

Presents recent advances in the vivid molecular pathways targeting angiogenesis, inflammation and oxidative stress that contribute to chronic diseases

A Volume in the *BASIC AND CLINICAL ANGIOGENESIS* Series

KEY FEATURES

- Focuses on the pathogenesis of the disease, along with the molecular mechanism of action
- Includes updates on strategic design/delivery of drugs targeting angiogenesis, inflammation, and oxidative stress
- Provides recent advancements in the field of pathogenesis of chronic diseases

DESCRIPTION

Targeting Angiogenesis, Inflammation and Oxidative Stress in Chronic Diseases presents recent advances in the vivid molecular pathways targeting angiogenesis, inflammation, and oxidative stress that contribute very widely to the genesis of chronic diseases. The book highlights drugs from natural and synthetic origins in the management/prevention/treatment of diseases, along with the drug delivery approaches. The book's authors from various key institutions around the globe deliver well-structured and designed chapters. The systematic presented information and knowledge will surely aid consistency and continuity. The multifaceted book is enriched with deep scientific content. Each chapter clearly defines the facts, the emerging role of molecular pathways, and targets and focus, along with key challenges and future directions that will provide new areas for researchers to explore new targets in the domain.



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Multi-Omics Technology in Human Health and Diseases

Genomics, Epigenomics, Transcriptomics, Proteomics, Metabolomics, Radiomics, Multi-omic

Edited by : **Muzafar A. Macha**, Assistant Professor and Ramalingaswami Fellow Head of Department Watson-Crick Center for Molecular Medicine, Islamic University of Science and Technology (IUST), Awantipora, Jammu & Kashmir, Awantipora, India; **Tariq A. Masoodi**, Research Scientist, Department of Human Cancer Genomic Research, King Faisal Specialist Hospital and Research Centre, Saudi Arabia and **Ajaz A. Bhat**, Ph.D., research scientist at Sidra Medicine, Qatar.

ISBN: 9780443135958

PUB DATE: Jun 01, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 219

AUDIENCE: Basic, translational, clinical and interdisciplinary researchers, practicing pathologist/oncologists, and industrial and pharmaceutical scientists working on drug discovery/development and biomarkers, academics, graduate and postgraduate students in pathology, Cancer Biology, Genetics, Biochemistry, Molecular Biology and related disciplines

BIC CODES: MBF

THEMA CLASSIFICATION: THEMAPSAX

Provides a comprehensive understanding of multi-omics technology and its applications in understanding complex human health and disease

KEY FEATURES

- Provides a way forward in understanding complete disease etiology and prognosis
- Introduces the technology and its use for biomarker identification, drug discovery, and disease prognostication
- Discusses the tools and methods used to assist integration and interpretation of multi-omics datasets
- Introduces multi-omics databases and visualization web portals
- Provides current information on multi-omics technology in understanding this complex human pathobiology

DESCRIPTION

Multi-Omics Technology in Human Health and Diseases: Genomics, Epigenomics, Transcriptomics, Proteomics, Metabolomics, Radiomics, Multi-omic provides a way forward in understanding complete disease etiology and prognosis. This unique book gives a comprehensive understanding of multi-omics technology and its applications in understanding complex human health and disease, and not only introduces the technology, but also its use for biomarker identification, drug discovery, and disease prognostication. This is the first resource on currently utilized multiomics technology for big data interpretation, and is thus perfect for researchers, academia, students, and an industrial audience. As a comprehensive understanding of human health and diseases, particularly cancer, requires knowledge of molecular biomarkers at a multi-omics level, including genome, epigenome, transcriptome, proteome, and metabolome, which is meagerly available or highly lacking among the students and scientific researchers, this book checks all the right boxes.



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COVER IMAGE
FORTHCOMING

Clinical Research in Private Practice

Edited by : **Jason E. Pope**, Founder and CEO, Evolve Restorative Center, USA; **Timothy R. Deer**, President and CEO, The Spine and Nerve Centers of the Virginias, USA; **Steven M. Falowski**, director of Functional Neurosurgery at St. Luke's University Health Network in Bethlehem, PA and **Dawood Sayed**, Professor, University of Kansas Medical Center, USA

ISBN: 9780443137501

PUB DATE: Jun 01, 2024

LIST PRICE: £138.00 / \$175.00 /
€160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 186

AUDIENCE: Physicians, either in practice or in training, as well as research staff in practice or in training

BIC CODES: PSA

THEMA CLASSIFICATION:

THEMAPS

A step-by-step guide for private practice physicians seeking to conduct reliable research

KEY FEATURES

- Presents a step-by-step guide for private practice physicians interested in research
- Covers all aspects of integrating research from staffing, logistics, to workflow, funding and more
- Written by practicing physicians in the field of research and clinical best practices

DESCRIPTION

Clinical research is the tip of the spear for innovation and central in the development of improving safety and efficacy for patient centric care. Unfortunately, clinical research in academic practices is bogged down by inefficiency and infrequent regulatory oversight, thus leaving physicians unable to meet the clinical and research needs for driving innovation. Private practice is a valid practice cohort that can effectively, reliably, and reproducibly perform study related activities, for both FDA and non-FDA regulated studies, both industry-sponsored or investigator-initiated. *Clinical Research in Private Practice* fills a gap and provides a playbook for how to incorporate clinical research in a validated, safe, and compliant manner, allowing a needed meaningful contribution to the medical space, while concurrently maintaining fiduciary responsibility. Written for physicians by physicians.

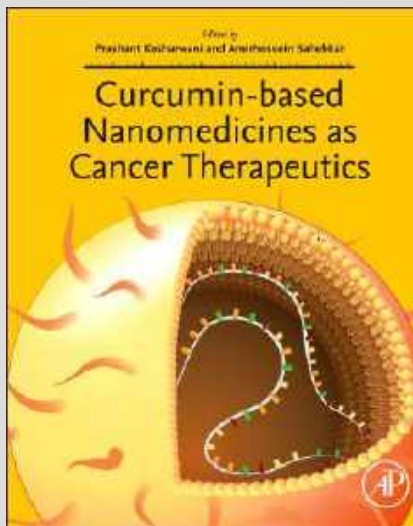


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<https://virtuale.elsevier.com>, www.elsevier.com



Curcumin-Based Nanomedicines as Cancer Therapeutics

Edited by : **Amirhossein Sahebkar**, Biotechnologist and Associate Professor of Medical Biotechnology, Mashhad University of Medical Sciences, Iran and **Prashant Kesharwani**, PhD, Assistant Professor, Department of Pharmaceutics, School of Pharmaceutical Education and Research, Jamia Hamdard, New Delhi, India

ISBN: 9780443154126

PUB DATE: Jun 01, 2024

LIST PRICE: £126.00 / \$165.00 / €143.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 465

AUDIENCE: Graduate students and researchers in cancer research and nanotechnology, Graduate students and researchers in pharmaceutical related disciplines, medical doctors, oncologists

BIC CODES: UFL, MBF

THEMA CLASSIFICATION:

THEMAKJT; THEMAUFL

Provides a holistic understanding of the structure and physicochemical attributes of curcumin-based nanomedicines for cancer therapeutics

KEY FEATURES

- Discusses the complete journey of curcumin delivery, from fundamentals to the most recent anticancer applications using nanotechnology
- Provides in-depth knowledge on novel anticancer application of nanocurcumin in biological milieu
- Presents reliable and updated information for researchers on nanocurcumin-based anticancer targeted drug delivery

DESCRIPTION

Curcumin-Based Nanomedicines as Cancer Therapeutics presents a consistent and thorough overview of nanocurcumin applications in cancer treatments. The book brings together the novel applications of nanocurcumin in biological milieu and helps readers define major gaps in knowledge that can lead to significant scientific discoveries. By providing an explicit account on vital aspects on nanocurcumin-based anticancer delivery approaches and discussing the perspectives of the technologies explored so far based upon the findings outlined, the book offers updated and in-depth knowledge on the topic in one single source written by global leading experts. In addition, the book aims to stimulate the interest of the academic researchers, industrial scientists, businessmen and young scholars to address key multidisciplinary challenges faced by nanotechnologists to foster desired collaboration among biologists, chemists, physicists, engineers, and clinicians to find proper and efficient new cancer treatments.



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Mining Biomedical Text, Images and Visual Features for Information Retrieval

Edited by : **Sujata Dash**, Department of Computer Application, Maharaja Srirama Chandra BhanjaDeo University (erstwhile North Orissa University), Baripada, Mayurbhanj, Odisha, India; **Subhendu Kumar Pani**, Department of Computer Science and Engineering, Krupajal Engineering College, Bhubaneswar, Odisha, India; **Wellington Pinheiro Dos Santos**, Professor of Biomedical Engineering, Federal University of Pernambuco, Brazil and **Jake Y Chen**, Associate Director and Chief Bioinformatics Officer of the University of Alabama-Birmingham (UAB) Informatics Institute Professor of Genetics, Computer Science, and Biomedical Engineering, and Chief of the Informatics Section of the UAB School of Medicine, Department of Genetics, Birmingham, AL, USA

ISBN: 9780443154522

PUB DATE: Jul 01, 2024

LIST PRICE: £126.00 / \$165.00 / €143.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 465

AUDIENCE: Researchers and graduate students in medical informatics/bioinformatics, Researchers and graduate students in life sciences programs

BIC CODES: MBF

THEMA CLASSIFICATION: THEMAPSAX

Provides updated information on biomedical text, images, and visual features in the health sector

KEY FEATURES

- Describes many biomedical imaging techniques to detect diseases at the cellular level i.e., image segmentation, classification, or image indexing using a variety of computational intelligence and image processing approaches
- Discusses how data mining techniques can be used for noise diminution and filtering MRI, EEG, MEG, fMRI, fNIRS, and PET Images
- Presents text mining techniques used for clinical documents in the areas of medicine and Biomedical NLP Systems

DESCRIPTION

Mining Biomedical Text, Images and Visual Features for Information Retrieval provides broad coverage of the concepts, themes, and instrumentalities of the important, evolving area of biomedical text, images, and visual features towards information retrieval. The book aims to encourage an even wider adoption of IR methods for assisting in problem-solving and to stimulate research that may lead to additional innovations in this area of research. Topics covered include Internet of Things for health informatics; data privacy; smart healthcare; medical image processing; 3D medical images; evolutionary computing; deep learning; medical ontology; linguistic indexing; lexical analysis; and domain specific semantic categories in biomedical applications. This is a valuable resource for researchers and graduate students who are interested to learn more about data mining techniques to improve their research work.

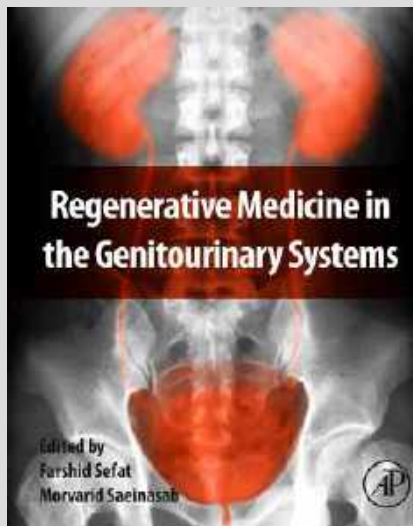


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LIFE SCIENCES Medical

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Regenerative Medicine in the Genitourinary System

Edited by : **Farshid Sefat**, Associate Professor, Biomedical and Electronic Engineering Department, University of Bradford, UK and **Morvarid Saeinasab**, Research Associate, Faculty of Biology Medicine and Health, University of Manchester, Manchester, United Kingdom

ISBN: 9780443158346
PUB DATE: Feb 01, 2024
LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 256

AUDIENCE: Regenerative Medicine Scientists and Researchers, Tissue Engineering Students and Academia, Biomaterials Scientists and Researchers, Medical Educators, Surgeons interested in research and regenerative medicine, U/G and P/G Students in Biomedical Engineering and Biomaterials, Pharmaceutical industry, U/G and P/G Students studying/researching in Chemistry, Materials, Medicine, and Pharmacy, Pharmacologist

BIC CODES: PSA

THEMA CLASSIFICATION:
THEMAPS

A single resource for those researching and studying regenerative medicine in the genitourinary system

KEY FEATURES

- Provides extensive principles of tissue engineering in urinary and reproductive systems
- Presents excellent examples of tissue engineering and regenerative medicine (translational medicine) to tackle diseases and disorders related to the urinogenital system
- Includes chapters covering erectile dysfunction, as well as tissue engineering strategies to treat male and female infertility

DESCRIPTION

Regenerative Medicine in the Genitourinary System gives the reader a comprehensive overview of tissue engineering used to treat genitourinary disorders and infertility, also providing a great learning platform for researchers in different fields such as cell biology, pharmaceuticals, clinicians, chemists, material scientists, and more. The book covers the latest innovations on the subject, but also acts as a resource for tissue engineering applications and regenerative medicine. Over the last several decades, tissue engineering has continued to make considerable advancements in therapeutic and clinical strategies that address male/female urological or genitourinary diseases.

Although several articles have been published on this topic, there are very few book chapters and no single book currently available dedicated to this topic.

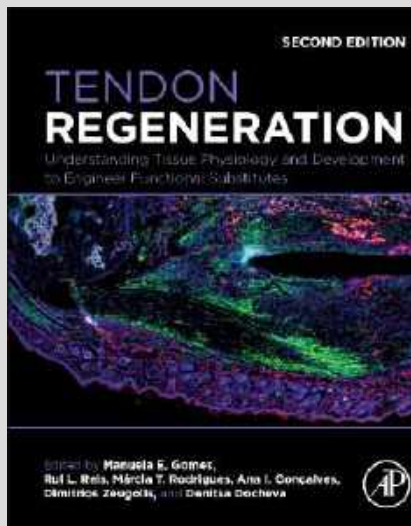


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Tendon Regeneration, 2e

Understanding Tissue Physiology and Development to Engineer Functional Substitutes

Edited by : **Manuela E. Gomes**, PhD, Associate Professor and Vice President, Research Institute for Biomaterials, Biodegradable and Biomimetics, University of Minho 3B's Research Group, Headquarters of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine, Avepark – Parque de Ciência e Tecnologia, Zona Industrial da Gandra, Barco GMR, Portugal; **Rui L. Reis**, PhD, DSc, Hon. Causa MD, Hon Causa PhD, FBSE, FTERM, President of Institute 3B's, University of Minho; Director of the Associated Laboratory ICVS/3B's and of the European Institute of Excellence in Tissue Engineering and Regenerative Medicine (EXPERTISSUES); Full Professor of Tissue Engineering, Regenerative Medicine and Stem Cells, University of Minho, Barco, Portugal; **Márcia T. Rodrigues**, PhD, Assistant Researcher, Research Institute on Biomaterials, Biodegradables and Biomimetics of University of Minho 3B's Research Group, Headquarters of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine, Avepark – Parque de Ciência e Tecnologia, Zona Industrial da Gandra, Guimarães, Portugal.; **Ana Gonçalves**, PhD, Junior Researcher, Research Institute on Biomaterials, Biodegradables and Biomimetics of University of Minho 3B's Research Group, Headquarters of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine, Avepark – Parque de Ciência e Tecnologia, Zona Industrial da Gandra, Barco GMR, Portugal; **Dimitrios Zeugolis**, PhD, Director, Regenerative, Modular and Developmental Engineering Laboratory (REMODEL) and Full Professor Charles Institute of Dermatology, Conway Institute of Biomolecular and Biomedical Research and School of Mechanical and Materials Engineering, University College Dublin, Ireland and **Denitsa Docheva**, PhD, Chair, Department of Musculoskeletal Tissue Regeneration, Orthopaedic Hospital König-Ludwig-Haus and Julius-Maximilians-University of Würzburg, Germany

ISBN: 9780443159169

PREVIOUS ISBN: 9780128015902

PUB DATE: Aug 01, 2024

LIST PRICE: £155.00 / \$200.00 /

€175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 454

AUDIENCE: Researchers/Scientists in biology, biomedicine, engineering, or complementary fields, post-graduate level students in developmental biology, human biology, human physiology, biomedical engineering, bioengineering, tissue engineering, material engineering, biomedicine, and biotechnology, clinicians, specifically orthopedic doctors

BIC CODES: PSA

THEMA CLASSIFICATION:

THEMAPS

A practical reference that explores physiology, pathology, and surgical reconstruction, building a natural progression that enhances tendon regeneration practices

KEY FEATURES

- Provides an updated overview of tendon biology, disease, and tissue engineering approaches
- Presents new subjects, namely experimental models and translational chapters not included in the first edition, due to limited literature on tendon regeneration
- Written by renowned scientists, engineers, and clinicians from around the world

DESCRIPTION

Tendon Regeneration: Understanding Tissue Physiology and Development to Engineer Functional Substitutes was the first book to highlight the multi-disciplinary nature of this specialized field and the importance of collaboration between medical and engineering laboratories in the development of tissue-oriented products for tissue engineering and regenerative medicine (TERM) strategies. Beginning with a foundation in developmental biology, the book explores physiology, pathology, and surgical reconstruction, providing guidance on biological approaches that enhances tendon regeneration practices. Contributions from scientists, clinicians, and engineers who are the leading figures in their respective field's present recent findings in tendon stem cells, cell therapies, and scaffold treatments, as well as examples of pre-clinical models for translational therapies and a view of the future of the field. New coverage will include signaling pathways for tendon development, molecular mechanisms of tendinopathy, inflammation contribution to healing and pathology of tendons, tendon aging and degeneration, tendon models, and translational studies for tendon regenerative medicine.



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COVER IMAGE
FORTHCOMING

Diagnostic, Prognostic and Therapeutic Role of MicroRNAs in Head and Neck Cancer

Edited by : **Ashok Kumar**, PhD, Associate Professor, Department of Biochemistry, All India Institute of Medical Sciences (AIIMS), Bhopal, MP, India; **Neha Arya**, PhD, Assistant Professor at the Translational Medicine Centre, AIIMS Bhopal.; **Shikha Tiwari**, PhD, DHR-Women Scientist, Department of Biochemistry, All India Institute of Medical Sciences Bhopal, India and **Raju Khan**, Industrial Waste Utilization, Nano and Biomaterials, CSIR-Advanced, Materials and Processes, Research Institute (AMPRI), Bhopal, Madhya Pradesh, India

ISBN: 9780443159688

PUB DATE: Feb 01, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 251

AUDIENCE: Clinicians, biochemists, molecular biologists, pathologists, medical oncologists, radiation oncologists, pharmacologists, medical practitioners, bioengineers, academic institutes, etc. Pharmaceutical companies for the development of novel diagnostic and therapeutic technologies for the management of HNSCC

BIC CODES: PSA

THEMA CLASSIFICATION:
THEMAPS

Comprehensive overview of currently available miRNAs associated with HNSCC and their extensive application for early diagnosis, prognosis, and treatment

KEY FEATURES

- Covers the role of the tumor microenvironment in head and neck cancer
- Provides information on oncogenic and tumor suppressor miRNAs dysregulated in HNSCC patients
- Elucidates the role of miRNAs in metastasis, recurrence, and chemoresistance in HNSCC
- Includes the current state-of-art in miRNA-based clinical trials for head

DESCRIPTION

Diagnostic, Prognostic and Therapeutic Role of MicroRNAs in Head and Neck Cancer provides detailed information on various miRNA-based approaches for the diagnosis, prognosis, and treatment of HNSCC. The book encompasses various miRNA-based point-of-care diagnostics and drug delivery systems for HNSCC, along with information on clinical trials for improved clinical outcomes in HNSCC patients. In addition, it provides a comprehensive overview of currently available miRNAs associated with HNSCC and their extensive application for early diagnosis, prognosis, and treatment. Scientists and clinicians looking to win the battle against HNSCC will benefit from the book's sections on early diagnosis to improve treatment, increase treatment response rates, and reduce mortality rates. Recently, miRNA-based diagnostics and therapeutics have gained considerable attention among the scientific community. MiRNAs are known to have great potential as biomarkers for early diagnosis, prediction, and prognosis of HNSCC, and play a role in development of targeted gene therapy.

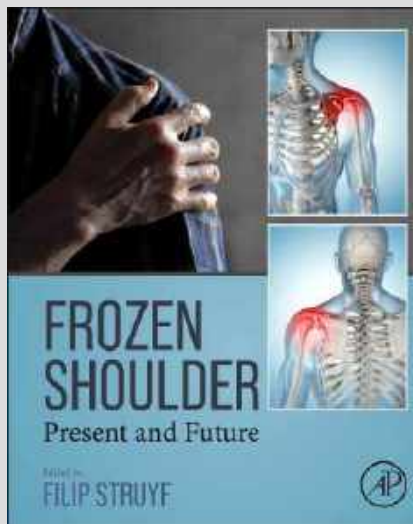


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Frozen Shoulder

Present and Future

Edited by : **Filip Struyf**, PhD, Professor, Rehabilitation Sciences and Physiotherapy, University of Antwerp, Belgium

ISBN: 9780443159954

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 7.50w x 9.25h

PAGES: c. 279

AUDIENCE: General Physicians, Orthopedic Surgeons, Rheumatologists, and Physiotherapists, Researchers dealing with frozen shoulder, or as teaching material for physiotherapists and/or medicine residents

BIC CODES: PSA

THEMA CLASSIFICATION: THEMAPS

A must read for researchers setting up shoulder pain related research or practitioners treating those with frozen shoulder

KEY FEATURES

- Presents evidence-based treatment of frozen shoulder
- Includes a section on future perspectives and ongoing research
- Written by international renowned experts

DESCRIPTION

Frozen Shoulder: Present and Future provides insights into one of the most mysterious diseases of the human body, frozen shoulder, a condition characterized by severe shoulder pain and functional restriction of shoulder motion. About 4% of the general population develops a frozen shoulder, with numbers rising to 59% in patients with diabetes mellitus. It curiously only develops between the age of 40 and 60 years, affects more women than men, and seems to be more common in patients with sedentary jobs. Disease duration varies between 1 and 3 years and consequently has a large impact on health and economic well-being.

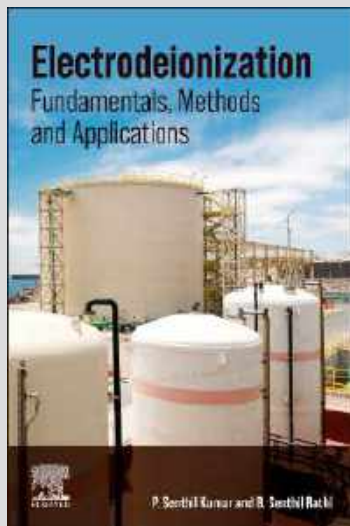


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Electrodeionization

Fundamentals, Methods and Applications

Senthil Kumar, Associate Professor, Department of Chemical Engineering, SSN College of Engineering, India and **B Senthil Kumar**, Assistant Professor, Department of Chemical Engineering, St. Joseph's College of Engineering, India

ISBN: 9780443189838

PUB DATE: Jan 15, 2024

LIST PRICE: £175.00 / \$225.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 280

AUDIENCE: Researchers and advanced-level students in chemical and environmental engineering, wastewater engineers, researchers in the field of water and wastewater treatment, separation scientists and engineers

BIC CODES: TDCB

THEMA CLASSIFICATION: THEMATDC

Covers the recent advances and applications of Electrodeionization, a novel hybrid purification method

KEY FEATURES

- Covers the continuous electrodeionization working principle
- Includes multiple applications of electrodeionization
- Provides updates on resin-wafer, membrane-free and electrostatically shielded electrodeionization

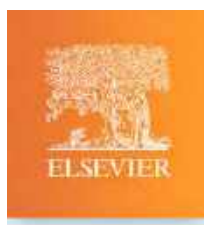
DESCRIPTION

Electrodeionization: Fundamentals, Methods and Applications explains the latest developments in research on ion exchange membranes, wastewater zero discharge based on ion exchange membranes, membrane capacitive deionization, membrane free, and resin wafer electrodeionization cells. This cost-effective method efficiently assists in ion removal and recovery and is suitable for a wide range of applications, including desalination, water and wastewater treatment, extraction of high-value products, concentrating and purifying operations, and energy savings, and as such will be of interest to researchers and students working on these areas as well as those in chemicals manufacture, energy generation and storage.

Electrodeionization is a fully advanced ion exchange method that combines ion exchange, electrodialysis, and elution procedures for metal particle removal from wastewater.

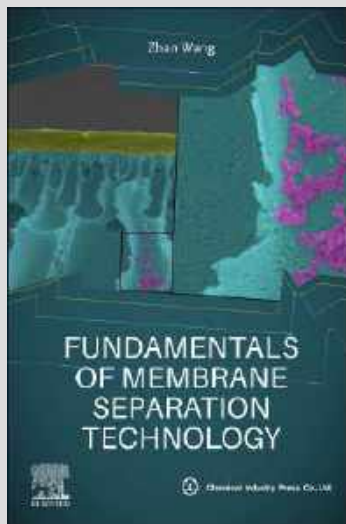


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Fundamentals of Membrane Separation Technology

Zhan Wang, Professor, Beijing University of Technology, China

ISBN: 9780443139048

PUB DATE: Jan 05, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 419

AUDIENCE: Researchers, graduate and undergraduate students, teachers, and engineers learning in the field of membrane technology

BIC CODES: TDCB, RN, TC

THEMA CLASSIFICATION: THEMARN; THEMATDC

Covers the science, technology, and applications of membrane separations in a comprehensive and structured format

KEY FEATURES

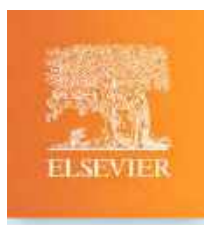
- Evaluates present and future applications of more recently developed membranes in energy conversion, biomedical components, controlled release devices, and environmental engineering
- Provides a comprehensive overview of all aspects of membranes and their applications
- Includes numerous industrial case studies, practical examples, and questions

DESCRIPTION

Fundamentals of Membrane Separation Technology provides a comprehensive and systematic introduction to this environmentally-friendly separation process. Using a structured format that promotes comprehension and implementation, each chapter provides overviews, principles, materials, preparation, and industrial applications. Each chapter then concludes with future prospects, references, and end-of-chapter exercises. Written for students and professionals, this book is an ideal reference for those who wish to better understand the fundamentals and applications of membrane technology.



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Electrochemical Membrane Technology

Adewale Giwa, Chemical and Water Desalination Engineering Program, Department of Mechanical and Nuclear Engineering, University of Sharjah, University City, Sharjah, United Arab Emirates and **Adewale Giwa**, Chemical and Water Desalination Engineering Program, Department of Mechanical and Nuclear Engineering, University of Sharjah, University City, Sharjah, United Arab Emirates

ISBN: 9780443140051

PUB DATE: Jan 05, 2024

LIST PRICE: £170.00 / \$220.00 / €195.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 465

AUDIENCE: Academic, scientists and researchers interested in the field of electrochemical membrane technologies for sustainable water treatment and energy production. Postgraduate students and professional course learners who are interested in electrochemical technologies supported by polymeric, ceramic, and mixed matrix membranes. Stakeholders, policy makers, regulatory authorities, management practitioners, and industrial players involved in the design, manufacturing, operation, drafting of safety and regulatory guidelines, and performance/quality assessments of both membrane separation and electrochemical technologies for water treatment and energy production

BIC CODES: THX, TGM, TDCB, RN, PNR

THEMA CLASSIFICATION:

THEMATDC; THEMAPNR;

THEMATGM; THEMATHV; THEMAPNC

Provides a useful reference in the field of electrochemical membrane technologies for sustainable water treatment and energy production

KEY FEATURES

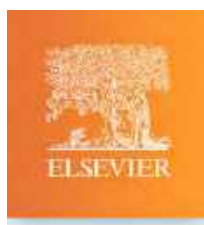
- Provides comparative analysis of energy production from electrochemical membrane technologies and a comprehensive analysis of the recent advances in these technologies
- Discusses the strengths, weaknesses, opportunities, and threats/challenges (SWOT) of each electrochemical membrane technology
- Addresses the importance energy co-production

DESCRIPTION

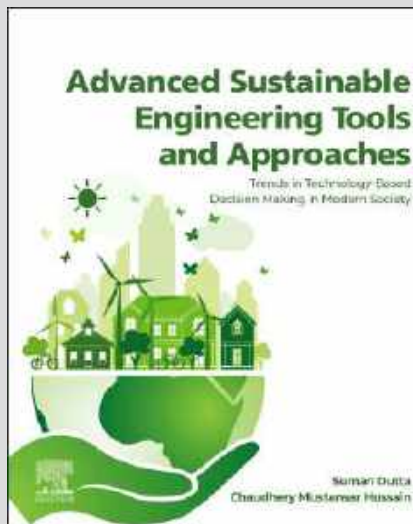
Electrochemical Membrane Technology includes a comprehensive discussion of timely topics surrounding electrochemical membrane technologies, including SWOT analysis of each electrochemical membrane technology, along with a discussion on energy production. The book covers both theoretical and experimental studies on electrochemical membrane technologies and applications, making it ideal for chemical and environmental engineers, professors and other university teachers, research scientists, graduate students, water treatment managers, research institutions, and R&D departments of industries involved in sustainable water treatment and coproduction of valuable products from water treatment technologies.



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Advanced Sustainable Engineering Tools and Approaches

Trends in Technology-Based Decision Making in Modern Society

Suman Dutta, Assistant Professor, Department of Chemical Engineering, ISM, Dhanbad, India and **Chaudhery Mustansar Hussain**, Adjunct Professor, Academic Advisor and Director of Chemistry and EVSc Labs, Department of Chemistry and Environmental Sciences, New Jersey Institute of Technology (NJIT), Newark, New Jersey, USA

ISBN: 9780323951531

PUB DATE: Jun 01, 2024

LIST PRICE: £180.00 / \$230.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 430

AUDIENCE: Postgraduate students and researchers and professors in the field of chemical engineering and allied fields, such as environmental science and engineering, Postgraduate level students in environmental science and engineering

BIC CODES: TDCB

THEMA CLASSIFICATION: THEMATDC

A comprehensive reference covering the evolution of sustainable engineering, including current emerging trends such as Industry 4.0 and artificial intelligence

KEY FEATURES

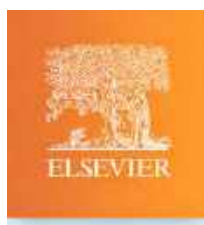
- Explores innovative strategies for sustainable engineering tools and approaches
- Assesses the advanced sustainable engineering tools and other transformational options
- Explores sustainable engineering tools and approaches for application in decision-making in modern society
- Written in an accessible and facile style

DESCRIPTION

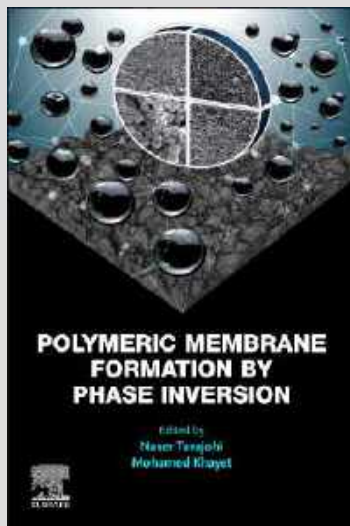
Advanced Sustainable Engineering Tools and Approaches: Trends in Technology-Based Decision Making in Modern Society covers trends in technology-based decision making in modern society. The book condenses the different scientific aspects of sustainable engineering in one single source covering the evolution of sustainable engineering. The book helps researchers in academia and industry minimize consumption of energy and natural resources (e.g., water) in their research, and enables them to apply environment-friendly processes that minimize pollution. The book discusses energy harvesting from renewables, how to reduce waste of resources, and basic ideas about sustainable engineering, including sustainable engineering indicators (e.g., economic, environmental, and social).



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Polymeric Membrane Formation by Phase Inversion

Edited by : **Naser Tavajohi**, Department of Chemistry, Umea University, Umea, Sweden and **Mohamed Khayet**, Complutense University of Madrid, Spain

ISBN: 9780323956284

PUB DATE: Mar 01, 2024

LIST PRICE: £175.00 / \$225.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 300

AUDIENCE: Academic and industrial researchers, membrane and membrane process engineers, chemical and environmental engineers involved in energy production, gas separation, organic/organic and organic/water separation, and overall water production and water treatment including desalination, domestic and industrial wastewater, contaminated groundwater remediation and oil-well produced water.

BIC CODES: TCB

THEMA CLASSIFICATION:
THEMATCB

Comprehensively covers the formation of synthetic polymeric membranes by different methods from both kinetic and thermodynamic perspectives

KEY FEATURES

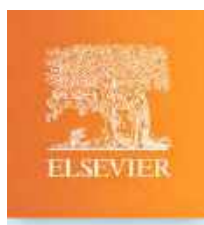
- Analyzes membrane formation by phase inversion and modeling
- Includes state-of-the-art membrane formation methods and related characterization techniques
- Discusses solvent toxicity and sustainability issues of membrane production

DESCRIPTION

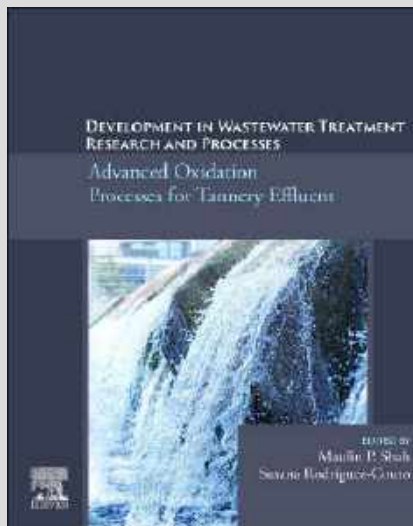
Polymeric Membrane Formation by Phase Inversion analyzes the four main phase inversion techniques. Effective parameters in each technique are covered, along with the methodologies needed to prepare advanced membranes for specific separations in both liquid and gas phases. Roll-to-roll casting, spinning hollow fiber, and electrospinning nanofibers are presented, along with an analysis of the impact of solvent toxicity, membrane production, and the source of raw materials on the environment. The book describes a roadmap for designing different morphological characteristics for preparing specific membranes for special applications, along with the merits and disadvantages of each method. This book provides an easy, comprehensive reference for academic and industry professionals working in membrane engineering.



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Developments in Wastewater Treatment Research and Processes

Advanced Oxidation Processes for Tannery Effluent

Edited by : **Maulin P Shah** and **Susana Rodriguez-Couto**, Full Professor (Biological Water Treatment), Department of Separation Science, LUT School of Engineering Science, LUT University, Finland

ISBN: 9780323956567

PUB DATE: Jan 01, 2024

LIST PRICE: £180.00 / \$230.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 430

AUDIENCE: Engineers, scientists, and managers working on advanced oxidation processes of effluent treatment plant; Professionals in environmental microbiology or bioremediation; Students in environmental biotechnology/microbiology environmental engineering, Operators, policy makers

BIC CODES: TCB

THEMA CLASSIFICATION: THEMATCB

Focuses on advanced oxidation methods for tannery effluent, providing overall basic and in-depth knowledge on various applications of treatment processes

KEY FEATURES

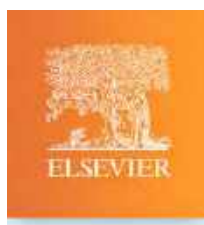
- Includes advanced oxidation processes for wastewater treatment
- Describes various methodologies to treat tannery effluent
- Outlines applications of different types of treatment strategies to cope up with tannery effluent
- Applies tertiary advanced oxidation process to remove toxic contaminants from wastewater
- Provides biochemical pathways of degraded contaminants through various oxidation processes

DESCRIPTION

Advanced Oxidation Processes for Tannery Effluent provides a detailed overview of currently applied and tested sewage treatment technologies and the integration of advanced processes to remove trace organic contaminants and micro-organisms. The book discusses the potential of improved biological treatment to produce reusable wastewater, new municipal wastewater disinfection processes, the reduction of bacteria resistant to antibiotics, as well as the effects of advanced oxidation processes on microbial and chemical contaminants. It features membrane bioreactors, moving bed bioreactors, light and solar technology, ozonation and immobilized heterogeneous photocatalysis, and more. In addition, the book discusses issues and standards for water reuse, the state of application of membrane bioreactors, and the treatment of reverse osmosis concentrate for better water use in wastewater treatment. Final sections present the latest developments in the field of drinking water reuse and address various important issues in this context, such as proper public health protection, reliability and monitoring.



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<https://virtuale.elsevier.com>, www.elsevier.com



High-Pressure Fluid Phase Equilibria, Vol 2, 2e

Phenomenology and Computation

Ulrich K Deiters, Institute Physical Chemistry, University of Cologne, Köln, Germany and
Thomas Kraska, Institute of Physical Chemistry, University of Cologne, Köln, Germany

ISBN: 9780443132803

PUB DATE: Jan 01, 2024

LIST PRICE: £165.00 / \$215.00 /
€185.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 355

AUDIENCE: Graduate students of chemical engineering and university research staff involved in chemical engineering of supercritical fluids or the physical chemistry of fluids; the book can also serve as the base of lectures or advanced students' seminars. Those working in industry at companies involved in chemical engineering, particularly those involved in separation processes and/or high-pressure operations (e.g., production and processing of oil and natural gas, handling of hydrogen and other fuel substances); companies producing software for chemical engineering

BIC CODES: PNRW, PHDF

THEMA CLASSIFICATION:
THEMAPHDF; THEMAPNRW

Comprehensively presents the complex world of phase equilibria (binary and ternary) and various methods for computing phase equilibria

A Volume in the *Supercritical Fluid Science and Technology Series*

KEY FEATURES

- Comprehensively presents the complex world of phase equilibria (binary and ternary) and the various methods for computing phase equilibria, whilst carefully considering the relevant pressure and temperature ranges
- Introduces phase diagram classes, how to recognize them, and how to identify their characteristic features
- Presents rational nomenclature of binary fluid phase diagrams
- Includes problems and solutions for self-testing, exercises, or seminars

New to this Edition:

Presentation of the phase equilibria models is extended and expanded, along with more descriptions and equations of state, especially the PC-SAFT EoS, and a new chapter on Nonisothermal applications and chemically reactive systems

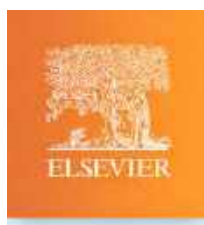
DESCRIPTION

High-Pressure Fluid Phase Equilibria: Phenomenology and Computation, Second Edition, Volume Two enables understanding of the complicated phase behavior that fluid or fluid mixtures (liquids, gases, or supercritical phases) can exhibit at elevated pressures. The underlying thermodynamic equations are explained, and robust algorithms for the computation of such equilibria (including solid–fluid equilibria) are proposed. Since the publication of the first edition of this book there have been many new developments, for instance differential equation methods for the computation of phase equilibria, accurate numerical differentiation, high-precision equations of state (e.g., the GERG model).

Moreover, more detail and explanation has been added on important topics that were only briefly examined in the original book to better assist the reader, such as expansion processes and chemical reactions). The book remains invaluable as a single resource for grasping the intricacies of fluid phase behavior. It enables readers to write or improve their own computer programs for the calculation of phase equilibria and will appeal to graduate students of chemical engineering and university research staff involved in chemical engineering of supercritical fluids or the physical chemistry of fluids.



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Towards Nanofluids for Large-Scale Industrial Applications

Edited by : **Bharat A. Bhanvase**, Professor and Head, Chemical Engineering Department, Laxminarayan Institute of Technology, RTM Nagpur University, Nagpur, Maharashtra, India; **Divya Barai**, Department of Chemical Engineering, Laxminarayan Institute of Technology, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, India; **Gawel Zyla**, Department of Physics and Medical Engineering, Rzeszów University of Technolog, Poland and **Zafar Said**, Associate Professor, Department of Sustainable Renewable Energy Engineering, University of Sharjah, United Arab Emirates

ISBN: 9780443154836
PUB DATE: Oct 01, 2024
LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 320

AUDIENCE: Graduate/postdoc level students and researchers/academics teaching or studying in chemical and thermal engineering and focused on heat transfer enhancement, thermal energy, nanofluids, and nano-enhanced energy systems such as solar thermal systems. Researchers globally in other related interdisciplinary areas including Chemistry, mechanical engineering, Materials Science and Technology, Nanotechnology, Energy Conservation, and Sustainable Development. Manufacturing industries and consultants dealing with energy conservation, sustainable development, and process intensification, those in the energy industry focusing on renewable energy technologies, as well as research and development sections of industries based on process heat transfer intensification, thermal management, and related markets

BIC CODES: PHH

THEMA CLASSIFICATION:
 THEMAPHH



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Examines the challenges and current progress towards large-scale industrial application of nanofluids, summarizing existing research and providing potential solutions pertaining to the scientific, economic, and social barriers that currently exist

KEY FEATURES

- Examines the challenges and current progress towards implementing large-scale industrial application of nanofluids
- Addresses current gaps in research, explores challenges and controversies as well as weaknesses and strengths versus alternative solutions
- Aims to bridge the gap between fundamental research and potential industrial-scale utilization in the future by providing pathways towards convenient and sustainable scale-up
- Meets a need to compile all current information and knowledge from studies and research related to large-scale nanofluids applications in one single resource

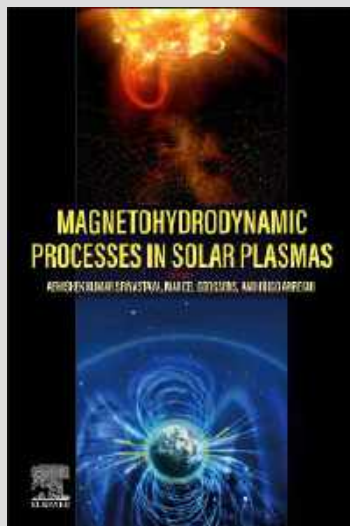
DESCRIPTION

Nanofluids for Large-Scale Industrial Applications examines the challenges and current progress towards large-scale industrial application of nanofluids, summarizing and bringing together varied current research strands and providing potential solutions pertaining to the scientific, economic, and social barriers that currently exist.

Opening with an introduction to nanofluid synthesis, types, and properties, this book traverses the potential large-scale applications and commercialisation of nanofluids in industrial heating/cooling, solar energy systems, refrigeration systems, automotive systems, and various chemical processes and manufacturing systems.

This book provides knowledge of a vast area of applications of nanofluids in industries. Thus, it also has potential to encourage and trigger the minds of researchers to discover more about nanofluids, investigate the gaps, overcome the challenges, and provide future directions for newer applications and develop nanofluids further. The book is written chiefly for graduate/postdoc level students and researchers/academics teaching or studying in chemical and thermal engineering and who are focused on heat transfer enhancement, thermal energy, nanofluids, and nano-enhanced energy systems such as solar thermal systems.

CHEMISTRY Chemical Engineering
<https://virtuale.elsevier.com>, www.elsevier.com



Magnetohydrodynamic Processes in Solar Plasmas

Edited by : **Abhishek Kumar Srivastava**, Professor of Physics, Indian Institute of Technology (Banaras Hindu University), Varanasi, India; **Marcel Goossens**, Professor Emeritus in Applied Mathematics, Centre of mathematical Plasma Astrophysics, Department of Mathematics, KU Leuven, Gernamy and **Iñigo Arregui**, Staff Researcher, Instituto de Astrofísica de Canarias, Universidad de la Laguna, Spain

ISBN: 9780323956642

PUB DATE: Mar 01, 2024

LIST PRICE: £126.00 / \$165.00 / €143.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 300

AUDIENCE: Postgraduates, PhD students, researchers, academics and professionals in the fields of astronomy and astrophysics, Solar System science and solar physics Interdisciplinary researchers in planetary science, plasma science, controlled fusion reaction and high energy physics

BIC CODES: TTD

THEMA CLASSIFICATION: THEMATTD

A comprehensive, up-to-date overview of magnetohydrodynamic processes in the solar plasma of our sun

KEY FEATURES

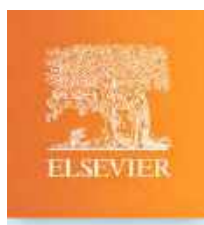
- Applies fundamental solar science and research in magnetohydrodynamic processes to practice, with worked examples to elucidate real-world uses in research
- Covers the latest developments in solar plasma processes in terms of both theoretical and practical aspects, with the latest observational data included for reference
- Includes pull sections in each chapter that highlight the most fundamental and key aspects of solar physics using schematic and associated basic facts
- Provides basic numerical question sets related to each chapter, along with worked examples, which will enhance understanding of basic phenomena and aid in applying the practical content to current research

DESCRIPTION

Magnetohydrodynamic Processes in Solar Plasmas provides comprehensive and up-to-date theory and practice surrounding the fundamentals of heliospheric research and the Sun's basic plasma processes, covering the dynamics of the solar interior to its exterior in the framework of magnetohydrodynamics. The book covers novel aspects of solar and heliospheric physics, astrophysics, space science, and fundamentals of the fluids and plasmas. Topics covered include key phenomena in the solar interior such as magnetism, dynamo physics, and helioseismology, dynamics and plasma processes in its exterior, including fluid processes such as waves, shocks, instabilities, reconnection, dynamics in the partially ionized plasma, and much more. The book covers both the fundamentals of the topics included as well as current and future developments in the field, forming an essential, foundational reference for researchers, academics, and advanced students, in the field of solar physics and astrophysics, as well as neighboring disciplines.

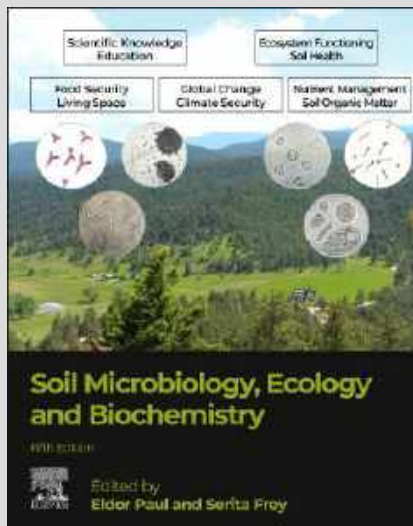


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EARTH & ENVIRONMENT

<https://virtuale.elsevier.com>, www.elsevier.com



Soil Microbiology, Ecology and Biochemistry, 5e

Edited by : **Eldor Paul**, Colorado State University, Ft. Collins, USA and **Serita Frey**, Editor-in-Chief for Issues in Ecology and Board of Editors for Ecology/Ecological Monographs

ISBN: 9780128229415

PREVIOUS ISBN: 9780128099926

PUB DATE: Dec 18, 2023

LIST PRICE: £76.95 / \$99.95 / €86.95

DISCOUNT: Textbook

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 578

ILLUSTRATIONS: 200 illustrations
(200 in full color)

AUDIENCE: Senior undergraduate and graduate-level text in the fields of soil science, ecology, microbiology, and biogeochemistry. General reference for teaching institutions and for engineering and commercial applications; can be used in industry as a background text in bioengineering and agronomic/environmental consulting

BIC CODES: RNC, KNAL, PSB, RBGB, PSAF, PSG

THEMA CLASSIFICATION:

THEMATVR; THEMASAF;
THEMATVB; THEMARBGB;
THEMAPSG

The definitive text for understanding soil biota, their function, and the dynamics of soil organic matter

KEY FEATURES

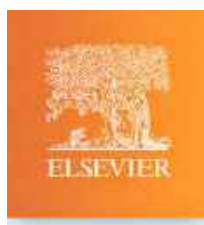
- Provides step-by-step guidance on key procedures/processes
- Includes information on the modeling of soil microbial processes, as well as the greater application of models in facing societal challenges
- Stresses the importance of nitrogen and its relevance to plant growth, enzyme production, soil organic matter formation, food security, and environmental sustainability, including pollution

DESCRIPTION

Soil Microbiology, Ecology, and Biochemistry, Fifth Edition addresses the increasingly important field of soil biota and their interactions in research and education. Soil biota are extremely important, and especially relevant to today's societal questions related to global change, ecosystem sustainability, and food security in our ever-changing environment. Revised by a group of world-renowned authors in many institutions and disciplines, this book relates breakthroughs in knowledge in this important field, along with its history and future applications. This new edition provides readable, practical, impactful information for many applied and fundamental disciplines. There is no other available volume on the topics covered that also integrates the concepts in a way that makes them useful to a broad group of readers.



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EARTH & ENVIRONMENT

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Oxazole, Isoxazole, Benzoxazole-Based Drug Discovery

Erum Akbar Hussain, Tenured Associate Professor, Lahore College, Women University, Pakistan; Ambreen Ghani, Assistant Professor, Division of Science and Tech, University of Education, Pakistan and Zubi Sadiq, Research Associate, Department of Chemistry, Lahore College, Pakistan

ISBN: 9780323853866
PUB DATE: Apr 01, 2024
LIST PRICE: £175.00 / \$225.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 400

AUDIENCE: Researchers in organic chemistry both in academic and industrial settings, postgraduates in chemistry and medicinal chemistry, Researchers in pharmaceutical industries, chemical and pesticide industries

BIC CODES: PNN

THEMA CLASSIFICATION:
 THMAPNN

Offers complete coverage of oxazole and related molecules, both from natural and synthetic origin, with a focus on the reaction mechanisms and medicinal aspects

A Volume in the *Heterocyclic Drug Discovery Series*

KEY FEATURES

- Presents detailed coverage of chemical structures and practical synthetic methods of oxazoles, isoxazoles and benzoxazoles in drug discovery
- Includes green, environmentally-friendly novel synthetic methods and mechanistic insights
- Features biological and computational aspects of the oxazoles family of drugs, including virtual screening and molecular docking

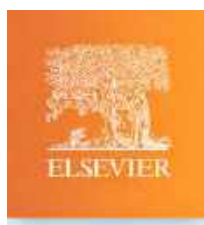
DESCRIPTION

Oxazole, Isoxazole, Benzoxazole Based Drug Discovery offers complete coverage of oxazole and related molecules, both from natural and synthetic origin, with a focus on the reaction mechanisms, and medicinal, pharmacokinetic and computational aspects. New and contemporary methods of synthesis are discussed, with a special focus on green, environment-friendly procedures. Discussion of stereochemical studies, particularly on natural molecules, are included. Computational chemistry has emerged as an integral tool for drug discovery, hence this book explains how the drug candidate is established as suitable for clinical trials with the help of molecular docking and virtual screening modeling.

This book offers a broad range of recent developments and detailed coverage of synthesis and biological activities of the drugs, and is an ideal reference guide to researchers working in organic and medicinal chemistry.



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CHEMISTRY Organic Chemistry
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COVER IMAGE
FORTHCOMING

Handbook of Electrochemistry, 2e

Edited by : **Cynthia G. Zoski**, Associate Director and Research Professor, Center of Electrochemistry, The University of Texas at Austin, USA

ISBN: 9780323855082

PREVIOUS ISBN: 9780444519580

PUB DATE: Jan 01, 2024

LIST PRICE: £225.00 / \$290.00 /

€255.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 940

AUDIENCE: Electrochemistry students, Electro, Physical and Theoretical Chemists across academia and industry, Computational Chemists, Materials Chemist and Scientists working on electronic and optical materials, Chemical and Electronic Engineers

BIC CODES: PNRH

THEMA CLASSIFICATION:
THEMAPNR; THEMAPNRH

A fully updated, comprehensive guide to electrochemistry fundamentals and applications, providing both theoretical knowledge and practical guidance

KEY FEATURES

- Provides a fully-updated reflection of both fundamental electrochemical information and the latest developments in the field
- Includes new chapters on Single Entity Electrochemistry, Nanoelectrochemistry, and Tables of Kinetic Values
- Provides detailed electrochemical data and reviews key applications across a range of fields

DESCRIPTION

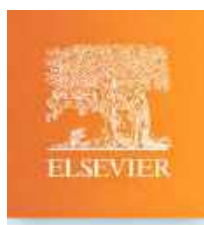
Electrochemistry plays a fundamental role in an incredibly diverse range of research and applied areas, including new compound discovery, biochemical and biological system investigation, corrosion monitoring and prevention, environmental remediation, energy applications, and nanoscale technologies. The fully updated second edition of the *Handbook of Electrochemistry* serves as a practical guide to this important field, providing details of experimental considerations, representative calculations, and applications.

After introducing the fundamentals of electrochemistry in Part 1, Part 2 goes on to outline different laboratory aspects of electrochemistry. Key electrochemical techniques ranging from classical experiments to scanning electrochemical microscopy, electrogenerated chemiluminescence and spectroelectrochemistry are discussed in Part 3, and some important applications are outlined in Part 4, with new chapters addressing the current emphasis on electrochemistry for understanding phenomena at the nanoscale, the single entity scale, and the single atom scale. Finally, Part 5 provides a useful selection of electrochemical data, including new tables of kinetic values.

Under the guidance of its expert editor, the Handbook of Electrochemistry, 2nd edition is a comprehensive resource for all those working directly or indirectly with electrochemical information, development and applications across both academia and industry.



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CHEMISTRY Electrochemistry

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

A Practical Guide to Total Reflection X-ray Fluorescence

Edited by : **Martina Schmeling**, Associate Professor, Department of Chemistry and Biochemistry, Loyola University Chicago, IL, USA and **Diane Eichert**, Senior Scientist, Elettra – Sincrotrone Trieste, Basovizza TS, Italy

ISBN: 9780323959155

PUB DATE: Feb 01, 2025

LIST PRICE: £185.00 / \$225.00 / €215.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 0

AUDIENCE: Researchers in academia studying element analysis, method development and validation, those in industry performing trace element analysis in different matrices including:

pharmaceuticals, chemicals, food, airborne particulate matter, those in the technology sector studying semi-conductor research and development, those in Health doing toxicity studies, elemental correlation side-effects, trace element analysis of body fluids and tissues, in Energy studying development of energy storage devices, in Chemistry studying optimization of green and sustainable processes (catalysis, petro-chemistry), nanoparticles research and development, in Cultural Heritage conservation and restoration, in Environmental science studying air pollution, climate change, water quality, waste management,

Government/Regulatory/Agencies on quality control and quality assurance, monitoring of air/water quality, pollutants, Graduate and undergraduate students as well as scientific assistants and technicians who want to extend the range of instrumentation for trace element analysis

BIC CODES: PNF

THEMA CLASSIFICATION: THEMAPNF



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Describes the theory, experimental conditions and applications of TXRF with special emphasis on applications of the method in different fields

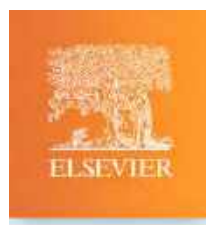
KEY FEATURES

- Covers sample preparation for various matrices to obtain meaningful and accurate data
- Explains how to optimize experimental parameters and provides guidance through the chemical measurement process
- Focuses on applications of TXRF in trace and surface analysis

DESCRIPTION

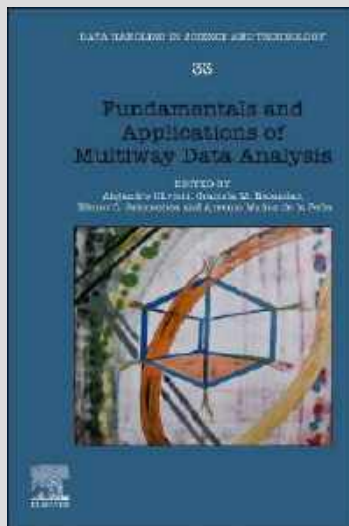
A Practical Guide to Total Reflection X-ray Fluorescence discusses how a wide range of samples can be analyzed using Total Reflection X-ray Fluorescence (TXRF) to obtain meaningful, accurate results. Sections describe the theoretical aspects of methods and applications, emphasizing a practical approach, including advantages and limitations. The primary concept throughout the book is the chemical measurement process and how it applies to TXRF analysis, including aspects like samples, sample handling and quantification. Key case studies emphasizing the strength of the method are included. The book also explains the calibration of instrument and method, experimental parameters to apply, quantification procedures, and spectra evaluation.

This book serves as a valuable resource for users and users-to-be in the field of elemental and trace analysis. All co-authors offer extensive experience in the field of TXRF and can guide users through the chemical measurement process of a specific field of application including what elements are most suitable, and what issues may occur.



CHEMISTRY Analytical Chemistry

<https://virtuale.elsevier.com>, www.elsevier.com



Fundamentals and Applications of Multiway Data Analysis

Edited by : **Alejandro Olivieri**, Universidad Nacional de Rosario, Instituto de Química Rosario (CONICET-UNR), Facultad de Ciencias Bioquímicas y Farmacéuticas, Argentina; **Graciela M. Escandar**, Universidad Nacional de Rosario, Instituto de Química Rosario (CONICET-UNR), Facultad de Ciencias Bioquímicas y Farmacéuticas, Argentina; **Héctor C. Goicoechea**, Ciudad Universitaria, Laboratorio de Desarrollo Analítico y Quimiometría (LADAQ), Cátedra de Química Analítica I, Facultad de Bioquímica y Ciencias Biológicas, Universidad Nacional del Litoral, Argentina and **Arsenio Muñoz de la Peña**, Universidad de Extremadura, Departamento de Química Analítica, Facultad de Ciencias, Spain

ISBN: 9780443132612

PUB DATE: Jan 01, 2024

LIST PRICE: £180.00 / \$230.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 605

AUDIENCE: Academic scientific sector. In particular, analytical development laboratories that employ chemometrics as a tool for a better utilization of the data generated

BIC CODES: TGM

THEMA CLASSIFICATION: THEMATGM

A comprehensive reference of the state-of-the-art in multi-way analytical data analysis, both in fundamentals and application aspects

A Volume in the *Data Handling in Science and Technology* Series

KEY FEATURES

- Includes chapters written by renowned international authors, all currently active in the subject field
- Presents coverage of all the main aspects of multi-way analytical data analysis, concerning the two main areas of interest: data generation and algorithmic models for data processing
- Provides up-to-date material with reference to current literature on the subject

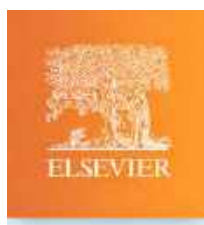
DESCRIPTION

Fundamentals and Applications of Multiway Data Analysis provides comprehensive coverage of the main aspects of multiway analysis, including selected applications that can resolve complex analytical chemistry problems. This book follows on from *Fundamentals and Analytical Applications of Multiway Calibration*, (2015) by addressing new theoretical analysis and applications on subjects beyond multiway calibration and devoted to the analysis of multiway data for other purposes. Specifically, this new volume presents researchers a set of effective tools they can use to obtain the maximum information from instrumental data.

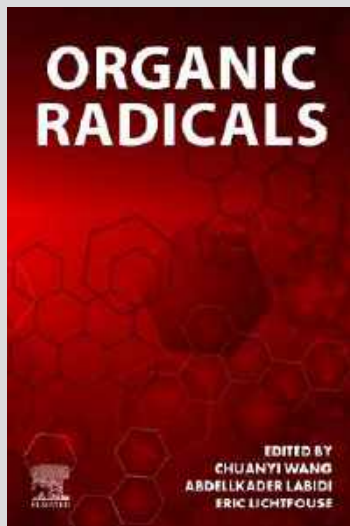
This book includes the most advanced techniques, methods, and algorithms related to multiway modelling for solving calibration and classification tasks and the way they can be applied. It collects contributions from a selected number of well-known and active chemometric research groups across the world, each covering one or more subjects where their expertise is recognized and appreciated.



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CHEMISTRY Analytical Chemistry
<https://virtuale.elsevier.com>, www.elsevier.com



Organic Radicals

Edited by : **Chuanyi Wang**, School of Environmental Science and Engineering, Shaanxi University of Science and Technology, Weiyang District, Xi'an, Shaanxi, P.R.China; **Abdellkader Labidi**, Shaanxi University of Science and Technology, China and **Eric Lichtfouse**

ISBN: 9780443133466

PUB DATE: Mar 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 372

AUDIENCE: Postgraduate students and researchers in the field of Organic Chemistry and Environmental Chemistry

BIC CODES: PNN

THEMA CLASSIFICATION: THEMAPPNN

Describes properties and applications of organic radicals in various fields

KEY FEATURES

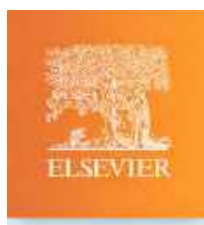
- Covers the main proprieties and current techniques in organic radicals' measurements, advantages, and disadvantages
- Analyzes the lifecycle analysis and the stability of organic radicals, their biodegradability, and biocompatibility
- Provides a comprehensive overview about the chemical synthesis of organic radicals, their physiochemical proprieties, and risks caused by the presence of high amounts of organic radicals

DESCRIPTION

Organic Radicals summarizes the applications of these materials in several fields, in addition to analyzing challenges, limitations and impacts of materials containing organic radicals on human, plants, water, soil, and animals. Sections cover uses of organic radicals as effective precursors for block molecules building and discuss their effectiveness as precursors of organic radical- containing materials synthesis and their applications in medicine, biology, electronics, environmental sciences, plastics synthesis, polymers building and the several impacts after organic radicals uses. In recent years, the rapid development of organic radical-containing materials has afforded an interesting research area in various applications.

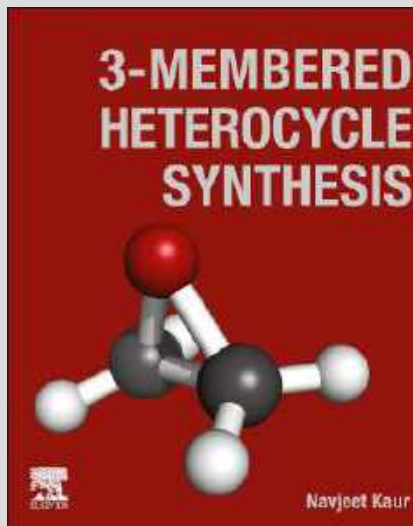


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CHEMISTRY Organic Chemistry

<https://virtuale.elsevier.com>, www.elsevier.com



3-Membered Heterocycle Synthesis

Navjeet Kaur, BSc and MSc, Associate Professor, Department of Chemistry and Division of Research and Development, Lovely Professional University, Phagwara, Punjab, India

ISBN: 9780443135835

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 372

AUDIENCE: Postgraduate students and researchers in Organic and Medicinal Chemistry. Chemists working in industry

BIC CODES: TJ

THEMA CLASSIFICATION: THEMATJFD

A long due compendium of organic chemistry covering three-membered heterocyclic compounds

KEY FEATURES

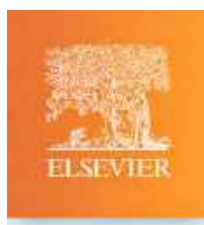
- Covers the applications of three-membered heterocycles
- Includes comprehensive descriptions of heterocycle synthesis
- Highlights methodologies for the synthesis of three-membered heterocycles
- Analyzes several types and families of compounds, with a large set of recent examples in the field

DESCRIPTION

3-Membered Heterocycle Synthesis provides readers with detailed information about the synthesis of three-membered heterocyclic compounds. The book comprehensively describes three-membered heterocyclic compounds synthesis, allowing the audience to quickly assess possible synthetic approaches. Other sections discuss their unusual combination of synthetic flexibility, reactivity, and atom economy. The main challenge for synthetic chemists, both in academia and industry, is the search for efficient approaches to target molecules. This book presents several methodologies for the synthesis of three-membered heterocyclic compounds.

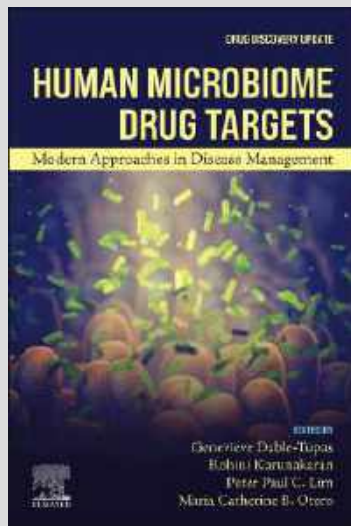


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CHEMISTRY Organic Chemistry

<https://virtuale.elsevier.com>, www.elsevier.com



Human Microbiome Drug Targets

Modern Approaches in Disease Management

Edited by : **Genevieve Dable-Tupas**, Associate Professor, Research Center, College of Medicine, Davao Medical School Foundation, Inc, Davao City, Philippines; **Rohini Karunakaran**, Associate Professor, Unit of Biochemistry, Preclinical Coordinator, Faculty of Medicine AIMST University, Malaysia; **Peter Paul C Lim**, Fellow, Pediatric Infectious Diseases Rainbow Babies and Children's Hospital- University Hospitals/Case Western Reserve University, USA and **Maria Catherine B Otero**, Biomedical Consultant College of Medicine Research Center, Davao Medical School Foundation, Inc. (DMSFI), Davao City, Philippines

ISBN: 9780443154355

PUB DATE: Apr 01, 2024

LIST PRICE: £175.00 / \$225.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 326

AUDIENCE: Drug developers, medicinal chemists, microbiologists, infectious disease specialists, biochemists, naturopathy practitioners, healthcare professionals (doctors, nurses and allied health professionals), researchers and students (medical, biology, chemistry, pharmacy) Health regulatory agencies and policy makers

BIC CODES: PNN, MMG

THEMA CLASSIFICATION:

THEMAMKG; THEMAPPNN

Presents complete coverage of the fundamental information on the importance of the human microbiome to drug discovery

KEY FEATURES

- Provides readers with background information on the human microbiome, its evolution, and current understanding
- Includes chapters dedicated to the importance of the human microbiome as "drugs" and as drug targets
- Serves as a guide to drug developers working in pharma, biotech, and academia, bringing together the latest research on the topic

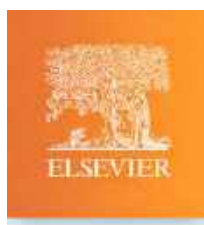
DESCRIPTION

Human Microbiome Drug Targets: Modern Approaches in Disease Management presents fundamental information on the human microbiome, looking into the relationship between the microbiome and how it changes with specific diseases. Delving into the multifaceted roles of the microbiome in health and disease, the book's chapters discuss the role of the human microbiome in the pathophysiologic understanding of relevant diseases or disorders and their management. As changes in the human microbiome can provide clues to the probable cause and effect of diseases or disorders, as well as the impacts of therapy or intervention, this book is a welcomed addition to the existing research.

Explaining how a better understanding of the microbiome and its impact on health and disease can pave the way for future discoveries leading to better health outcomes, this book will be of interest to drug developers, medicinal chemists, microbiologists, infectious disease specialists, biochemists, and students.

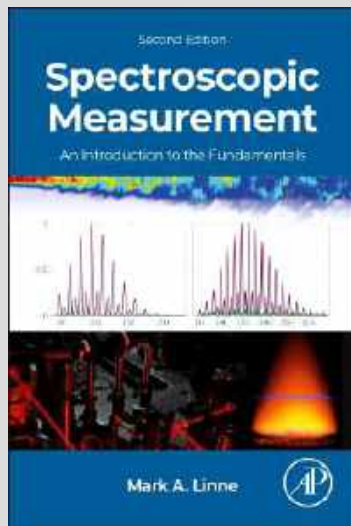


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CHEMISTRY Organic Chemistry

<https://virtuale.elsevier.com>, www.elsevier.com



Spectroscopic Measurement, 2e

An Introduction to the Fundamentals

Mark A. Linne, Professor of Combustion Engines, University of Edinburgh, UK

ISBN: 9780443154744

PREVIOUS ISBN: 9780123909374

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 /

€175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 470

AUDIENCE: Engineers (grad students, postdocs, faculty, researchers) and Analytical Chemists needing to understand the fundamentals of spectroscopy; PhD-level graduate courses. Physical chemists, atmospheric scientists, industrial researchers, etc. in the areas of combustion as well as many other areas such as CVD reactors, oxidation reactors, plasmas, chemical processing, supercritical processing, fine powder generation, exhaled human breath etc.

BIC CODES: PNF, TH, PNRH

THEMA CLASSIFICATION:

THEMAPNF; THEMAPNRH;

THEMATH

Covers the basic theory of applied spectroscopy and presents alternative approaches to understand the physical processes

KEY FEATURES

- Presents measurement techniques in a concise treatment that other available literature lacks to explain
- Provides the audience with engineering analogues written by an engineer to explain basic physics to engineers
- Includes many new and useful graphics in the margins and boxes with supplementary material to immensely facilitate learning

DESCRIPTION

Spectroscopic Measurement: An Introduction to the Fundamentals, Second Edition contains the foundational topics associated with optical spectroscopic techniques, covering the basic theory of applied spectroscopy and presenting alternative approaches to understand physical processes. Electromagnetism, quantum mechanics, statistical mechanics, molecular spectroscopy, optics, and radiation form the foundations of the field are all thoroughly covered. On top of these rest the techniques applying the fundamentals, including Emission Spectroscopy, Laser Induced Fluorescence, and Raman Spectroscopy. This comprehensive and fully updated second edition includes additional coaching and covers new material online broadening, nonlinear techniques such as coherent anti-Stokes Raman spectroscopy, and more.

Researchers not formally trained in these topics, but who apply spectroscopy in their work, will appreciate the detail contained in this book to ensure accuracy of their technique and/or to develop more sophisticated measurements.

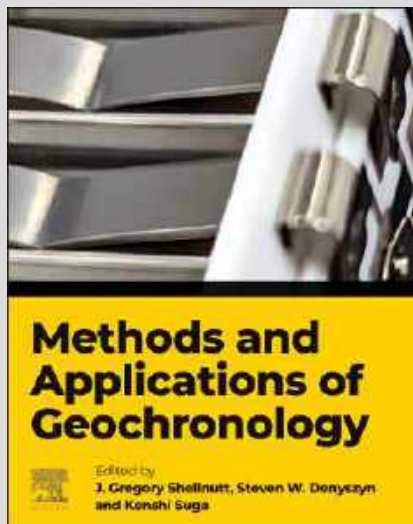


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CHEMISTRY Analytical Chemistry

<https://virtuale.elsevier.com>, www.elsevier.com



Methods and Applications of Geochronology

Edited by : **Gregory Shellnutt**, Department of Earth Sciences National, Taiwan Normal University, Taiwan; **Steve W Denyszyn**, Department of Earth Sciences, Memorial University of Newfoundland, Canada and **Kenshi Suga**, Department of Earth Sciences, National Taiwan Normal University, Taiwan

ISBN: 9780443188039
PUB DATE: Apr 01, 2024
LIST PRICE: £126.00 / \$165.00 / €143.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 465

AUDIENCE: Universities, research institutes, and government agencies related to Earth-system sciences (e.g., geological surveys, Earth Science departments, geochronology laboratories, marine institutes, natural history museums). Mineral exploration, petroleum and natural gas exploration, and possibly other educational institution (e.g., technical colleges). Constraining the timing of deformation, deposition, or fluid remobilization is key to understanding mineral deposit formation. Moreover, providing new methods for fossil geochronology can help to assess petroleum potential as 70% of oil deposits were formed during the Mesozoic

BIC CODES: PGC

THEMA CLASSIFICATION:
 THEMAPHVB

Presents modern perspectives that highlight state-of-the-art methods and applications in geochronology

KEY FEATURES

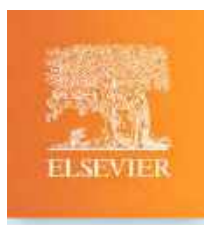
- Features the latest methods and recommended tools for each of the major types of geochronological processes
- Includes perspectives from a variety of well-respected, highly cited researchers, each representing different specialties of geochronology
- Bridges the gap between theory and application, offering best practices and relevant case studies throughout

DESCRIPTION

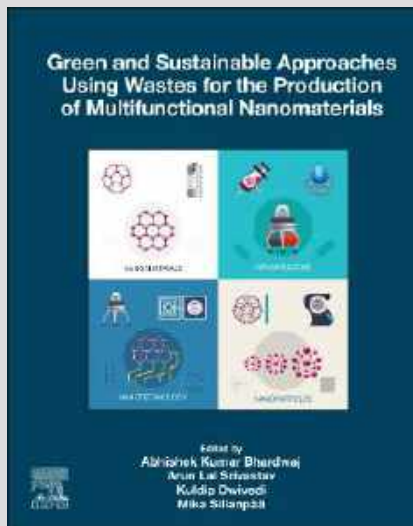
Methods and Applications for Geochronology provides a comprehensive, practical guide to the always growing and refining field of geochronology. The book's chapters are written by leading experts in their field of geochronology and involve practical information and 'rules of thumb' for establishing laboratories and using analytical equipment. This book is an authoritative guide, not just for the required background that a researcher will need to know, but also for its descriptions of analytical methods, guidance for sample selection, and comprehensive information on data reduction and presentation.



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EARTH & ENVIRONMENT Geochemistry
<https://virtuale.elsevier.com>, www.elsevier.com



Green and Sustainable Approaches Using Wastes for the Production of Multifunctional Nanomaterials

Edited by : **Abhishek Kumar Singh**, Professor, Materials Research Centre, Indian Institute of Science, Bangalore, India; **Arun Lal Srivastav**, Assistant Professor, Chitkara University, India; **Kuldeep Dwivedi**, Department of Environmental Science, Amity University Madhya Pradesh (AUMP), India and **Mika Sillanpaa**, Professor, Department of Biological and Chemical Engineering, Aarhus University, Aarhus, Denmark

ISBN: 9780443191831

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 233

AUDIENCE: Graduate and postgraduate students, Environmental Engineers, Chemical engineers, and scientists, research scholars working in the field related to nanoscience, nanotechnology, nanotoxicity and their application, Public health department, Civil Engineering, Chemical Engineering, Industrial Chemistry, Environmental Sciences, Urban Planning, Municipal Corporations, NGOs working in urban areas , Industries working in the field of waste management etc

BIC CODES: TQK, RN

THEMA CLASSIFICATION: THEMATQK; THEMATQ

Establishes the value of waste materials in terms of NMs synthesis, optimization methods, characterization, and applications in various industries

KEY FEATURES

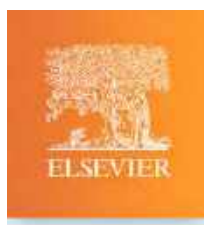
- Provides various types of waste management helps to develop innovative ideas
- Discusses waste to valuable wealth, waste resources management, approaches to focus sustainable development, pollution reduction, and alternative options for smooth recovery of resources
- Contains advanced information about green nanotechnology

DESCRIPTION

Green and Sustainable Approaches Using Wastes for the Production of Multifunctional Nanomaterials focuses on the examination of green synthesis utilizing green waste materials derived from home and industrial applications. This book also examines the current state of material generations, future problems and their industrial constraints, and the synthesis of NMs for various applications such as medicinal, agriculture, environmental, food and beverage storage, and so on. The book includes the most recent practical and theoretical aspects of the use of waste materials released in the fabrication of various types of valuable nanomaterials, such as metal, metal oxide, polymeric, and graphene, among others. This is a relatively new concept in waste utilization, and green synthesis is a viable resource in making NPs. This book will also be valuable for waste management professionals who need proper disposal techniques for by-products.

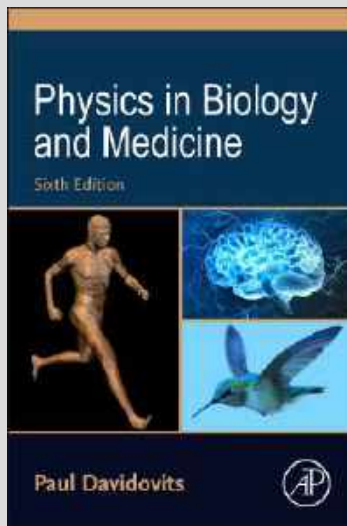


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EARTH & ENVIRONMENT

<https://virtuale.elsevier.com>, www.elsevier.com



Physics in Biology and Medicine, 6e

Paul Davidovits, University Professor of Chemistry, Boston College, Massachusetts, USA

ISBN: 9780443215582

PREVIOUS ISBN: 9780443154638

PUB DATE: Jan 01, 2024

LIST PRICE: £76.95 / \$99.95 / €86.95

DISCOUNT: Textbook

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 372

AUDIENCE: Students in undergraduate and graduate courses in Biophysics. Professionals / researchers / academics applying Biophysics principles in research and applied settings, who require an introduction or refresher to the subject

BIC CODES: PHVN

THEMA CLASSIFICATION:

THEMAPHVN

Introductory text on the application of physics principles in the life sciences, specifically medicine, physiology, biology, nursing, and physical therapy

KEY FEATURES

- Provides practical information and techniques for building fundamental knowledge and applying physics and biology to the study of living systems
- Includes numerous figures, examples, illustrative problems, and appendices which provide convenient access to the important concepts of mechanics, electricity, and optics used in the text
- Features new and revised coverage on metamaterials, metabolism, and environmental science
- Offers online support, including a full solutions manual for qualified instructors and additional programming resources (PowerPoints) for students

DESCRIPTION

Physics in Biology and Medicine, Sixth Edition includes new, revised material and corresponding exercises on many exciting developments in the field. New sections cover biomechanics, biotribology, frictional properties of biological materials, 3-D printing and its use in medicine, new materials in dentistry, microfluidics, bioelectronic medicine, microsenors, and microscopy. This revised edition delivers helpful and engaging additions to the role and importance of physics in biology and medicine, including new coverage on metamaterials, metabolism, and environmental science. It is ideal for courses in biophysics, medical physics, and related subjects.



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PHYSICS

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COVER IMAGE
FORTHCOMING

Mathematical Modelling in Bioscience

Theory and Applications

Edited by : **Hemen Dutta**, Ph.D., Professor, Department of Mathematics, Gauhati University, India

ISBN: 9780443154454

PUB DATE: Jun 01, 2024

LIST PRICE: £145.99 / \$180.00 / €170.99

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 279

AUDIENCE: Mathematicians, researchers in computational modelling and computational biology, computer scientists, engineers, as well as researchers in biomedical engineering and other biological sciences

BIC CODES: PBW

THEMA CLASSIFICATION: THEMABW

Provides readers with the tools and techniques needed for mathematical modeling in bioscience through a wide range of novel and intriguing topics

A Volume in the *Advanced Studies in Complex Systems* Series

KEY FEATURES

- Provides key concepts for advanced mathematical methods for modeling in bioscience
- Includes statistical, delay, random, and stochastic mathematical models
- Focuses on broader aspects of mathematical models in bioscience
- Presents readers with several types of dynamic representative applications

DESCRIPTION

Mathematical Modeling in Bioscience: Theory and Applications provides readers with the tools and techniques needed for mathematical modeling in bioscience. The book concentrates on larger elements of mathematical modeling in bioscience, including topics such as modeling of the Topp-Leone new power generalized Weibull-G distribution family, vector-borne disease modeling, transmission modeling of SARS-COV-2 among other infectious diseases, pattern formulation models, compartmental models for HIV/AIDS transmission, population models, irrigation scheduling models, and predator-prey models. Readers will discover a variety of new methods, approaches, and techniques, as well as a wide range of applications demonstrating key concepts in bioscience modeling. The book provides a leading-edge resource for researchers in a variety of scientific fields who are interested in mathematical modeling, including mathematics, statistics, biology, biomedical engineering, computer science, and applied sciences.

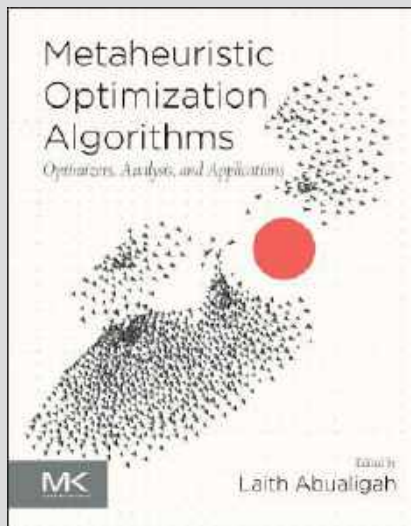


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COMPUTING

<https://virtuale.elsevier.com>, www.elsevier.com



Metaheuristic Optimization Algorithms

Optimizers, Analysis, and Applications

Edited by : **Laith Abualigah**, Associate Professor, Hourani Center for Applied Scientific Research, Al-Ahliyya Amman University, Jordan

ISBN: 9780443139253

PUB DATE: Jun 01, 2024

LIST PRICE: £138.00 / \$180.00 / €160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 233

AUDIENCE: The primary audience includes Computer Scientists and researchers in Artificial Intelligence and Machine Learning, specifically in the field of developing Meta-Heuristic algorithms and applications. As such, academics, researchers, and professionals in a variety of research fields who work with AI, algorithms, and machine learning and their applications to various real-world research problems will be a target audience. Engineers who need to understand the impacts of AI and Machine Learning algorithms in complex systems. Could become a supplementary text for a wide range of upper-level undergrad and graduate-level Computer Science courses on AI, ML, and algorithm development.

BIC CODES: UYQ

THEMA CLASSIFICATION:

THEMAUYQ

Presents the foundations and mathematics of Metaheuristic Optimization Algorithms through a wide range of real-world applications

KEY FEATURES

- World-renowned researchers and practitioners in Metaheuristics present the procedures and pseudocode for creating a wide range of optimization algorithms
- Helps readers formulate and design the best optimization algorithms for their research goals through case studies in a variety of real-world applications
- Helps readers understand the links between Metaheuristic algorithms and their application in Computational Intelligence, Machine Learning, and Deep Learning problems

DESCRIPTION

Metaheuristic Optimization Algorithms: Optimizers, Analysis, and Applications presents the most recent optimization algorithms and their applications across a wide range of scientific and engineering research fields. The book provides readers with a comprehensive overview of eighteen optimization algorithms to address this complex data, including Particle Swarm Optimization Algorithm, Arithmetic Optimization Algorithm, Whale Optimization Algorithm, and Marine Predators Algorithm, along with new and emerging methods such as Aquila Optimizer, Quantum Approximate Optimization Algorithm, Manta-Ray Foraging Optimization Algorithm, and Gradient Based Optimizer, among others. Each chapter includes an introduction to the modeling concepts used to create the algorithm that is followed by the mathematical and procedural structure of the algorithm, associated pseudocode, and real-world case studies.



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COMPUTING

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Foundations of Cloud Computing

Robert Shimonski, Director, IT Infrastructure and Management at Northwell Health System, Plainview, NY, USA

ISBN: 9780443214790
PUB DATE: Oct 01, 2025
LIST PRICE: £130.00 / \$150.00 / €130.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 233
AUDIENCE: Researchers in a wide range of Computer Science and related interdisciplinary fields who want to learn the fundamentals of cloud computing, Students in upper-level undergrad and graduate level computer science courses on cloud computing
BIC CODES: UMX, UB
THEMA CLASSIFICATION: THEMAUNC; THEMAUMX

Gives you everything you need to navigate and apply this important, ubiquitous technology

A Volume in the *Foundations Series*

KEY FEATURES

- Covers research issues and concepts of Cloud Computing, providing a complete foundational understanding of the field, including history of the field, the state-of-the-art, principles, and key concepts
- Provides in-depth information about the technical underpinnings of Cloud Computing, such as mathematical formulas, programming methods, algorithms, and protocols
- Helps readers understand the links between Cloud Computing and related interdisciplinary fields for collaboration in research and development, by providing applications and case studies, a road map of related fields, glossary, frontiers of research, as well as challenges and future directions

DESCRIPTION

Foundations of Cloud Computing provides readers with a guidebook to navigating the field of Cloud Computing, including the guiding principles, key concepts, history, terminology, state-of-the-art in research, and a roadmap to where the field intersects and interacts with related fields of research and development. In this age of total connectivity, researchers need to be able to communicate and collaborate with a wide range of colleagues across multiple disciplines. This book helps researchers from all fields understand what Cloud Computing is, how it works, and how to speak the language of collaboration with developers and researchers who specialize in the field. With a complete and in-depth foundation in the key concepts of the field, and a roadmap to where and how Cloud Computing intersects across the domains of scientific research and application development, this book gives readers everything they need to navigate and apply this important, ubiquitous technology.

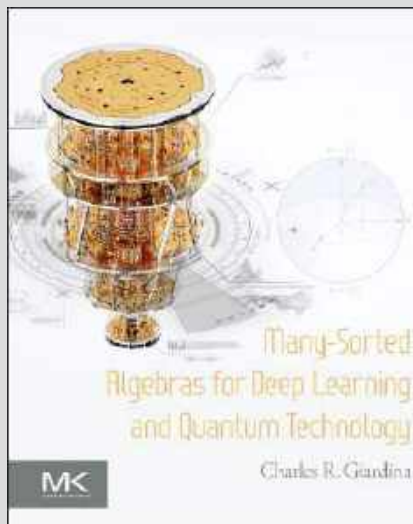


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COMPUTING

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Many-Sorted Algebras for Deep Learning and Quantum Technology

Charles R. Giardina, Ph.D., Lucent Technologies, CA, USA

ISBN: 9780443136979

PUB DATE: Jan 01, 2024

LIST PRICE: £138.00 / \$180.00 / €160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 330

AUDIENCE: Computer Science researchers, software engineers, programmers, and Quantum technology researchers in academia and industry, Graduate students and senior undergraduate students in Computer Science and quantum technology

BIC CODES: PSA

THEMA CLASSIFICATION: THEMAPS

Presents the algebraic underpinnings and basic concepts in Quantum Theory and how they relate to Deep Learning and Quantum technologies

KEY FEATURES

- Includes hundreds of well-designed examples to illustrate the intriguing concepts in Quantum systems
- Provides precise description of all laws or equational identities that are needed in specifying an algebraic structure
- Illustrates all the inter and intra sort operations needed in describing algebras

DESCRIPTION

Many-Sorted Algebras for Deep Learning and Quantum Technology presents a precise and rigorous description of basic concepts in Quantum technologies and how they relate to Deep Learning and Quantum Theory. Current merging of Quantum Theory and Deep Learning techniques provides the need for a text that gives readers insights into the algebraic underpinnings of these disciplines. Although analytical, topological, probabilistic, as well as geometrical concepts are employed in many of these areas, algebra exhibits the principal thread, hence this thread is exposed using Many-Sorted Algebras (MSA). This book includes hundreds of well-designed examples that illustrate the intriguing concepts in Quantum systems. Along with these examples are numerous visual displays. In particular, the Polyadic Graph shows the types or sorts of objects used in Quantum or Deep Learning. It also illustrates all the inter and intra sort operations needed in describing algebras. In brief, it provides the closure conditions. Throughout the text, all laws or equational identities needed in specifying an algebraic structure are precisely described.

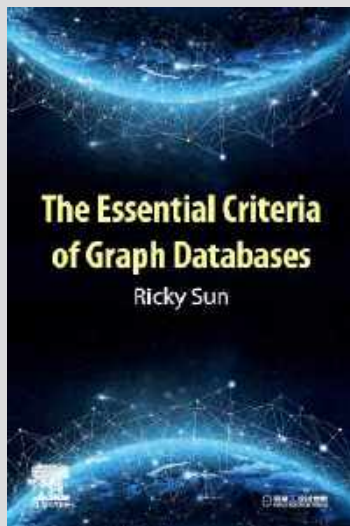


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The Essential Criteria of Graph Databases

Ricky Sun, Founder of Ultipa, China Machine Press, Huazhang Co., Xicheng District, Beijing, China

ISBN: 9780443141621

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 279

AUDIENCE: IT architects/Database designers/DBAs, Computer engineers/Programmers, Business Decision Makers/CXOs, College and Graduate Students, Anyone who is interested in new(er)/disruptive technologies and solutions

BIC CODES: UN, GLC, UM, PBD, UY

THEMA CLASSIFICATION:

THEMAUFL; THEMAPBD;

THEMAUN; THEMAUY; THEMAKJ;

THEMAUM

Provides a detailed overview of the potential of graph computing

KEY FEATURES

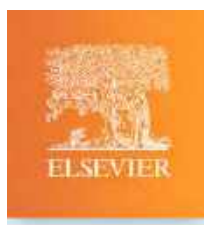
- Presents updates on the essential criteria of graph database(s) and how they are quite different from traditional relational database or other types of NoSQL DBMS or any of those big-data frameworks (i.e., Hadoop, Spark, etc.)
- Clearly points out the key criteria that readers should pay attention to
- Teaches users how to avoid common mistakes and how to get hands-on with system architecture design, benchmarking or selection of an appropriate graph platform/vendor-system

DESCRIPTION

The Essential Criteria of Graph Databases collects several truly innovative graph applications in asset-liability and liquidity risk management to spark readers' interest and further broaden the reach and applicable domains of graph systems. Although AI has incredible potential, it has three weak links: 1. Blackbox, lack of explainability, 2. Silos, slews of siloed systems across the AI ecosystem, 3. Low-performance, as most of ML/DL based AI systems are SLOW. Hence, fixing these problems paves the road to strong and effective AI.

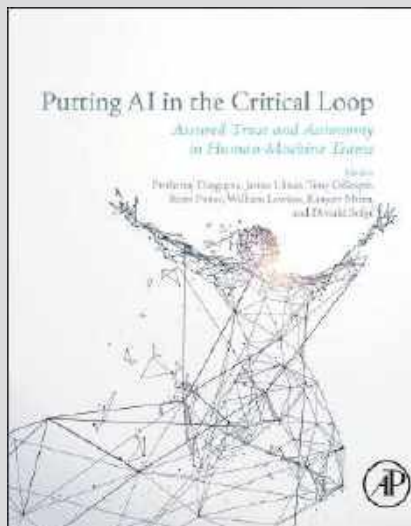


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Putting AI in the Critical Loop

Assured Trust and Autonomy in Human-Machine Teams

Edited by : **Prithviraj Dasgupta**, Computer Engineer, Distributed Intelligent Systems Section, Naval Research Laboratory, Washington, D.C, USA; **James Llinas**, Emeritus Professor, University at Buffalo, New York, NY, USA; **Tony Gillespie**, Visiting Professor, University College London, UK; **Scott Fouse**, Independent Consultant, Fouse Consulting Services, AZ, USA; **William Lawless**, Department of Mathematics, Sciences and Technology, and Department of Social Sciences, School of Arts and Sciences, Paine College, Augusta, GA, USA; **Ranjeev Mittu**, Information Management and Decision Architectures Branch, Information Technology Division, U.S. Naval Research Laboratory, Washington, DC, USA and **Donald Sofge**, Navy Center for Applied Research in Artificial Intelligence, United States Naval Research Laboratory, Washington, DC, USA

ISBN: 9780443159886

PUB DATE: Jan 01, 2024

LIST PRICE: £162.99 / \$200.00 / €189.99

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 391

AUDIENCE: Graduate students, researchers, and professionals in the fields of computer science, interested in the fields of artificial intelligence and autonomous human-machine teams and systems

BIC CODES: UYQE, UYZ, UYQ, TJFM1, UYQM

THEMA CLASSIFICATION: THEMAUYZ; THEMATJFM1; THEMAUYQ; THEMAUYQE

Presents a review of the primary challenges of performance and bidirectional trust in relation to human-machine teams and autonomous systems

KEY FEATURES

- Assesses the latest research advances, engineering challenges, and the theoretical gaps surrounding the question of autonomy
- Reviews the challenges of autonomy (e.g., trust, ethics, legalities, etc.), including gaps in the knowledge of the science
- Offers a path forward to solutions
- Investigates the value of trust by humans of HMTs, as well as the bidirectionality of trust, understanding how machines learn to trust their human teammates

DESCRIPTION

Putting AI in the Critical Loop: Assured Trust and Autonomy in Human-Machine Teams takes on the primary challenges of bidirectional trust and performance of autonomous systems, providing readers with a review of the latest literature, the science of autonomy, and a clear path towards the autonomy of human-machine teams and systems. Throughout this book, the intersecting themes of collective intelligence, bidirectional trust, and continual assurance form the challenging and extraordinarily interesting themes which will help lay the groundwork for the audience to not only bridge knowledge gaps, but also to advance this science to develop better solutions. The distinctively different characteristics and features of humans and machines are likely why they have the potential to work well together, overcoming each other's weaknesses through cooperation, synergy, and interdependence which forms a "collective intelligence." Trust is bidirectional and two-sided; humans need to trust AI technology, but future AI technology may also need to trust humans.

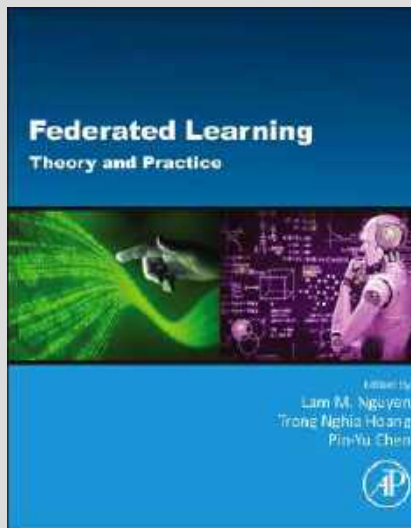


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Federated Learning

Theory and Practice

Edited by : **Lam M. Nguyen**; **Trong Nghia Hoang**, Assistant Professor, Washington State University, USA and **Pin-Yu Chen**, Research Staff member, IBM Thomas J. Watson Research Center, Yorktown Heights, NY, USA

ISBN: 9780443190377
PUB DATE: Jan 01, 2024
LIST PRICE: £95.95 / \$125.00 / €109.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 400

AUDIENCE: Researchers and students in computer science, computer engineering, engineering, and industry practitioners, Graduate courses in federated learning

BIC CODES: UYQM, UYQE, UYQ

THEMA CLASSIFICATION: THEMAUYQ; THEMAUYQE

A comprehensive reference on federated learning containing fundamentals, applications and state-of-the-art

KEY FEATURES

- Presents the fundamentals and a survey of key developments in the field of federated learning
- Provides emerging, state-of-the art topics that build on fundamentals
- Contains industry applications
- Gives an overview of visions of the future

DESCRIPTION

Federated Learning: Theory and Practice provides a holistic treatment to federated learning, starting with a broad overview on federated learning as a distributed learning system with various forms of decentralized data and features. A detailed exposition then follows of core challenges and practical modeling techniques and solutions, spanning a variety of aspects in communication efficiency, theoretical convergence and security, viewed from different perspectives. Part II features emerging challenges stemming from many socially driven concerns of federated learning as a future public machine learning service, and Part III and IV present a wide array of industrial applications of federated learning, including potential venues and visions for federated learning in the near future. This book provides a comprehensive and accessible introduction to federated learning which is suitable for researchers and students in academia and industrial practitioners who seek to leverage the latest advances in machine learning for their entrepreneurial endeavors

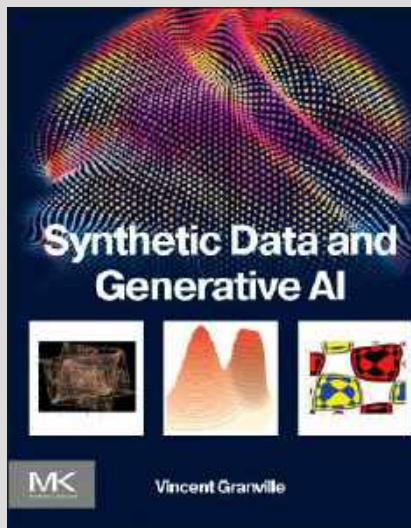


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Synthetic Data and Generative AI

Vincent Granville, Author and Publisher, MLTechniques.com, USA

ISBN: 9780443218576

PUB DATE: Jan 01, 2024

LIST PRICE: £121.00 / \$150.00 /
€142.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 233

AUDIENCE: Computer Scientists and researchers in Artificial Intelligence and Machine Learning, as well as practitioners in analytics in a variety of fields such as quant, engineering, statistics, operations research, biostatisticians, data scientists, data engineers, CTOs, and other decision makers. As such, academics, researchers, and professionals in a variety of research fields who work with AI, algorithms, big data, and machine learning and their applications to various real-world research and application problems will be a target audience. Upper-level undergrad and graduate students in Computer Science, AI, ML, applied mathematics, and data science.

BIC CODES: UYQ, UB

THEMA CLASSIFICATION:
THEMAUYQ; THEMAUNC

Provides a comprehensive look at the foundations of machine learning, including modern approaches to solving complex problems

KEY FEATURES

- Emphasizes numerical stability and performance of algorithms (computational complexity)
- Focuses on explainable AI/interpretable machine learning, with heavy use of synthetic data and generative models, a new trend in the field
- Includes new, easier construction of confidence regions, without statistics, a simple alternative to the powerful, well-known XGBoost technique
- Covers automation of data cleaning, favoring easier solutions when possible
- Includes chapters dedicated fully to synthetic data applications: fractal-like terrain generation with the diamond-square algorithm, and synthetic star clusters evolving over time and bound by gravity

DESCRIPTION

Synthetic Data and Generative AI covers the foundations of machine learning with modern approaches to solving complex problems and the systematic generation and use of synthetic data. Emphasis is on scalability, automation, testing, optimizing, and interpretability (explainable AI). For instance, regression techniques – including logistic and Lasso – are presented as a single method without using advanced linear algebra. Confidence regions and prediction intervals are built using parametric bootstrap without statistical models or probability distributions. Models (including generative models and mixtures) are mostly used to create rich synthetic data to test and benchmark various methods.

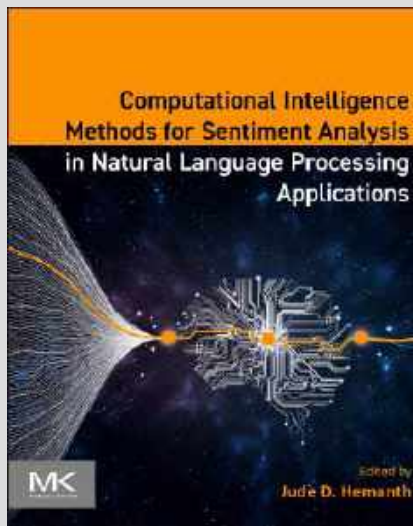


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COMPUTING

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Computational Intelligence Methods for Sentiment Analysis in Natural Language Processing Applications

Edited by : **D. Jude Hemanth**, B.E., M.E., Ph.D, Professor, ECE Department, Karunya Institute of Technology and Sciences, Coimbatore, India

ISBN: 9780443220098

PUB DATE: Jan 01, 2024

LIST PRICE: £138.00 / \$180.00 / €160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 237

AUDIENCE: Computer Scientists and researchers in Computational Intelligence and Machine Learning, specifically in the field of developing Natural Language Processing algorithms and applications. As such, academics, researchers, and professionals in a variety of research fields who work with AI, algorithms, and Machine Learning and their applications to Sentiment Analysis will be a target audience. Linguistics researchers, social science researchers, management science researchers, government and non-government organizations, data analysts, and engineers working on NLP and Sentiment Analysis

BIC CODES: UYQM, UYQ

THEMA CLASSIFICATION: THEMAUYQ

The most comprehensive, technical guide to developing AI-based Sentiment Analysis systems with NLP and computational intelligence methods

KEY FEATURES

- Includes basic concepts, technical explanations, and case studies for in-depth explanation of the Sentiment Analysis
- Aids computer scientists in developing practical/real-world AI-based Sentiment Analysis systems
- Provides readers with real-world development applications of AI-based Sentiment Analysis, including transfer learning for opinion mining from pandemic medical data, sarcasm detection using neural networks in human-computer interaction, and emotion detection using the random-forest algorithm

DESCRIPTION

Computational Intelligence for Sentiment Analysis in Natural Language Processing Applications provides a solution to this problem through detailed technical coverage of AI-based Sentiment Analysis methods for various applications. The book's authors provide readers with an in-depth look at the challenges and associated solutions, including case studies and real-world scenarios from across the globe. Development of scientific and enterprise applications are covered that will aid computer scientists in building practical/real-world AI-based Sentiment Analysis systems. With the vast increase in Big Data, computational intelligence approaches have become a necessity for Natural Language Processing and Sentiment Analysis in a wide range of decision-making application areas.

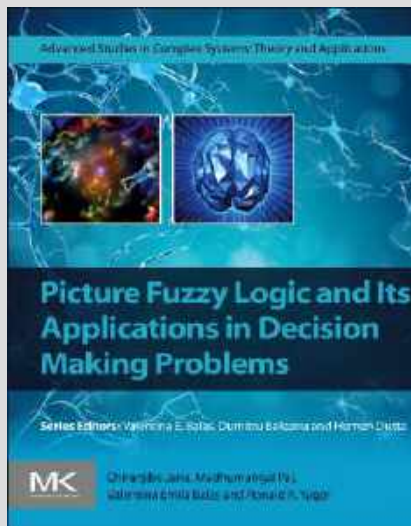


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COMPUTING

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Picture Fuzzy Logic and Its Applications in Decision Making Problems

Chiranjibe Jana, Researcher, Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University, Midnapore, West Bengal, India; **Madhumangal Pal**, Full Professor, Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University, Midnapore, West Bengal, India; **Valentina Emilia Balas**, Full Professor, Department of Automatics and Applied Software, Faculty of Engineering, Aurel Vlaicu University of Arad, Romania and **Ronald R. Yager**, Iona College, Machine Intelligence Institute, New York, USA

ISBN: 9780443220241

PUB DATE: Jan 01, 2024

LIST PRICE: £165.00 / \$200.00 / €190.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 298

AUDIENCE: Researchers in computational modelling, applied mathematicians, and computer scientists working with researchers and developers in engineering, biomedical, and other applied sciences. Researchers, developers, and graduate students in computer science and mathematics interested in fuzzy systems and their extensions, fuzzy logic applications, and picture fuzzy logic

BIC CODES: UFL, MBF, PBW, UYQ

THEMA CLASSIFICATION:

THEMAKJT; THEMAUFL;

THEMAPBW; THEMAUYQ

Presents novel insights in mathematical and computational modeling with picture fuzzy logic to solve Multi-Attribute Decision Making problems

A Volume in the *Advanced Studies in Complex Systems Series*

KEY FEATURES

- Provides in-depth explanations of picture fuzzy logic and its application to computational modeling problems
- Helps readers understand the difference between various fuzzy logic methods
- Provides concepts used to develop and solve problems within the picture fuzzy environment

DESCRIPTION

Picture Fuzzy Logic and Its Applications in Decision Making Problems provides methodological frameworks and the latest empirical research findings in the field of picture fuzzy operators and their applications in scientific research and real-world engineering problems. In this book, picture fuzzy sets are investigated, and different types of operators are defined to solve a number of important decision-making and optimization problems. The hybrid operator on picture fuzzy set based on the combination of picture fuzzy weighted averaging operators and picture fuzzy weighted geometric operators is developed and named Hybrid Picture Fuzzy Weighted Averaging Geometric (H-PFWAG) operator. In addition, another operator is developed for interval-valued picture fuzzy environment, which is named Hybrid Interval-Valued Picture Fuzzy Weighted Averaging Geometric (H-IVPFWAG) operator. These two operators are then demonstrated as solutions to Multiple-Attribute Decision-Making (MADM) problems. The picture fuzzy soft weighted aggregation operators (averaging and geometric) are defined, and these are applied to develop a multi-criteria group decision making system.

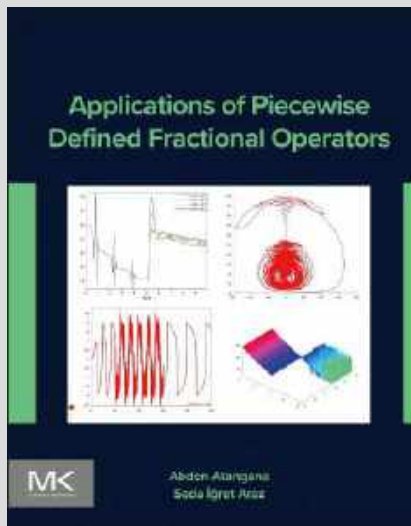


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Applications of Piecewise Defined Fractional Operators

Abdon Atangana, Academic Head, Department and Professor of Applied Mathematics, University of the Free State, Bloemfontein, South Africa and **Seda Igret Araz**, Assistant Professor of Mathematics, Department of Mathematics, Siirt University, Siirt, Turkey

ISBN: 9780443221309
PUB DATE: Jan 01, 2024
LIST PRICE: £146.00 / \$180.00 / €170.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 191 x 235

PAGES: c. 242

AUDIENCE: Researchers in computational modelling, applied mathematicians, and computer scientists working with researchers and developers in engineering, biomedical, and other applied sciences. Researchers, developers, and graduate students in computer science and mathematics interested in calculus and differential equations for mathematical modelling of physical phenomena

BIC CODES: PBW, MBF, UFL

THEMA CLASSIFICATION:

THEMAPBW; THEMAUFL;

THEMAKJT

Presents the applications and methods of the newly introduced piecewise differential and integral operators where crossover behaviors are observed

A Volume in the *Advanced Studies in Complex Systems* Series

KEY FEATURES

- Provides in-depth explanations of differential equations with fractional and piecewise differential and integral operators
- Helps readers understand why the concept of piecewise calculus is needed
- Presents definitions of derivatives and integrals with their different properties
- Includes a variety of real-world applications, such as chaos, epidemiological modeling, biological modeling, and others

DESCRIPTION

Applications of Piecewise Defined Fractional Operators, Volume Two introduces new mathematical methods to derive complex modeling solutions with stability, consistency, and convergence. These tools include new types of non-local derivatives and integrals, such as fractal-fractional derivatives and integrals. Drs. Atangana and Araz present the theoretical and numerical analyses of newly introduced piecewise differential and integral operators where crossover behaviors are observed, along with applications. The book contains foundational concepts that will help readers better understand piecewise differential and integral calculus and their applications to modeling processes. Concepts are applied to heat transfer, groundwater transport, groundwater flow, telegraph dynamics, heart rhythm, and others. Applying principles introduced in the first volume, new numerical schemes are introduced to derive numerical solutions to these new equations, and the stability, consistency, and convergence analysis of these new numerical approaches are presented.

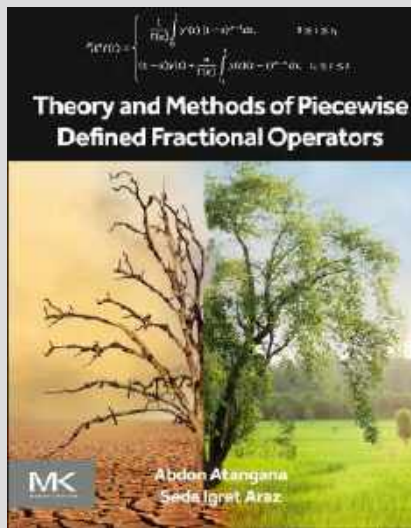


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Theory and Methods of Piecewise Defined Fractional Operators

Abdon Atangana, Academic Head, Department and Professor of Applied Mathematics, University of the Free State, Bloemfontein, South Africa and **Seda Igret Araz**, Assistant Professor of Mathematics, Department of Mathematics, Siirt University, Siirt, Turkey

ISBN: 9780443221569
PUB DATE: Jan 01, 2024
LIST PRICE: £146.00 / \$180.00 / €170.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 242

AUDIENCE: Researchers in computational modelling, applied mathematicians, and computer scientists working with researchers and developers in engineering, biomedical, and other applied sciences. Researchers, developers, and graduate students in computer science and mathematics interested in calculus and differential equations for mathematical modelling of physical phenomena

BIC CODES: TGB, UFL, MBF, PBW

THEMA CLASSIFICATION:

THEMATGB; THEMAKJT;

THEMAUFL; THEMABPW

Presents the theoretical and numerical analyses of the newly introduced piecewise differential and integral operators where crossover behaviors are observed

KEY FEATURES

- Provides in-depth explanation of differential equations with fractional and piecewise differential and integral operators
- Helps readers understand why the concept of piecewise calculus is needed
- Includes definitions of derivatives and integrals with their different properties
- Presents theoretical and numerical analyses of newly introduced piecewise
- Covers differential and integral operators where crossover behaviors are observed

DESCRIPTION

Theory and Methods of Piecewise Defined Fractional Operators introduces new mathematical methods to derive complex modeling solutions with stability, consistency, and convergence. These tools include new types of non-local derivatives and integrals, such as fractal-fractional derivatives and integrals. Drs. Atangana and Araz present the theoretical and numerical analyses of the newly introduced piecewise differential and integral operators where crossover behaviors are observed, as well as their applications to real-world problems. The book contains foundational concepts that will help readers better understand piecewise differential and integral calculus and their applications to modeling processes with crossover behaviors. Several Cauchy problems with piecewise differential operators are considered, and their existence and uniqueness under some conditions are presented; in particular, the Carathéodory principle is used to ensure the existence and uniqueness of these new Cauchy problems. New numerical schemes are introduced to derive numerical solutions to these new equations, and the stability, consistency, and convergence analysis of these new numerical approaches are also presented.

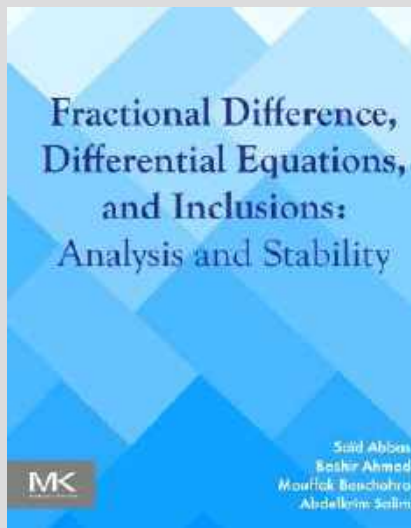


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Fractional Difference, Differential Equations, and Inclusions

Analysis and Stability

Saïd Abbas, Professor, Department of Mathematics, Tahar Moulay University of Saida, Algeria; Bashir Ahmad, Professor, King Abdulaziz University, Jeddah, Saudi Arabia; Mouffak Benchohra, Professor, Department of Mathematics, Djillali Liabes University of Sidi Bel Abbès, Algeria and Abdelkrim Salim

ISBN: 9780443236013
PUB DATE: Jan 01, 2024
LIST PRICE: £138.00 / \$180.00 /
€160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 279

AUDIENCE: Researchers in computational modelling, applied mathematicians, and computer scientists working with researchers and developers in engineering, biomedical, and other applied sciences. Researchers, developers, and graduate students in mathematics interested in fractional differential equations and inclusions

BIC CODES: PBW, PBKA, PBU, TGB, UFL, MBF

THEMA CLASSIFICATION:

THEMAUFL; THEMABW;
THEMAPKA; THEMABU;
THEMAKJT; THEMATGB

Presents novel insights in mathematical and computational modeling, with fractional differential equations and inclusions with delay and impulsive effects

KEY FEATURES

- Introduces notation, definitions, and foundational concepts of fractional q-calculus
- Presents existence and attractivity results for a class of implicit fractional q-difference equations in Banach and Fréchet spaces
- Focuses on the study of a class of coupled systems of Hilfer and Hilfer-Hadamard fractional differential equations

DESCRIPTION

Fractional Difference, Differential Equations, and Inclusions: Analysis and Stability is devoted to the existence and stability (Ulam-Hyers-Rassias stability and asymptotic stability) of solutions for several classes of functional fractional difference equations and inclusions. Covered equations include delay effects of finite, infinite, or state-dependent nature, and tools used to establish the existence results for the proposed problems include fixed point theorems, densifiability techniques, monotone iterative technique, notions of Ulam stability, attractivity and the measure of non-compactness, as well as the measure of weak noncompactness. The tools of fractional calculus are found to be of great utility in improving the mathematical modeling of many natural phenomena and processes occurring in the areas of engineering, social, natural, and biomedical sciences. All abstract results in the book are illustrated by examples in applied mathematics, engineering, biomedical, and other applied sciences.

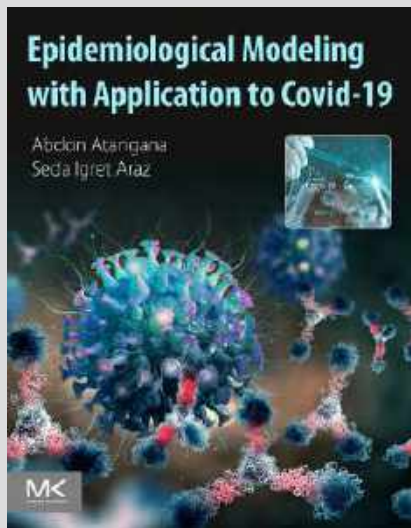


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Epidemiological Modeling with Application to Covid-19

Abdon Atangana, Academic Head, Department and Professor of Applied Mathematics, University of the Free State, Bloemfontein, South Africa and **Seda Igret Araz**, Assistant Professor of Mathematics, Department of Mathematics, Siirt University, Siirt, Turkey

ISBN: 9780443238673

PUB DATE: Jan 01, 2024

LIST PRICE: £202.99 / \$250.00 / €236.99

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 8.50w x 11.00h

PAGES: c. 372

AUDIENCE: Researchers in computational modelling, applied mathematicians, and computer scientists working with researchers and clinicians in biomedical and epidemiological modeling. Researchers, developers, and graduate students in computer science and mathematics interested in calculus and differential equations for mathematical modelling of biomedical and epidemiological phenomena
BIC CODES: PBW, UFL, MBF
THEMA CLASSIFICATION: THEMABPW; THEMAUFL; THEMAKJT

Presents new mathematical methods to derive epidemiological modeling solutions for the spread of Covid-19 and other diseases

KEY FEATURES

- Provides in-depth analysis of the spread of Covid-19, including discussion of theoretical and numerical results
- Introduces a new concept called the rate indicator function for a new perspective on the spread of virological disease in epidemiology
- Presents a novel modeling method called strength numbers, created under the umbrella of acceleration, which provides a determiner of the power of disease spread
- Provides a new approach to developing mathematical equations that may be used to show how an infectious disease spreads using the available starting data

DESCRIPTION

Epidemiological Modeling with Application to Covid-19 presents information about statistical, numerical, stability, and some theoretical analyses for nine different Covid-19 models. Those models are considered with classical and fractional derivatives, which is a generalization of the classical analysis. The authors present their newly introduced rate indicator function for the prediction of the waves of Covid-19 spread. Moreover, future prediction of Covid-19 spread is presented for some countries. *Epidemiological Modeling with Application to Covid-19* provides in-depth analysis of the spread of Covid-19, including discussion of theoretical and numerical results. The book presents a novel modeling method called strength numbers, created under the umbrella of acceleration, which provides a determiner of the power of disease spread. The authors also provide a new approach to modeling epidemiological issues in general, which has been tested against the spread of COVID-19 in several nations. These significant characteristics might be the key to understanding and anticipating the spread of infections and diseases more generally.



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COVER IMAGE
FORTHCOMING

Power Electronics for Solar and Wind Energy Conversion Systems

Felix Rojas Lobos, Assistant Professor at the University of Santiago, Chile; **Edson Bim**, Department of Energy and Systems, School of Electrical and Computer Engineering, University of Campinas (Unicamp), Brasil and **Javier Pereda Torres**, Pontificia Universidad Católica de Chile, Chile

ISBN: 9780128168707

PUB DATE: Oct 01, 2024

LIST PRICE: £127.00 / \$165.00 / €144.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 440

AUDIENCE: Practicing electric, power and renewable engineers and graduate students, those with background in engineering or applied science

BIC CODES: THX

THEMA CLASSIFICATION: THEMATHV

A comprehensive compilation of important developments from a holistic viewpoint that considers power electronics, machines, control and mechanical systems

KEY FEATURES

- Presents a compilation of all important topics for understanding wind and solar energy conversion
- Provides support slides for course use and research learning
- Includes step-by-step examples, simulations and exercises that will help readers apply advanced knowledge

DESCRIPTION

Power Electronics for Solar and Wind Energy Conversion Systems is a comprehensive compilation of important developments from a holistic viewpoint that considers power electronics, machines, control and mechanical systems. The study of power electronics and its integration in different applications is covered through tutorials, exercises and simulation examples that help identify real-time, solution-based models on the proposed converter and controller designs for renewable energy sources. A comprehensive chapter is devoted to explaining controller design for power electronics systems and power converters design, providing engineers and researchers in all areas of power and renewable engineering the most advanced knowledge needed.



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ENGINEERING Energy

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COVER IMAGE
FORTHCOMING

Cooling Towers and Chilled Water Systems

Design, Operation, and Economic Analysis

Ricardo de Freitas Fernandes Pontes, Universidade Federal de São Paulo (UNIFESP) – Campus Diadema; Chemical Engineering Department and Rua Sao Nicolau, Brazil

ISBN: 9780323909778

PUB DATE: Jun 01, 2024

LIST PRICE: £138.00 / \$180.00 / €160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 240

AUDIENCE: Power engineers in thermal plants, equipment design engineers of cooling towers and chiller designs, plant and operation engineers responsible for troubleshooting plant problems and retrofitting plants, graduate students in power engineering, thermal engineering, nuclear engineering, chemical engineering disciplines

BIC CODES: TGB, TH

THEMA CLASSIFICATION: THEMATGB; THEMATH

Provides an analysis of the effects of various conditions on cooling towers and water-cooling systems

KEY FEATURES

- Presents strategies and tools for engineers to develop and manage efficient cooling towers and chilled water systems
- Analyzes the economic benefits of cooled water system designs through the full lifecycle, instructing the reader on how to accurately estimate operating costs
- Guides the reader through appropriate equipment selection to comply with project needs

DESCRIPTION

Cooling Towers and Chilled Water Systems: Design, Operation, and Economic Analysis is a guide to the design and operation of cooling systems within high temperature settings. The book presents various strategies to increase the turndown of cooling towers and chilled water systems and provides a toolkit for engineers to determine the use of variable frequency drivers. A guide to equipment selection for optimal design during the detailed engineering phase is provided, ensuring the reader is able to comply with the project specification within budget. Sections discuss various systems, circuits and processes for cooling tower and chiller systems before detailing design principles.

Operational and control strategies are then discussed before a thorough analysis of economic factors, making this book idea for professional engineers, graduate students and researchers working in high-temperature settings, such as power generation or chemical plants.

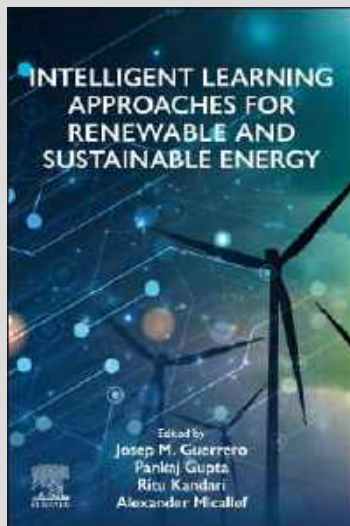


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PHYSICAL SCIENCES

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Intelligent Learning Approaches for Renewable and Sustainable Energy

Edited by : **Josep M. Guerrero**, Full Professor, AAU Energy, Aalborg University and Director of the Center for Research on Microgrids (CROM), Denmark; **Pankaj Gupta**, Assistant Professor, Indira Gandhi Delhi Technical University for Women, Delhi, India; **Ritu Kandari**, Senior Research Fellow (SRF) in Renewable Energy, IGDTUW, Delhi, India and **Alexander Micallef**, Senior Lecturer, Department of Industrial Electrical Power Conversion, University of Malta, Malta

ISBN: 9780443158063

PUB DATE: Jan 16, 2024

LIST PRICE: £138.00 / \$180.00 / €160.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 326

AUDIENCE: Academic: Researchers, scientists, and advanced students working in sustainable energy and integration of renewable energy sources into utility grids, as well as across energy systems, energy engineering, machine learning, and artificial intelligence. Industry: Energy engineers, R&D professionals, and industry personnel working in the field of renewable and sustainable energy.

BIC CODES: TH, UYQM, KNB, UYQ, THX, THRM

THEMA CLASSIFICATION:

THEMAUYQ; THEMAKNB;

THEMATHY; THEMATHR;

THEMATHV; THEMATH

A valuable guide to the latest innovative artificial intelligence techniques for renewable and sustainable energy

KEY FEATURES

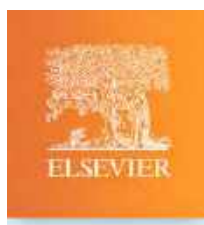
- Explores cutting-edge intelligent techniques and their implications for future energy systems development
- Opens the door to a range of applications across forecasting, supply and demand, energy management, optimization, and more
- Includes a range of case studies that provide insights into the challenges and solutions in real-world applications

DESCRIPTION

Intelligent Learning Approaches for Renewable and Sustainable Energy provides a practical, systematic overview of the application of advanced intelligent control techniques, adaptive techniques, machine learning algorithms, and predictive control in renewable and sustainable energy. Sections introduce intelligent learning approaches and the roles of artificial intelligence and machine learning in terms of energy and sustainability, grid transformation, large-scale integration of renewable energy, and variability and flexibility of renewable sources. Other sections provide detailed coverage of intelligent learning techniques as applied to key areas of renewable and sustainable energy, including forecasting, supply and demand, integration, energy management, optimization, and more. This is a useful resource for researchers, scientists, advanced students, energy engineers, R&D professionals, and other industrial personnel with an interest in sustainable energy and integration of renewable energy sources, energy systems, energy engineering, machine learning, and artificial intelligence.

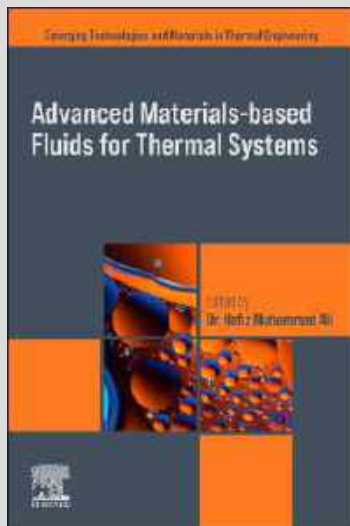


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ENGINEERING Energy

<https://virtuale.elsevier.com>, www.elsevier.com



Advanced Materials-Based Fluids for Thermal Systems

Edited by : **Hafiz Muhammad Ali**, Department of Mechanical Engineering, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

ISBN: 9780443215766

PUB DATE: Jan 01, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 326

AUDIENCE: Advanced students in the fields of energy, thermal science, chemical and mechanical engineering. Researchers and professionals (engineers, industry, R&D) focused on nanofluids, heat transfer and thermal systems

BIC CODES: TGMF3, TH, PHH, TJ, THX, PNRW

THEMA CLASSIFICATION:
THEMAPHDF; THEMAPNR;
THEMATGMF; THEMATH;
THEMAPHH; THEMATJFD;
THEMATHV

Focuses on advanced nanofluids that can be used to maximize heat transfer rates by adding nanoparticles (nanocomposites) into heat transfer fluids

KEY FEATURES

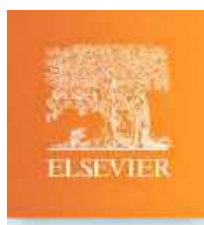
- Summarizes heat transfer characteristics of nanofluids
- Addresses factors that affect the properties of heat transfer
- Includes applications and challenges of commercialization

DESCRIPTION

Advanced Materials-Based Fluids for Thermal Systems focuses on new advanced materials called nanofluids that can be used to maximize heat transfer rates by adding nanoparticles (nanocomposites) into conventional heat transfer fluids. This comprehensive resource covers fundamentals, brief history, definitions, literature review, an introduction to thermophysical properties, and heat transfer characteristics with mathematical models, techniques, performance-affecting factors, applications, and challenges of hybrid nanofluids. The book includes thermal characteristics, measurement, design, and applications of nanoparticles, as well as up-to-date advances in thermal engineering. Sections cover basics then advance to major topics with mathematical models, schematic diagrams, and summaries of experimental work of different researchers. The book also summarizes previous research and contemporary advances on nanofluids worldwide and introduces new techniques, resolving existing problems, and includes tactics on the implementation in practical applications.

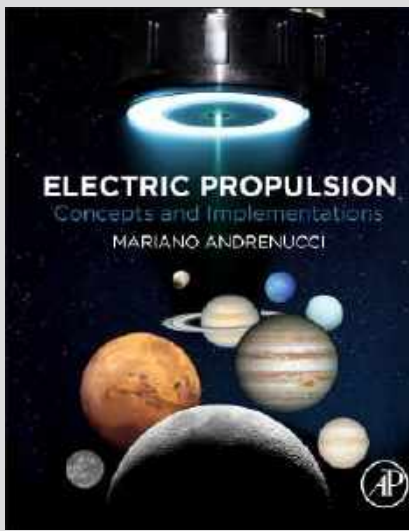


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PHYSICAL SCIENCES

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Electric Propulsion

Concepts and Implementations

Mariano Andreucci, Professor of Electric Propulsion, Faculty of Engineering, University of Pisa, Italy

ISBN: 9780128194300
PUB DATE: Jan 01, 2029
LIST PRICE: £150.00 / \$195.00 / €170.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 480

AUDIENCE: Aerospace engineers, system engineers, space mission planners, spacecraft integrators, and space scientists interested in the development and implementation of EP technology for space propulsion applications

BIC CODES: TGMF1, TRP

THEMA CLASSIFICATION: THEMATRP; THEMAPHDF; THEMATGMF

Highlights the development and implementation of electric propulsion technology for space propulsion applications

KEY FEATURES

- Describes other electric thrusters developed over the last 50 years and their performance requirements
- Includes propellant and alternative propellants material as well as multi-mode systems
- Discusses future trends of electric and space propulsion

DESCRIPTION

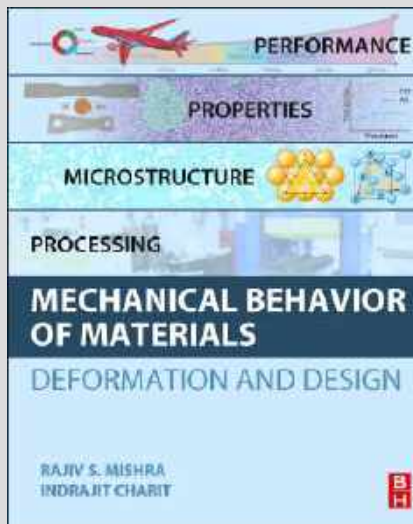
Electric Propulsion: Concepts and Implementations discusses the core elements of an EP system with classic ion and hall thrusters, also including more recent thrusters (electrothermal, electromagnetic, and magnetoplasmadynamic) and an overview of system aspects affecting interface requirements and constraints. The book concludes with the development of electric micropropulsion and the future of space propulsion. It is ideal for an industrial audience from the aerospace sector who have an engineering or physics background and for specialist roles in propulsion system and component analysis, design and testing, project management, space system engineering, mission analysis and design. Electric propulsion is a widely used technology on spacecraft, with half of all new satellites carrying full electric propulsion. In spite of the advancements over the last decades, there lacks a familiarity with EP thrusters and systems and EP technology mission enabling and enhancing benefits. This book provides these concepts in their latest developments such as hall thrusters and the broadening range of EP applications, both at lower (microsats) and larger (exploration, space transportation) power levels.



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ENGINEERING Automotive & Aeronautical
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Mechanical Behavior of Materials

Deformation and Design

Rajiv S. Mishra, Professor, Department of Materials Science and Engineering, Site Director, NSF IUCRC, University of North Texas, USA; **Indrajit Charit**, Ph.D., associate professor at the University of Idaho. and **Ravi Sankar Haridas**, Ph.D., post-doctoral research associate in the Department of Materials Science and Engineering at the University of North Texas.

ISBN: 9780128045541

PUB DATE: Jul 15, 2024

LIST PRICE: £58.99 / \$99.95 / €69.95

DISCOUNT: Textbook

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 460

AUDIENCE: Upper level undergraduate and graduate students taking a course in mechanical behavior of materials, engineers interested in connecting mechanical properties to design, and researchers interested in the role of microstructural distribution on mechanical properties

BIC CODES: TGM, TN, TG, TNK

THEMA CLASSIFICATION:

THEMATGM; THEMATNK

As the first textbook to adopt a design-led approach to the teaching of mechanical behavior of materials, this innovative engineering textbook is ideal for those who need to understand how the basics of mechanical response link to the performance of structural materials

KEY FEATURES

- Relates microstructural distribution in engineering materials to mechanical behavior and failure
- Discusses the deviation of engineering microstructure from ideal microstructure
- Contains examples of mechanical properties that are brought together under the basic microstructural framework
- Provides aspects of design-led and systems approaches to materials that are integrated in one book
- Includes an online solutions manual, image bank, and lecture slides for instructors

DESCRIPTION

Mechanical Behavior of Materials: Deformation and Design is the first textbook to adopt a design-led approach to the teaching of mechanical behavior of materials in which the underlying fundamental science is presented in the context of design. This approach has been found to help motivate and engage students through real-life case studies and illustrative applications. In addition to the design-led approach, Mishra and Charit cover newer content not found in other textbooks, such as recent advances in microstructural characterization techniques and up-to-date presentation of fundamentals that link the microstructure of engineering materials with realistic mechanical response.

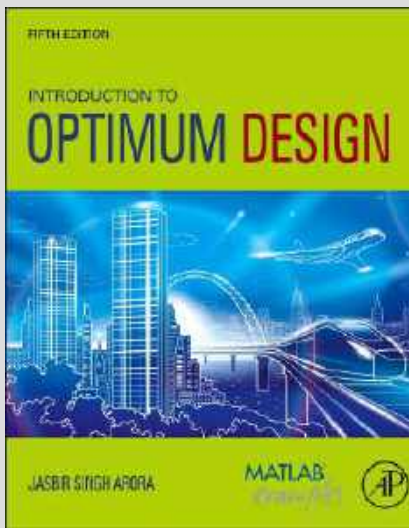


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ENGINEERING

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Introduction to Optimum Design, 5e

Jasbir Singh Arora, F. Wendell Miller Distinguished Professor, Emeritus, of Civil, Environmental and Mechanical Engineering, University of Iowa, USA, Department of Civil and Environmental Engineering & Department of Mechanical Engineering, University of Iowa, Iowa City, IA, USA

ISBN: 9780128183205

PREVIOUS ISBN: 9780128008065

PUB DATE: Feb 26, 2024

LIST PRICE: £108.00 / \$140.00 / €123.00

DISCOUNT: Textbook

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 970

ILLUSTRATIONS: Approx. 220 illustrations

AUDIENCE: Upper level undergraduate and graduate engineering students and practitioners studying optimization and engineering design

BIC CODES: TGB, TRP, TBD

THEMA CLASSIFICATION:

THEMATBC; THEMATD;

THEMATRP; THEMATGB

Bestselling textbook on optimum design that enables instructors to teach optimization at any level of the engineering curriculum

KEY FEATURES

- Describes basic concepts of optimality conditions and numerical methods with simple and practical examples, making the material highly teachable and learnable
- Includes applications of optimization methods for structural, mechanical, aerospace, and industrial engineering problems
- Covers practical design examples and introduces students to the use of optimization methods
- Serves the needs of instructors who teach more advanced courses
- Features new or expanded content in such areas as reliability-based optimization, life-cycle optimization of structures, metamodeling, shape and topology optimization

DESCRIPTION

Introduction to Optimum Design, Fifth Edition is the most widely used textbook in engineering optimization and optimum design courses. It is intended for use in a first course on engineering design and optimization at the undergraduate or graduate level within engineering departments of all disciplines, but primarily within mechanical, aerospace and civil engineering. The basic approach of the text presents an organized approach to engineering design optimization in a rigorous yet simplified manner, illustrating various concepts and procedures with simple examples and demonstrating their applicability to engineering design problems. Formulation of a design problem as an optimization problem is emphasized and illustrated throughout the text. Excel and MATLAB are featured as learning and teaching aids. This new edition has been enhanced with new or expanded content in such areas as reliability-based optimization, lifecycle optimization of structures, metamodeling, shape and topology optimization, and combinatorial problems.

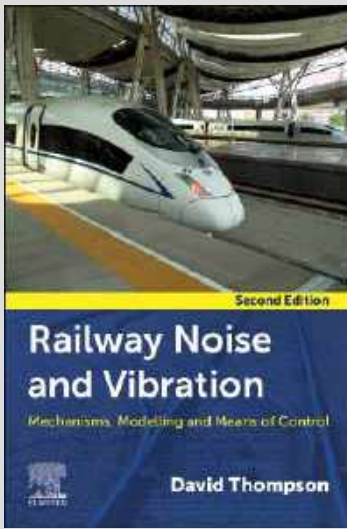


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ENGINEERING

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Railway Noise and Vibration, 2e

Mechanisms, Modelling and Means of Control

David Thompson, Professor of Railway Noise and Vibration, Institute of Sound and Vibration Research, University of Southampton, UK

ISBN: 9780128219799

PREVIOUS ISBN: 9780080975245

PUB DATE: Jan 22, 2024

LIST PRICE: £205.00 / \$265.00 / €235.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 588

AUDIENCE: Engineers, researchers, consultants and students working in area of railway noise and vibration.

BIC CODES: TR, TNC, TGB, TTA, TRF, TN

THEMA CLASSIFICATION: THEMATTA; THEMATNC

An updated guide to the theory, modeling, prediction, and solution of railway noise and vibration problems from a leading expert in the field

KEY FEATURES

- Discusses the theoretical background and practical workings of railway noise, summarizing the latest research and key findings from recent decades in one concise resource
- Updated with new prediction models and methods, including more detail on determining ground vibration and an updated chapter on aerodynamic noise from high-speed trains
- Expanded to include more data and examples relating to railways across the World

DESCRIPTION

Railway Noise and Vibration: Mechanisms, Modelling and Means of Control, Second Edition provides a complete overview of the state-of-the-art in rail noise and vibration theory and modeling. The book describes each source of noise and vibration, including rolling noise, curve squeal, bridge noise, aerodynamic noise, ground vibration and ground-borne noise, and vehicle interior noise in a systematic way, covering relevant theoretical modeling approaches and their practical applications, with extensive examples of noise control technology applied at source. Noise and vibration are key obstacles to further development of railway networks worldwide for high-speed intercity traffic, for freight, and for suburban metros and light-rail. With noise problems all too often dealt with inefficiently due to lack of understanding of the problem, this new edition is an invaluable reference for all those working with noise and vibration from railways, whether in industry, consultancy, or in academic research.

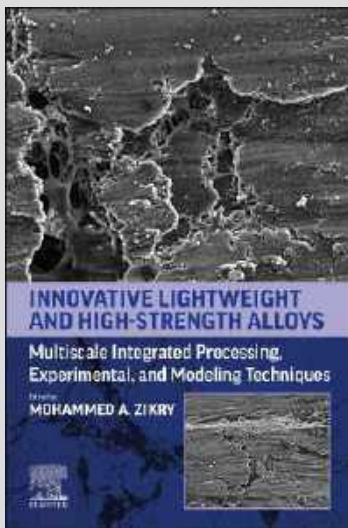


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ENGINEERING Mechanical

<https://virtuale.elsevier.com>, www.elsevier.com



Innovative Lightweight and High Strength Alloys

Multiscale Integrated Processing, Experimental, and Modeling Techniques

Edited by : **Mohammed A. Zikry**, Professor, Department of Mechanical/Aerospace Engineering, North Carolina State University, Raleigh, North Carolina, USA

ISBN: 9780323995399

PUB DATE: May 01, 2024

LIST PRICE: £185.00 / \$240.00 / €210.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 465

AUDIENCE: Academic researchers, materials researchers, mechanical engineering researchers, and professional engineers in mechanics, materials science, and chemistry, Advanced undergrad and graduate students

BIC CODES: TDM

THEMA CLASSIFICATION: THEMATDPM

Provides processing, experimental, characterization and modeling techniques, demonstrating how to design new alloys, improve properties and avoid roadblocks

KEY FEATURES

- Provides solutions for designing innovative and durable alloys
- Demonstrates how to optimally combine alloys with other metallic and non-metallic material systems for longer life cycles and better durability in extreme environments and loading conditions
- Outlines a variety of experimentation, characterization and modeling techniques that can be put into immediate practice

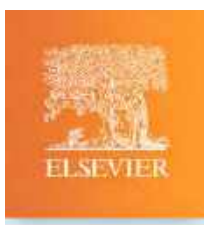
DESCRIPTION

Innovative Lightweight and High Strength Alloys: Multiscale Integrated Processing, Experimental, and Modeling Techniques provides multiscale processing, experimental, and modeling techniques, overviews and perspectives, which highlight current roadblocks to the optimal design of new alloys, and provides viable solutions. Critical microstructural, chemical and mechanical aspects are considered with techniques for significantly improving mechanical properties. Case studies, applications and hands-on techniques that can be put into immediate practice are included throughout. Sections cover processing techniques for various alloys, including aluminum, titanium, martensitic, austenitic, and others. Additive manufacturing of alloys is also covered, along with updates on mechanical quasi-static, chemically-based, and dynamic experimental approaches.

The book concludes with a modeling section that features several chapters covering multiscale, microstructural, combinatorial computational, and machine learning modeling techniques. It is a key resource for academic researchers, materials researchers, mechanical engineering researchers, and professional engineers in mechanics, materials science, and chemistry.

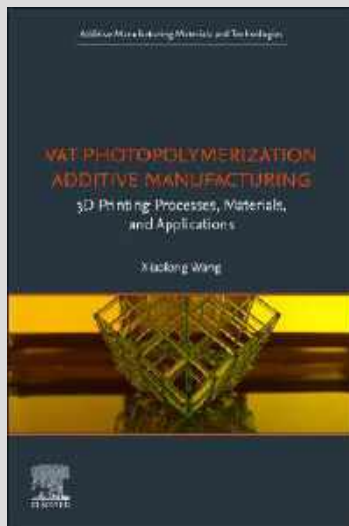


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ENGINEERING Mechanical

<https://virtuale.elsevier.com>, www.elsevier.com



Vat Photopolymerization Additive Manufacturing

3D Printing Processes, Materials, and Applications

Edited by : **Xiaolong Wang**, Full Professor, Chinese Academy of Sciences' Lanzhou Institute of Chemical Physics (LICP), Chinese Academy of Sciences (CAS), China

ISBN: 9780443154874

PUB DATE: May 01, 2024

LIST PRICE: £185.00 / \$240.00 / €210.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 460

AUDIENCE: Professors, academic researchers, engineers, chemist, educator, military institute R & D personnel of the enterprise, Science and Technology Management Department, defense engineer

BIC CODES: TGM

THEMA CLASSIFICATION:

THEMATGM

Focuses on the fundamentals, materials, processes, and applications of vat photopolymerization additive manufacturing

A Volume in the *Additive Manufacturing Materials and Technologies Series*

KEY FEATURES

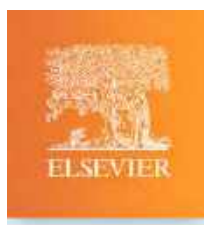
- Provides a detailed introduction to the technology, materials, and applications of vat photopolymerization additive manufacturing (AM)
- Discusses the basic chemistry in the vat photopolymerization process, including chemical reactions, ink components, functional additives, inhibitors, and more
- Covers techniques for creating plastics, hydrogels, shape memory polymers, ceramics, and more
- Details applications in bioengineering, engineering, metamaterials, and bio-inspired structures and functions

DESCRIPTION

Vat Photopolymerization 3D Printing: Processes, Materials, and Applications focuses on the cutting-edge vat polymerization additive manufacturing technology, as well as its associated materials and potential applications. The book is divided into four parts, with the first providing some foundational concepts about the technology as well as providing background on the different vat photopolymerization techniques, such as grayscale, volumetric, multiwavelength, two-photon, and more. The basic chemistry involved in the vat photopolymerization process is covered here as well, as is vat photopolymerization 3D printing of functional materials, including plastics, hydrogels, stimuli-responsive polymers, ceramics, various applications of the materials created, and future directions.

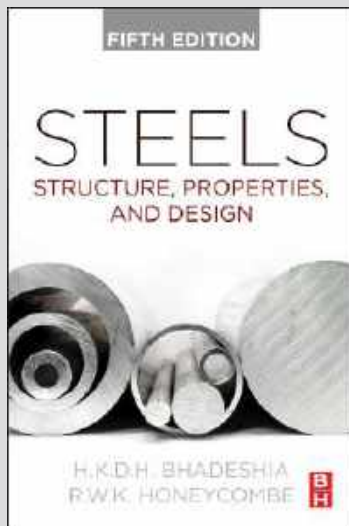


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ENGINEERING Mechanical

<https://virtuale.elsevier.com>, www.elsevier.com



Steels, 5e

Structure, Properties, and Design

H.K.D.H. Bhadeshia, Ph.D., Professor of Physical Metallurgy, University of Cambridge, UK, and Adjunct Professor, Graduate Institute of Ferrous Technology, POSTECH, South Korea and **R.W.K. Honeycombe**, Emeritus Professor of Metallurgy, University of Cambridge, UK (deceased)

ISBN: 9780443184918

PREVIOUS ISBN: 9780081002704

PUB DATE: Jan 22, 2024

LIST PRICE: £120.00 / \$160.00 / €137.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 512

AUDIENCE: Metallurgists; materials engineers and researchers in the steel industry; senior undergraduate students and postgraduates in materials science, physical metallurgy, and mechanical engineering;

BIC CODES: TGM

THEMA CLASSIFICATION: THEMATGM

Examines the properties of steels in conjunction with the structure, providing a valuable description of the development and behavior of these materials

KEY FEATURES

- Revised edition features a new chapter on selection of steels, a new chapter on sustainable use of steels, expanded coverage of surface treatment of steels, crystallographic textures, metallurgical aspects of additive manufacturing of steels, and much more
- Includes derivations with important equations so that students from a broad range of subjects can appreciate the issues without being bogged down in mathematics
- Presents micrographs and figures that reflect the resolution and capabilities of modern instruments

DESCRIPTION

Steels: Structure, Properties and Design is an essential text and reference, providing indispensable foundational content for researchers, metallurgists, and engineers in industry and academia. The book provides inspiring content for undergraduates, yet has a depth that makes it useful to researchers. Steels represent the most used metallic materials, possessing a wide range of structures and properties. By examining the properties of steels in conjunction with structure, the book provides a valuable description of the development and behavior of these materials- the very foundation of their widespread use. The new edition has been thoroughly updated with 2 new chapters, expanded content throughout, and numerical Q+As at the end of each chapter, yet it retains its clear writing style, extensive bibliographies, and real-life examples.

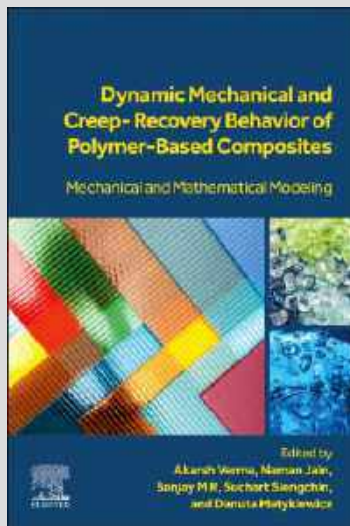


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ENGINEERING Materials

<https://virtuale.elsevier.com>, www.elsevier.com



Dynamic Mechanical and Creep-Recovery Behavior of Polymer-Based Composites

Mechanical and Mathematical Modeling

Edited by : **Akarsh Verma**, Assistant Professor, University of Petroleum and Energy Studies, Dehradun, India; **Naman Jain**, Assistant Professor, ABES Engineering College, Ghaziabad, India; **Sanjay M. R.**, Senior Research Scientist, King Mongkut's University of Technology North Bangkok, Bangkok, Thailand; **Suchart Siengchin**, President, King Mongkut's University of Technology, North Bangkok, Thailand and **Danuta Matykiewicz**, Researcher, Polymer Processing Division, Institute of Materials Technology, Poznan University of Technology, Poland

ISBN: 9780443190094
PUB DATE: Jan 19, 2024
LIST PRICE: £195.00 / \$250.00 / €220.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 220
AUDIENCE: Researchers, lecturers, students, graduate and post graduate students, engineers, research scholars, polymer chemists, and faculties in universities and colleges in the field of polymer-based composites and studying their dynamic mechanical analysis and creep-recovery behaviour
BIC CODES: PHH
THEMA CLASSIFICATION: THEMAPHH

Covers mathematical modeling, dynamic mechanical analysis, and the ways in which various factors impact the creep-recovery behavior of polymer composites

KEY FEATURES

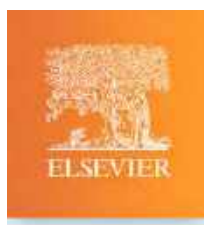
- Analyzes the dynamic mechanical and creep-recovery behaviors of thermoplastic and thermosetting polymer composites in a variety of applications
- Features diverse mechanical/mathematical models utilized to fit data collected from creep-recovery studies
- Covers various factors that influence dynamic mechanical properties
- Discusses the advantages and disadvantages of using these materials in different settings

DESCRIPTION

Dynamic Mechanical and Creep-Recovery Behavior of Polymer-Based Composites: Mechanical and Mathematical Modeling covers mathematical modeling, dynamic mechanical analysis, and the various factors that impact the creep-recovery behavior of polymer composites. The effects of polymer molecular weight, plasticizers, cross-linking agents, and chemical treatment of filler material are addressed, along with information on thermoplastic and thermosetting polymer-based composites, including their various applications and the advantages and disadvantages of their use in different settings. Final sections cover mathematical modeling of creep-recovery behavior for polymer composites and software-based simulation of creep-recovery in polymer composites, respectively.



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ENGINEERING Mechanical

<https://virtuale.elsevier.com>, www.elsevier.com



Emerging Nanotechnologies and Solutions in Enhanced Oil Recovery

Advanced Concepts supporting the Energy Transition

Edited by : **Masoud Riazi**, Associate Professor, Department of Chemical and Petroleum Engineering, Shiraz University, Iran; **Abdolhossein Hemmati-Sarapardeh**, Assistant Professor, Department of Petroleum Engineering, Shahid Bahonar University of Kerman, Iran; **Zhaomin Li**, Vice President, College of Petroleum Engineering, China University of Petroleum (East China), China; **Maen Husein**, Professor, Department of Chemical and Petroleum Engineering, University of Calgary, Canada and **Farid Cortés**, Professor, Department of Chemical and Petroleum Engineering, Universidad Nacional de Colombia, Colombia

ISBN: 9780443190131

PUB DATE: Feb 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 480

AUDIENCE: Enhanced oil recovery researchers; reservoir engineers; nanotech researchers

BIC CODES: THF, THFP, THFG, TQ

THEMA CLASSIFICATION:

THEMAKNB; THEMATHFP;

THEMATHF; THEMATQ

Helps readers understand the most sustainable advances in enhanced oil recovery to progress the energy transition

A Volume in the *Enhanced Oil Recovery Series*

KEY FEATURES

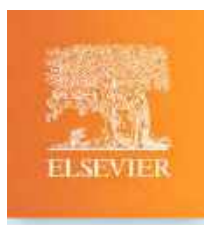
- Updates on the most advanced technology in enhanced oil recovery, with fundamentals, mechanisms, lab applications, and case studies
- Support the energy transition with knowledge on nanotechnology, electric methods, and CO₂ storage
- Provides a global perspective from a diverse group of contributors

DESCRIPTION

Emerging Nanotechnologies and Solutions in Enhanced Oil Recovery: Advanced Concepts Supporting the Energy Transition supplies today's engineer and researcher with the latest methods and processes to learn and apply while lowering environmental impact. Supported by a diverse cast of global contributors, the reference dives into the role nanotechnology is playing in enhanced oil recovery, including nano-assisted chemical, thermal, water and gas-based methods, smart chemicals in nanoencapsulation, and nanoparticle-stabilized foam for mobility control. Other advances discussed include ionic liquids application, microbial biotechnology, and electrical EOR techniques. Case studies, visuals, and mathematical modeling at pore-scale, core-scale, and field-scale evaluation are all covered. Rounding out with chapters addressing water, air, and soil pollution challenges as well as CO₂ storage in EOR activity, this book delivers the knowledge engineers need today to improve on critical assets while keeping a sustainability mindset.

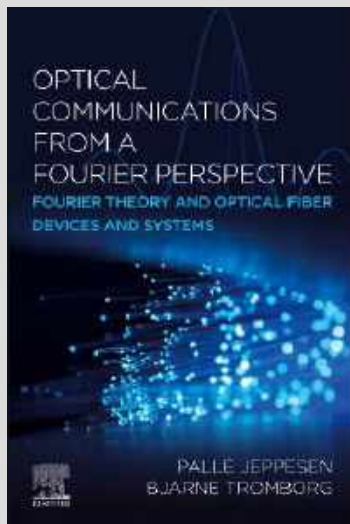


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ENGINEERING Petroleum

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Optical Communications from a Fourier Perspective

Fourier Theory and Optical Fiber Devices and Systems

Palle Jeppesen, Palle Jeppesen, Professor Emeritus, Technical University of Denmark (DTU), Department of Electrical and Photonics Engineering, Denmark and **Bjarne Tromborg**, Technical University of Denmark (DTU)

ISBN: 9780443238000

PUB DATE: Jan 01, 2024

LIST PRICE: £215.00 / \$265.00 / €255.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 512

AUDIENCE: Researchers, students, and engineers in optical communications, Researchers, students, and engineers in the areas of electronics, photonics, and telecommunications

BIC CODES: PBKB, TTB, TJK, TGM, PHK, TTBL, UYS

THEMA CLASSIFICATION:

THEMAPBK; THEMATTB;

THEMATJK; THEMATGM;

THEMAUYS; THEMATTBL;

THEMAPHK

Introduces basic Fourier theory and signal analysis tailored to applications in optical communication devices and systems

KEY FEATURES

- Introduces Fourier theory and signal analysis tailored to applications in optical communications devices and systems
- Provides a strong theoretical background and a ready resource for researchers and advanced students in optical communication and optical signal processing
- Starts from basic theory and then develops descriptions of useful applications

DESCRIPTION

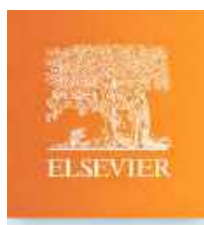
Optical Communications from a Fourier Perspective: Fourier Theory and Optical Fiber Devices and Systems covers a broad range of subjects spanning Fourier theory and signal analysis over photonic components, including time lenses in optical communication. Some of the theory is more generally applicable beyond optical communication and is of relevance also for communications engineering. The Fourier theory dimension of the book presents the relationship between Fourier series and Fourier integrals and also the related Laplace transform.

The book covers wave propagation in optical waveguides based on Maxwell equations and the nonlinear Schrödinger equation. Various modulation formats are addressed along with coherent detection and required bandwidth. Optical Fourier transform in the form of time lens is covered, for example in modulation format conversion and spectrum magnification, and couplers and their use for optical discrete Fourier transformation are also discussed. Other important subjects such as noise, linewidth, and coherence are discussed in relation to semiconductor lasers.

Detailed derivations and a deeper background for the chapters are provided in appendices where appropriate.

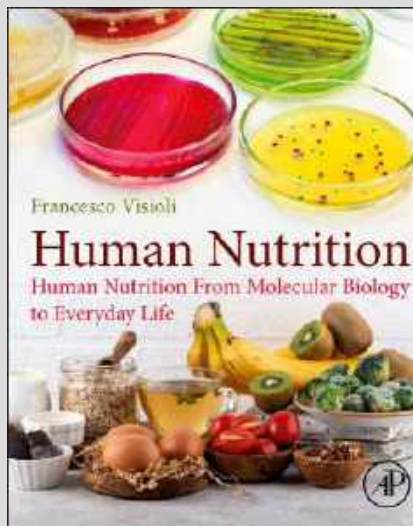


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ENGINEERING Communications

<https://virtuale.elsevier.com>, www.elsevier.com



Human Nutrition

From Molecular Biology to Everyday Life

Edited by : **Francesco Visioli**, Professor of Human Nutrition, Department of Molecular Medicine, University of Padova, Italy

ISBN: 9780128240052
PUB DATE: Jul 01, 2024
LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 210

AUDIENCE: Nutritionists, dieticians, pharmacists, public health professionals, and others working in related fields, as well as students studying the same

BIC CODES: TDCT, VFM

THEMA CLASSIFICATION:
THEMATDCT; THEMAMBNH3;
THEMAVFMD

Presents an integrated approach to human nutrition, assessing the importance of diet on health, microbiota, nutrigenetics and nutrigenomics

KEY FEATURES

- Addresses the effect of the three macro-nutrients and micro-nutrients of health
- Discusses microbiota and human dietary needs
- Presents tools to understand evidence-based nutrition

DESCRIPTION

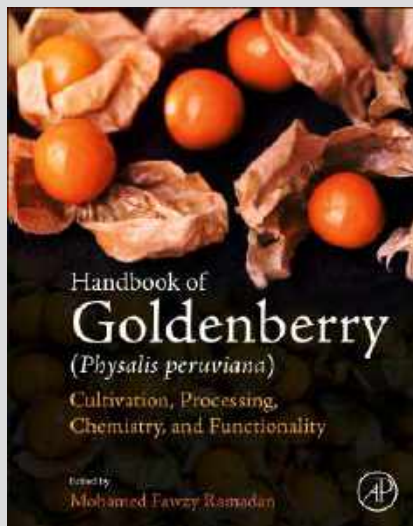
Human Nutrition: From Molecular Biology to Everyday Life presents an integrated approach on how nutrients and non-nutrients affect cellular biochemistry, and how, in turn, they shape human physiology. Over the course of 14 chapters, and covering topics ranging from the importance of diet on health to nutrigenetics and nutrigenomics, this book debunks myths and provides readers with the knowledge they need to critically interpret and navigate nutrition information. Intended for nutritionists, dieticians, pharmacists, public health professionals, and others working in related fields, this book provides a comprehensive source on advances in human nutrition.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
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Handbook of Goldenberry (*Physalis peruviana*)

Cultivation, Processing, Chemistry, and Functionality

Edited by : **Mohamed Fawzy Ramadan**, PhD, Professor, Department of Clinical Nutrition, Faculty of Applied Medical Sciences, Umm Al-Qura University, Makkah, Saudi Arabia

ISBN: 9780443154331

PUB DATE: Jan 20, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 500

AUDIENCE: Nutrition researchers, food scientists, food chemists, food technologists, nutritionists, and those studying related fields

BIC CODES: TDCT, MMFM

THEMA CLASSIFICATION: THEMAMKFM; THEMATDCT

Presents the cultivation, processing, chemistry, and functionality of *Physalis peruviana*

KEY FEATURES

- Presents the chemistry and functionality of *Physalis peruviana*
- Discusses the processing, technology, and functional applications of *Physalis peruviana*
- Explores *Physalis peruviana* phytochemicals and its health-promoting effects

DESCRIPTION

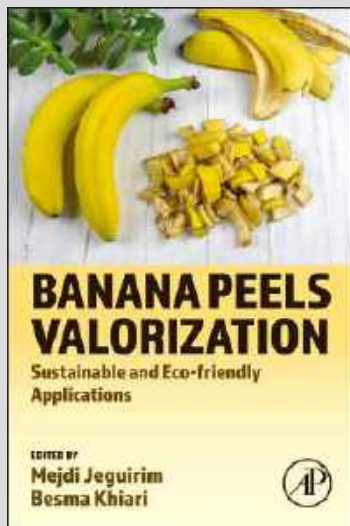
Handbook of Goldenberry (Physalis peruviana): Cultivation, Processing, Chemistry, and Functionality presents multidisciplinary coverage of *P. peruviana* and its role as in food, cosmetic, and pharmaceutical products. Broken into three sections, the book addresses the cultivation, species, and cultivars of *Physalis peruviana*, along with its chemistry, functionality, health-promoting properties, technologies, processing, and applications. Written for nutrition researchers, food scientists, food chemists, food technologists, nutritionists, and those studying related field, this book is a timely reference for those who wish to learn more about this functional food.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com



Banana Peels Valorization

Sustainable and Eco-friendly Applications

Edited by : **Mejdi Jeguirim**, Associate Professor, University of Alsace, France and **Besma Khiari**, Professor, Ecole Nationale d'Ingénieurs de Carthage, Tunis, Tunisia

ISBN: 9780323959377

PUB DATE: May 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 364

AUDIENCE: Agricultural or food engineers who work in the banana groves and in the banana processing industry and are seeking to improve their by-products management by actively utilizing them in effective applications, Researchers working in the edge of food, environmental and energy fields, Food scientists and technologists, Energy, Environmental, agricultural and chemical engineers, Agriculturists, crop cultivators, agricultural engineers, farming specialists, biologists, Professional working in the food and fruit processing industry, Researchers, specialists, chemical engineers and professionals working in the agro-food processing industry, New product developers in the food and agricultural industry, Graduates and post-graduate level multi-discipline courses dealing with agricultural science, food technology, environmental, energy, waste valorization, sustainability, and chemical engineering

BIC CODES: TVH, PSV

THEMA CLASSIFICATION: THEMAPSV; THEMATVH

Covers the valorization of banana peels for the production of value-added products

KEY FEATURES

- Provides a global overview of world production, physicochemical and microbiological characteristics of banana peels
- Explores banana tree and fruit wastes including their quantification and classification
- Discusses each sustainable application of banana peels in a specific chapter based on the sector category

DESCRIPTION

Banana Peels Valorization: Sustainable and Eco-friendly Applications provides a global overview of world production, physicochemical and microbiological characteristics of Banana Peels and the various pathways for their valorization, considering the advantages, disadvantages and factors impacting on each way of valorization. Each chapter deals with sustainable applications based on the sector category. Such structure helps the audience from a specific field to easily identify the specific application. Successful case study of a banana processing by-products valorization is also presented.

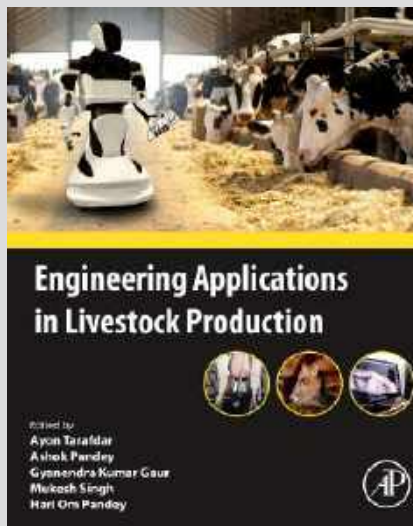
Written by a team of interdisciplinary experts, this is the ultimate valuable resource for agricultural or food engineers who work in the banana groves and in the banana processing industry, and also for Researchers working in correlated areas of food, environmental and energy fields.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com



Engineering Applications in Livestock Production

Edited by : **Ayon Tarafdar**, Scientist, Livestock Production and Management Section, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, U.P., India; **Ashok Pandey**, Distinguished Scientist, Centre for Innovation and Translational Research, CSIR-Indian Institute of Toxicology Research, Lucknow, India; **Gyanendra Kumar Gaur**, Principal Scientist & Incharge, LPM Section, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly, U.P., India; **Mukesh Singh**, Principal Scientist (Farm Machinery and Power), LPM Section of ICAR-IVRI, Izatnagar, India and **Hari Om Pandey**, Senior scientist, ICAR-Indian Veterinary Research Institute, Bareilly, Uttar Pradesh, India

ISBN: 9780323983853
PUB DATE: Jan 01, 2024
LIST PRICE: £121.00 / \$150.00 / €142.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 300
AUDIENCE: Post-graduates and researchers
BIC CODES: TBC, TDCT
THEMA CLASSIFICATION: THEMATDCT; THEMATBC

A dedicated resource of engineering interventions in the livestock sector and covers state-of-the-art technological advancements in the field

KEY FEATURES

- The book includes applications of emerging sensor based and intelligent techniques/systems in the field of livestock production and management
- The book will have separate chapters dedicated to innovative approaches in the livestock sector such as artificial intelligence, micro and nano sensors, IoT, image processing and farm automation
- Specialists contribution of chapters provide comprehensive details while assisting the understanding of the concepts

DESCRIPTION

Engineering Applications in Livestock Production covers the recent advancements and technological developments in the field of livestock production engineering in great detail. The major advances covered in this book include the use of artificial intelligence, image processing, Internet of Things, novel animal product processing technologies, farm automation systems, sensor technology, bioengineering practices and even engineered housing systems among others.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Food Waste Valorization

Emerging Trends, Techno-economic and Environmental Considerations

Edited by : **Olalere Olusegun Abayomi**, Department of Chemical Engineering, University of Bath, Claverton Down, UK; **Gan Chee Yuen**, Associate Professor of the Analytical Biochemistry Research Centre (ABrC) in Universiti Sains Malaysia, University Innovation Incubator Building, Malaysia and **Puranjan Mishra**, Puranjan Mishra, S/o Surendra Nath Mishra, Chura-Mill Chouk, Makkhatakiya, Naugachia, Bhagalpur, India

ISBN: 9780443159589
PUB DATE: Aug 01, 2024
LIST PRICE: £115.00 / \$150.00 /
€130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 335

AUDIENCE: Researchers and industrialists, particularly those who work in postharvest losses, agriculture technologists, research and development (R & D) in industries, as well as young professionals researching on sustainable food waste management. Funding agencies, research organizations, postharvest experts and engineers, especially R&D specialists interested in the optimal management and usage of food-based wastes and by-products. Furthermore, it is appropriate for faculty members and students, future researchers, and fellowships holders from higher education institutions who are interested in educational pursuits in Chemical Engineering, Biotechnology, Food Technology, Civil Engineering, Industrial Engineering, Basic Sciences, and Business Management

BIC CODES: TDCT

THEMA CLASSIFICATION:
THEMATDCT

Discusses novel approaches for food waste management system as well as techniques for reducing food waste

KEY FEATURES

- Identifies industries and products to make use of food waste
- Discusses technological and environmental impacts of food waste valorization
- Focuses on maximizing food waste utilization with minimum adverse impact
- Provides perspectives from food science, agriculture, engineering, and environmental science

DESCRIPTION

Food Waste Valorization: Emerging Trends, Techno-economic and Environmental Considerations covers bioactive extraction, therapeutic properties and environmental concerns related to food waste conversion to value-added products, along with advanced technological breakthroughs in the field. The book also provides concepts and theories on several facets of agro-food waste valorization and its by-products, as well as opportunities and challenges. Each chapter contains viewpoints from different fields of research such as Basic Science, Agriculture, Food Science and Engineering, Chemical Engineering, Mechanical Engineering, Environmental Science, and more, with each having a unique approach to food waste valorization as it relates to their field. This is an invaluable resource for research and development professionals in post-harvest processing and renewable energy industries, as well as the academicians.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com



Application of Emerging Technologies and Strategies to Extract Bioactive Compounds

Paulo Eduardo Sichert Munez, Postdoctoral Researcher, Meat Technology Centre of Galicia (CTC), Ourense, Spain

ISBN: 9780443189753

PUB DATE: Jul 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 320

AUDIENCE: Researchers, academics and other professionals actively working, developing research, promoting scientific activities and interested in the development of research, teaching, and lecturing in Food Science and Technology that include the fields of Food Quality and Safety (but not limited to), Microbiology, Chemistry, Physics, Biology, and Engineering. Undergraduate, master, PhD and post-doctoral students as well as professionals, technicians, staff members and researchers in related areas with interest in develop professional, research, and lecturing activities related to Food Science and Technology and related knowledge presented in this book

BIC CODES: MMFM, TDCT

THEMA CLASSIFICATION:

THEMAMKFM; THEMATDCT

Provides a comprehensive view on the extraction of bioactive compounds in food

A Volume in the *Developments in Food Quality and Safety Series*

KEY FEATURES

- Thoroughly explains the technologies applied in the extraction of bioactive compounds from different sources
- Covers the fundamentals and latest developments for each technology, along with the main bioactive compounds
- Discusses, in detail, the aspects of extraction technologies and strategies to obtain extracts rich in bioactive compounds

DESCRIPTION

Application of Emerging Technologies and Strategies to Extract Bioactive Compounds, Volume Three in the *Developments in Food Quality and Safety series*, is the most up-to-date resource covering trend topics such as advances in the analysis of toxic compounds and control of food poisoning, food fraud, traceability and authenticity, revalorization of agrifood industry, natural antimicrobial compounds and application to improve the preservation of food, non-thermal processing technologies in the food industry, nanotechnology in food production, and Intelligent packaging and sensors for food applications.

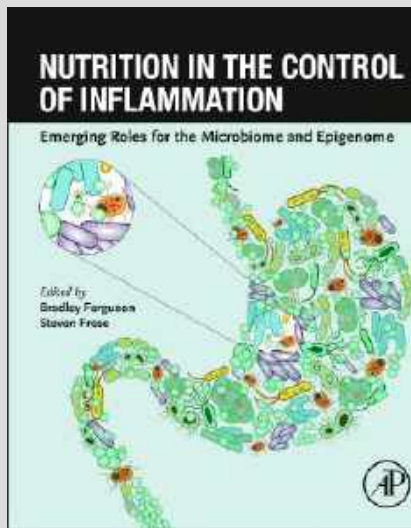
Chapters in this release explore the latest developments in the application of each technology, such as ultrasound, microwave, high-pressure, pulsed electric fields, ohmic, uv and ir heating, extrusion, and solar energy assisted extractions, along with membrane technologies and alternative solvents for green extraction. The series is edited by Dr. José Manuel Lorenzo and authored by a team of global experts in the field.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com



Nutrition in the Control of Inflammation

Emerging Roles for the Microbiome and Epigenome

Edited by : **Bradley S. Ferguson**, Assistant Professor of Nutrition, University of Nevada, Reno, NV, USA and **Steven Frese**, Assistant Professor, University of Nevada, USA

ISBN: 9780443189791

PUB DATE: Jul 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 453

AUDIENCE: Nutrition researchers, nutritionists, and postgraduate students, as well as others working in, studying, and researching related fields

BIC CODES: TV

THEMA CLASSIFICATION:
THEMATV

Explores how diet changes the microbiome, epigenome, and microbiome-epigenome axis to regulate health, disease and developmental processes

KEY FEATURES

- Discusses the latest topics in the microbiome and nutritional epigenome surrounding the regulation of aging, development, metabolic disease, and heart disease
- Summarizes our current understanding of nutritional intervention in epigenetic reprogramming and microbial changes in the treatment and prevention of disease
- Examines ongoing discussions of socioeconomic status as well as sex, race, and ethnicity in the control of the divergence in microbial and epigenetic differences that contribute to health and disease disparities

DESCRIPTION

Nutrition in the Control of Inflammation: Emerging Roles for the Microbiome and Epigenome offers a comprehensive overview on how our diet promotes or attenuates inflammation to regulate inflammatory diseases. Broken into five sections, this book presents an introduction to the microbiome and epigenome in nutrition, subsequently covering diet, lifestyle, and the microbiome in the development of inflammatory diseases, nutrition and the epigenome in metabolic and cardiovascular diseases, diet, epigenetics, and microbiome. The book also addresses health-disparities in diet, epigenetics and gut microbes.

This reference will be of interest to nutrition researchers, nutritionists, and postgraduate students, as well as others working in, studying, and researching related fields.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Protein Digestion-Derived Peptides

Chemistry, Bioactivity, and Health Effects

Edited by : **Cristina Martinez-Villaluenga**, Research Scientist, Institute of Food Science, Technology and Nutrition, Spanish National Research Council, Madrid, Spain and **Blanca Hernandez-Ledesma**, Tenured Scientist, Instituto de Investigacion en Ciencias de la Alimentacion, Spain

ISBN: 9780443191411

PUB DATE: Apr 01, 2024

LIST PRICE: £155.00 / \$200.00 /
€175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 400

AUDIENCE: Nutrition researchers,
Food Scientists, Pharmaceutical
Scientists

BIC CODES: TV

THEMA CLASSIFICATION:
THEMATV

Addresses the impact that gastrointestinal digestion can have on the proteins in our diet

KEY FEATURES

- Includes applications, literature reviews, recent developments, and methods
- Expands coverage on in vitro and in vivo approaches to simulate gastrointestinal digestion of food proteins and absorption models to evaluate the bioaccessibility and bioavailability of released peptides
- Offers an overview of the main bioactivities of peptides released during the gastrointestinal digestion of food proteins
- Highlights the mechanisms of action and health benefits of bioactive peptides released during gastrointestinal digestion

DESCRIPTION

Protein Digestion-Derived Peptides: Chemistry, Bioactivity, and Health Effects presents the latest international advances in fundamental and applied research on the impact of gastrointestinal digestion on the release of bioactive peptides from food sources. This book covers the fundamentals and applications of gastrointestinal digestion and absorption models as well as the impact of food matrices, their components and protein characteristics, and peptide bioaccessibility and bioavailability released during digestion. Developed for nutrition researchers, food scientists, and pharmaceutical scientists, this book is sure to be a welcomed for those who wish to understand the impact of peptides on chronic disease.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Flood Nowcasting

From Data to Decisions

Yunqing Xuan, FRMetS, FIMA College of Engineering, Swansea University, UK

ISBN: 9780323959995

PUB DATE: Jan 02, 2029

LIST PRICE: £130.00 / \$150.00 /
€130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 330

AUDIENCE: Academics and
researchers who carry out research
in flood risk management, climate
change impact and flood modelling.
Civil engineers

BIC CODES: RNR, JFFC

THEMA CLASSIFICATION:
THEMARNR; THEMAJBFF

Provides comprehensive coverage of the topic of flood nowcasting, a relevant topic with climate change causing impacts on extreme storms and flooding

KEY FEATURES

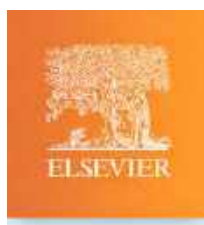
- Includes real-world applications and case studies
- Presents up-to-date coverage of emerging data sciences, modeling developments, and radar technology
- Includes hands-on guidance and training for modeling methods needed in flood nowcasting

DESCRIPTION

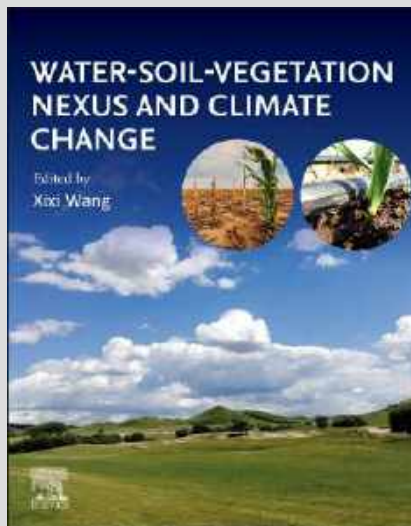
Flood Nowcasting: From Data to Decisions provides a fully comprehensive overview on flood casting and why this new method of modeling has become a go-to tool for the increase in damaging floods around the world. Written by a global expert, the book covers the principle of flood nowcasting, hydrological models used in nowcasting, quantitative precipitation forecasts and estimation, weather radar-based rainfall now casts, model integration and uncertainty analysis, advanced topics and the latest technological progress, and hands-on guidance on flood nowcasting system building. The book offers comprehensive coverage of related theories, modeling paradigm and integration, algorithms, and technologies. From case studies presented, readers will be able to appreciate how individual components work. The hands-on guidance supported by an online tutorial will help readers build their own flood nowcasting system from scratch. Targeted readers for the book's content are academic researchers and PhD students in flood risk management, climate change, and extremes.



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EARTH & ENVIRONMENT Ocean/Hydrology
<https://virtuale.elsevier.com>, www.elsevier.com



Water-Soil-Vegetation Nexus and Climate Change

Edited by : **Xixi Wang**, Department of Civil and Environmental Engineering, Old Dominion University, Norfolk, VA, USA

ISBN: 9780128201060

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 428

ILLUSTRATIONS: 220 illustrations (70 in full color)

AUDIENCE: Professors, students and research scientists in the field of Water Resources and Environmental Science. Soil Scientists, Climate Scientists, Environmental, Civil engineers, Plant scientists, Ecologists

BIC CODES: RN

THEMA CLASSIFICATION: THEMATQ

Advances readers understanding of water-soil-vegetation nexus and equilibrium in changing climate

KEY FEATURES

- Includes both principles and applications, providing the reader with options for both application types as needed
- Emphasizes the nexuses rather than individual processes, allowing the reader to understand the whole picture
- Presents case studies and decision support tools that can be used for developing practical management measures in changing climate

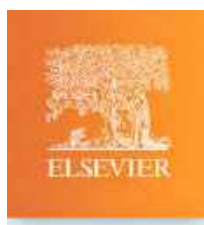
DESCRIPTION

Water-Soil-Vegetation Nexus and Climate Change presents an overview of research needs and approaches regarding water-soil-vegetation nexus and climate change. The book includes chapters discussing water budget and factors that affect hydrologic processes such as precipitation, runoff, infiltration, evapotranspiration, soil water, and groundwater, in addition to a focus on consumptive (e.g., domestic and irrigation) and non-consumptive (e.g., eco-environmental) water uses, and water shortage. Throughout the book, chapters specifically deal with the fundamental principles and also case studies, applications, and decision support tools that can be usable for developing practical management measures in sustaining our eco-environment and society by maintaining an optimal water-soil-vegetation equilibrium.

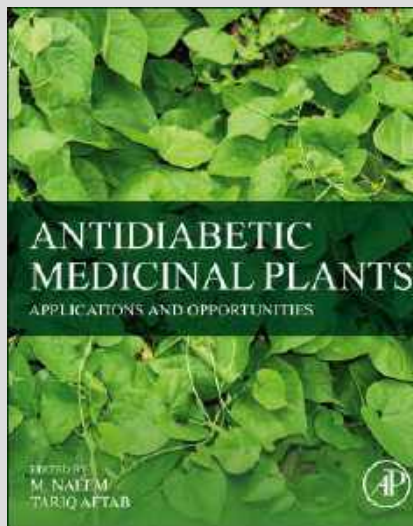
Written with water resources students and professors in mind, this book will provide the reader with further knowledge on the water-soil-vegetation nexus and its connection to climate change.



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EARTH & ENVIRONMENT Ocean/Hydrology
<https://virtuale.elsevier.com>, www.elsevier.com



Antidiabetic Medicinal Plants

Applications and Opportunities

Edited by : **M. Naeem**, Department of Botany, Aligarh Muslim University, Aligarh, India and **Tariq Aftab**, Assistant Professor, Department of Botany, Aligarh Muslim University, Aligarh, India

ISBN: 9780323957199

PUB DATE: Sep 29, 2023

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 584

AUDIENCE: Researchers, agronomists and the scientists working in the field of plant biology and pharmacology Course work of research and master's students related with agriculture, plant biology, medicinal chemistry, ethnobotany, biotechnology, pharmacology, pharmaceutical science

BIC CODES: PSD, PSF, PSB, PSTD, PST, MMF, PSTP, PSTL, PSAK, TVS

THEMA CLASSIFICATION:

THEMAPSD; THEMAPST;
THEMAMKF; THEMAPSF;
THEMAPSB; THEMATVS;
THEMAPSAK

Understand and advance the potential of plant-based treatments for diabetes

KEY FEATURES

- Includes insights from laboratory research to field application
- Presents perspectives from agriculture, biotechnology, molecular biology, pharmaceutical, pharmacological, and clinical trials
- Highlights the cost-effective and eco-friendly technologies for the sustainable agriculture development of antidiabetic plants

DESCRIPTION

Medicinal Plants with Antidiabetic Properties: Applications and Opportunities is the first comprehensive reference to present the state of current research as well as those developments that are impacting developments in the use of plants to address diabetic conditions. Presenting multiple perspectives on the plants, their identification, cultivation and application, this book presents the state of the art with an eye toward the future. Herbal drugs and their components with insignificant toxicity and limited or no side effects are valuable therapeutic alternatives in the treatment of diabetes around the world and have been considered a fundamental source of potent antidiabetic drugs. Exploration of plants containing numerous bio-active compounds such as flavonoids, terpenoids, saponins, carotenoids, alkaloids, and glycosides, for their potential antidiabetic properties is increasing as alternative treatments for this globally devastating disease are sought. Presented in 5 parts, the book first provides an overview of those plants with antidiabetic properties, then moves to the agricultural practices for the cultivation and production of those plants. Part Three focuses on the chemical composition and phytochemicals of the plants before then moving into a study of the physiological, biotechnological and molecular approaches to optimizing these plants. The book concludes with insights into current and potential future medical and clinical applications. The book is ideal for those seeking to understand the biology and chemistry of plants with anti-diabetic properties and their effective development and application.



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LIFE SCIENCES Botany

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Biostimulants in Plant Protection and Performance

Azamal Husen, Foreign Delegate, Wolaita Sodo University, Wolaita, Ethiopia

ISBN: 9780443158841

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 372

AUDIENCE: Researchers and academics in Plant, Botanical and or Agricultural sciences, Commercial product developers for plant health

BIC CODES: PST, PSD, TVK

THEMA CLASSIFICATION:

THEMATVK; THEMAPST;

THEMAPSD

Explores bio-based nanomaterials and their role as biostimulants in plant growth, metabolic profile performance, and production

A Volume in the *Plant Biology, sustainability and climate change* Series

KEY FEATURES

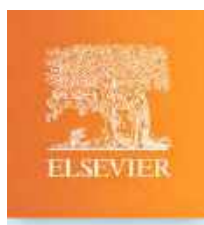
- Discusses our current understanding of, and advances in, biostimulants, along with their application in plants growth performance and overall management
- Explores new techniques, new generation products, and bioproducts
- Highlights the role of seaweed extract, humic acids, protein hydrolysates, amino acids, melatonin, paramylon, fulvic acids, microbial inoculants (phyllospheric and rhizospheric), and more

DESCRIPTION

Biostimulants in Plant Protection and Performance provides the latest research on biostimulants, a diverse class of compounds that includes substances or microorganisms that are helpful in sustainable plant growth and development. These substances accelerate plant growth, yield, and chemical composition even under unfavorable conditions, and include nitrogen-containing compounds, humic materials, some specific compounds released by microbes, plants, and animals, various seaweed extracts, bio-based nanomaterials, phosphite, silicon, and more. Additionally, the book discusses new generation products and bioproducts that are being developed for sustainable plant growth and protection, including research updates in biotechnology, nanobiotechnology, and the protective role of biostimulants. As the use of new generation biostimulants can enhance plant production systems through a significant reduction of synthetic chemicals, such as pesticides and fertilizers, and even elicit plant tolerance to various climate change-related stresses, this book is a welcomed edition to many fields of study.

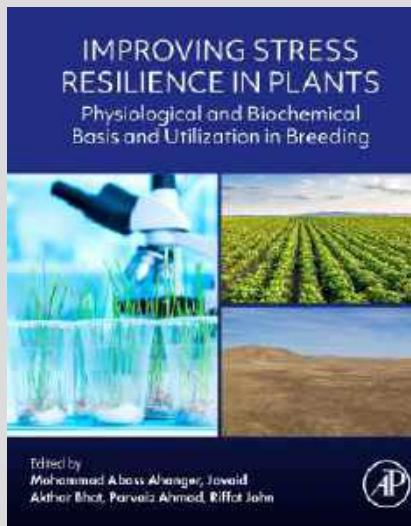


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Improving Stress Resilience in Plants

Physiological and Biochemical Basis and Utilization in Breeding

Edited by : **Mohammad Abass Ahanger**, Associate Researcher at Institute of Plant and Microbial Biology, Academia Sinica, Taiwan; **Javaid Akthar Bhat**, Associate Professor, International Genome Centre, Jiangsu University, China; **Parvaiz Ahmad**, Department of Botany, Govt Degree College Pulwama, Jammu and Kashmir India; Department of Botany and Microbiology, Faculty of Science, King Saud University, Riyadh, Saudi Arabia and **Riffat John**, Senior Assistant Professor, Department of Botany, University of Kashmir, India

ISBN: 9780443189272

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 480

AUDIENCE: Researchers, academics and advanced level students in plant breeding, physiology, biochemistry and molecular biology

BIC CODES: PSB, TVK, PSAK

THEMA CLASSIFICATION: THEMATVK; THEMPSAK; THEMPSB

Updates on new methods to ameliorate the negative effects of stresses and improve crop yield under stress

KEY FEATURES

- Explores key strategies, including signaling molecules and Quantitative Trait Locus (QTLs)
- Highlights stress mitigating agents for improved crop yield
- Provides an integrated and holistic overview, enabling and inspiring further research toward improved food security

DESCRIPTION

Improving Stress Resilience in Plants: Physiological and Biochemical Basis and Utilization in Breeding addresses the urgent need for improved understanding of major plant stress tolerance mechanisms, the identification of the genes, and gene products that are key to improving those mechanisms and means of optimizing those genes through molecular approaches. With a focus on plant physiological and biochemical attributes at both cellular and whole plant levels, this book includes the latest information on crosstalk between the various signaling molecules and quantitative trait locus (QTL). Further, it explores the extension of these mechanisms to breeding approaches, confirming overall understanding and inspiring further research. Written by a team of global experts, and presented in three thematic sections, the book provides insights into physical adaptations, metabolism and pathways, and breeding techniques including CRISPR and conventional approaches to reduce the negative effects of stresses and improve crop yield even under stress conditions. It is an ideal resource for researchers, academics and advanced students seeking to improve stress tolerance among crop plants and developing key future strategies for sustainable food production.

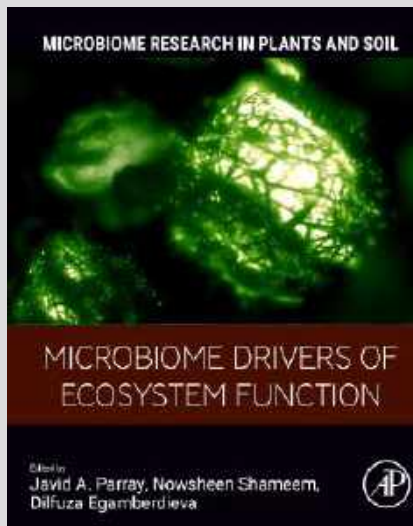


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Microbiome Drivers of Ecosystem Function

Edited by : **Javid A. Parray**, Govt. Degree College, Eidgah, Srinagar, Department of Higher Education J&K Govt, Centre of Research for Development, University of Kashmir, India; **Nowsheen Shameem**, Assistant Professor, Department of Environmental Science, Cluster University Srinagar – Jammu and Kashmir, India and **Dilduza Egamberdieva**, Associate Professor, Faculty of Biology, National University of Uzbekistan, Tashkent, Uzbekistan

ISBN: 9780443191213

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 430

AUDIENCE: Researchers and students in the fields of agricultural biotechnology, biochemistry, environmental science, plant biology, agricultural sciences, and agricultural engineering

BIC CODES: TV, PST, PSG, RBGB, RN, TVK

THEMA CLASSIFICATION:

THEMATVB; THEMATPSG;

THEMARBGB; THEMATPST;

THEMATV; THEMATVK; THEMATQ

Aligns recent advancements in microbial technology to improving agricultural systems

A Volume in the *Microbiome Research in Plants and Soil* Series

KEY FEATURES

- Provides insights on engineered microbes in sustainable agriculture, recent biotechnological developments, and future prospects
- Introduces microbes as chief ecological engineers in reinstating equilibrium in degraded ecosystems
- Presents the current state and development, as well as future challenges in studying plant-microbe interactions
- Discusses endophytic microbiomes and other microbial consortium with multifunctional plant growth-promoting attributes

DESCRIPTION

Microbiome Drivers of Ecosystem Function, the latest release in the *Microbiome Research in Plants and Soil* series, focuses on advancements in microbial technologies towards harnessing the microbiome for improved crop productivity and health. The book provides insights into the diversity of endophytic microbiomes and their potential utility in agricultural production. As increased crop yield through chemical interventions have limit thresholds and alternative, natural, and/or integrated approaches are increasingly needed, this book serves as an ideal reference for researchers and students in the fields of agricultural biotechnology, biochemistry, environmental science, plant biology, agricultural sciences, and agricultural engineering. Microbial inoculants provide ways in which food production efficiency can be improved. Plant growth-promoting soil organisms increase net crop uptake of soil nutrients, resulting in larger crops and higher yields of harvested food. These and other symbiotic associations between plants and microbes can ultimately be exploited for the increased food production necessary to feed the world, in addition to creating safer farming techniques that minimize ecological disruption.



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LIFE SCIENCES Botany

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Sustainable Agricultural Practices

Edited by : **Ajay Kumar**, Ph.D.; **Muhammad Bilal**, Associate Professor at the Department of Sanitary Engineering, Faculty of Civil and Environmental Engineering, Gdansk University of Technology, Gdansk, Poland; **James White**, Professor of Plant Biology, Rutgers University in New Brunswick, New Jersey, USA and **Joginder Singh**, Professor, Department of Microbiology, Climate Mitigation and Sustainable Agriculture Research lab (CMaSAR), Division of Research and Development, Lovely Professional University, Punjab, India

ISBN: 9780443191503

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 410

AUDIENCE: Advanced level students and researchers in Agricultural Science, Plant Science and Environmental Science.

BIC CODES: RBGB, TCB, PST, TV, RN, PSG, KNAC

THEMA CLASSIFICATION:

THEMATCB; THEMAKNA;

THEMAPST; THEMATQ; THEMATV;

THEMATVB; THEMARBGB

Helps readers increase agricultural outcomes through improved microbiome practices

A Volume in the *Plant and Soil Microbiome* Series

KEY FEATURES

- Includes summaries, case studies, and applications to provide real-world insights
- Provides accessible, informative illustrations of current trends in microbial biotechnology
- Elaborates on section content with tables and figures for effective communication
- Suggests future research avenues in the field of microbial biotechnology for sustainable development

DESCRIPTION

Sustainable Agricultural Practices, a volume in the *Plant and Soil Microbiome* series, updates on the successful utilization of different biocontrol agents (especially bacteria and fungi actinomycetes) under field conditions, which can relieve the pressure of overexploitation of synthetic pesticides. As many microorganisms, including nitrogen fixing bacteria and cyanobacteria can be used as bio inoculants, they offer opportunities to enhance crop productivity while maintaining the natural properties of agricultural soils. This volume explores the multifaceted benefits derived from varieties of microorganisms existing in different components of ecosystem, many of which could potentially be employed as probiotics for improved human and livestock health. Researchers seeking to expand their understanding of related fields, and students seeking foundational concept coverage will find this volume valuable.



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<https://virtuale.elsevier.com>, www.elsevier.com



Plant Endophytes and Secondary Metabolites

Edited by : **Dilfuza Egamberdieva**, Land Use and Governance, Leibniz Centre for Agricultural Landscape Research (ZALF), Germany; **Javid A. Parray**, Govt. Degree College, Eidgah, Srinagar, Department of Higher Education J&K Govt, Centre of Research for Development, University of Kashmir, India and **Kakhramon Davranov**, Director of Institute of Microbiology, Uzbekistan Academy of Sciences, Tashkent, Uzbekistan

ISBN: 9780443133657
PUB DATE: Nov 01, 2023
LIST PRICE: £162.99 / \$200.00 / €189.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 395
AUDIENCE: Researchers in plant science, agricultural science, environmental science, biochemistry and biotechnology, Advanced level students in plant, agricultural, environmental, biochemistry and biotechnology sciences
BIC CODES: PSB, PST, PSTD
THEMA CLASSIFICATION: THEMPSB; THEMPSST

Helps readers understand the potential of endophytes to improve terrestrial and aquatic plant health

A Volume in the *Microbiome Research in Plants and Soil* Series

KEY FEATURES

- Covers all characteristic features of endophytes
- Considers all aspects surrounding the role of endophytes for ameliorating biotic and abiotic stress
- Explores potential usage of endophytes for industrial applications from variable resources
- Presents the scope and importance of endophytic nanotechnology

DESCRIPTION

Plant Endophytes and Secondary Metabolites provides the latest insights into the essential roles of these beneficial elements in plant growth, development, stress tolerance, and plant protection from soil-borne disease. The book provides a comprehensive guide, addressing the usefulness and utility of endophytes towards enhancing plant tolerance to abiotic or biotic stress. It identifies biomolecules with unique molecular architectures, novel enzymes of industrial importance, and explores the ecology and community structure of endophytes associated with host plants and their potential. In addition, the book addresses the needs of researchers and advanced level students in agriculture, plant sciences, and biochemistry, seeking to elucidate on plant and soil microbiome sustainable ecosystem services.



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LIFE SCIENCES Botany
<https://virtuale.elsevier.com>, www.elsevier.com



Immunogenetics: A Molecular and Clinical Overview, Vol. 3

Immune Cells and Immunotherapeutics in Recurrent Miscarriage

Edited by : **Shafat Ali**, Cytogenetics and Molecular Biology Laboratory, Centre of Research for Development, University of Kashmir, Jammu and Kashmir, India; **Muneeb U. Rehman**, Faculty Member, Department of Clinical Pharmacy, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia; **Shahnaz Taing**, Government Medical College, Faculty Member, Department of Obstetrics and Gynaecology, Government Medical College, Srinagar, Jammu and Kashmir, India and **Azher Arafah**, Department of Clinical Pharmacy, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia

ISBN: 9780443136177

PUB DATE: Jun 01, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 326

AUDIENCE: Researchers and Scientist, Students, Academicians, Immuno-geneticists, Pharmacogeneticists, Obstetricians, Gynaecologists, Immunologists, Researchers in universities, colleges, R and D of industries, medical practioners including geneticists, dieticians, Obstetricians, Gynaecologists, Immunologists scientist in pharmacology, cytology, pharmaceuticals, academicians, college students and teachers

BIC CODES: MFN, MJCM

THEMA CLASSIFICATION: THEMAMFN; THEMAMJCM

Describes the role of immune cells and immunotherapeutics in recurrent pregnancy loss

KEY FEATURES

- Contains global information about research on immunogenetics of recurrent pregnancy loss
- Assists clinicians and medical practitioners by presenting the most recent research information, ideas, thoughts of scientists and researchers, and trends in this research area
- Provides the prerequisite requirements for any researcher who wants to work on immunogenetics and its applications to recurrent pregnancy loss

DESCRIPTION

Immunogenetics: A Molecular and Clinical Overview, Vol. 3, Immune Cells and Immunotherapeutics in Recurrent Miscarriage provides an overview of the scientific knowledge, achievements, and findings in the field of immunogenetics of recurrent pregnancy loss. With a strong focus on the role immune cells can play in recurrent pregnancy loss, the book also examines immune therapeutic aspects. In fifteen chapters, the book describes the roles of both helper cells, nature killer cells, lymphoid cells, regulatory cells and macrophages in recurrent pregnancy loss. In addition, it describes clinical outcomes of several therapies and gives insight into new treatments. This new release is a valuable resource for health professionals, scientists and researchers, and all those who wish to broaden their knowledge in the allied field.



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LIFE SCIENCES Immunology

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Immunogenetics: A Molecular and Clinical Overview

Immunogenetic Factors and Signaling Pathways in Recurrent Miscarriage, vol. 4

Edited by : **Shafat Ali**, Cytogenetics and Molecular Biology Laboratory, Centre of Research for Development, University of Kashmir, Jammu and Kashmir, India; **Muneeb U. Rehman**, Faculty Member, Department of Clinical Pharmacy, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia; **Shahnaz Taing**, Government Medical College, Faculty Member, Department of Obstetrics and Gynaecology, Government Medical College, Srinagar, Jammu and Kashmir, India and **Rana Aldossari**, Department of Pharmacology and Toxicology, Abdulaziz University, College of Pharmacy, Saudi Arabia

ISBN: 9780443136573

PUB DATE: Jun 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 326

AUDIENCE: Researchers and Scientists, Students, Academicians, Immuno-geneticists, Pharmacogeneticists, Obstetricians, Gynaecologists, Immunologists, Researchers in universities, colleges, R and D of industries, medical practioners including geneticists, dieticians, Obstetricians, Gynaecologists, Immunologists scientist in pharmacology, cytology, pharmaceuticals, academicians, college students and teachers

BIC CODES: MFN, MJCM

THEMA CLASSIFICATION: THEMAMFN; THEMAMJCM

Describes the Immunogenetic factors and signaling pathways in recurrent miscarriage

KEY FEATURES

- Contains global information about research on immunogenetics of recurrent pregnancy loss
- Assists clinicians and medical practitioners by presenting the most recent research information, ideas, thoughts of scientists and researchers, and trends in this research area
- Provides the prerequisite requirements for any researcher who wants to work on immunogenetics and its applications to recurrent pregnancy loss

DESCRIPTION

Immunogenetics: A Molecular and Clinical Overview: Immunogenetic Factors and Signaling Pathways in Recurrent Miscarriage, Volume Four provides an overview of the scientific knowledge, achievements, and findings in the field of immunogenetics of recurrent pregnancy loss. With a strong focus on the role immune cells can play in recurrent pregnancy loss, the book also examines immune therapeutic aspects. In seventeen chapters, the book describes the roles of several different signaling pathways and the role of JLA and microRNAs in recurrent pregnancy loss. Several chapters are dedicated to the role autoimmune antibodies play in recurrent pregnancy loss. This book is a valuable resource for health professionals, scientists, researchers, and all those who wish to broaden their knowledge in the allied field.



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LIFE SCIENCES Immunology

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Bacterial Biogeochemistry, 4e

The Ecophysiology of Mineral Cycling

Tom Fenchel, University of Copenhagen, Denmark and Gary M. King, University of Maine, Walpole, USA

ISBN: 9780443158834

PREVIOUS ISBN: 9780124158368

PUB DATE: Feb 01, 2024

LIST PRICE: £123.00 / \$160.00 /

€139.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 372

AUDIENCE: Graduate students and researchers in microbiology, ecology and limnology, particularly soil and sediments, geochemists, those interested in plant nutrition, marine microbiology, microbial metabolism, and the global change research community

BIC CODES: PSG, RN, RBGK, PSGD

THEMA CLASSIFICATION:

THEMAPSG

Comprehensive review of bacterial biogeochemistry, presenting the fundamentals of microbial processes that allows for easy extrapolation to applied problems

KEY FEATURES

- Completely revised to incorporate all recent advances in bacterial biogeochemical cycles
- Identifies processes and phenomena that are relevant for global change feedback loops
- Covers interactions between microbial processes, atmospheric composition, and the earth's greenhouse properties

DESCRIPTION

Bacterial Biogeochemistry: The Ecophysiology of Mineral Cycling, Fourth Edition discusses the influence of bacterial activity on the chemical environment of the biosphere. Following the success of previous editions, this update focuses on bacterial metabolism and its relevance to the environment, including the decomposition of soil, food chains, nitrogen fixation, assimilation, and reduction of carbon nitrogen and sulfur, and microbial symbiosis. All chapters have been revised and brought up-to-date in light of the many advances and discoveries that have taken place during the last decade. The scope of the new edition has broadened to provide a review of the processes and phenomena that are relevant for global change feedback loops and advances in bacterial biogeochemical cycles.

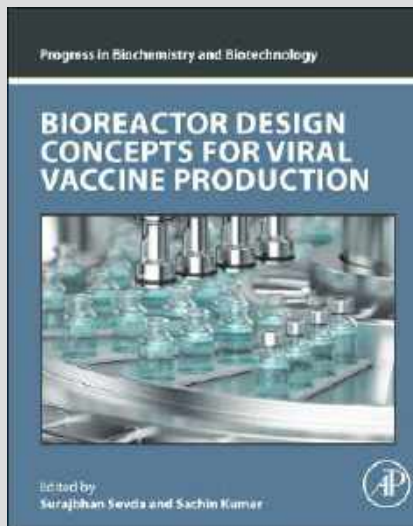


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LIFE SCIENCES Microbiology

<https://virtuale.elsevier.com>, www.elsevier.com



Bioreactor Design Concepts for Viral Vaccine Production

Edited by : **Surajbhan Seveda**, Assistant Professor, Department of Biotechnology, National Institute of Technology, Warangal, India and **Sachin Kumar**, Associate Professor, Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati, India

ISBN: 9780443153785

PUB DATE: Jun 01, 2024

LIST PRICE: £142.00 / \$175.00 / €170.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 419

AUDIENCE: Researchers, academics, post-graduate students, and industry professionals of multidisciplinary fields, in particular virology, vaccinology, cell culture and bioreactor design

BIC CODES: TCB, PSG, PSGL

THEMA CLASSIFICATION:

THEMAPSG; THEMATCB

Informative resource on bioreactor design and their use for viral vaccine production

A Volume in the *Progress in Biochemistry and Biotechnology* Series

KEY FEATURES

- Covers the fundamentals of bioreactor designs
- Provides strategies for designing a successful vector-based vaccine
- Discusses the applications of biological kinetics, thermodynamics and basic substrate requirements for viral vaccine production

DESCRIPTION

Bioreactor Design Concepts for Viral Vaccine Production covers a range of interdisciplinary chapters from the engineering perspective of bioreactor design to the biotechnological perspectives of vector design for vaccine development. The book covers bioreactor concepts such as static systems, single-use systems, stirred tanks, perfusion, wave and packed-beds. It reviews options for efficient and economical production of human vaccines and discusses basic factors relevant for viral antigen production in mammalian cells, avian cells, and insect cells. This book will be a great resource for those interested in implemented novel bioreactor design or experimental schemes towards intensified or/and enhanced vaccine production.



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LIFE SCIENCES Molecular Biology
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Integrated Systems Analysis of Ecosystems

The Land, Water, Food, and Climate Nexus

Edited by : **Gang Wang**, Full Professor and Chair of Soil and Water Ecosystems Biophysics research group (SWEB), China Agricultural University (CAU), China

ISBN: 9780323955928

PUB DATE: Sep 01, 2024

LIST PRICE: £123.00 / \$160.00 / €139.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 530

AUDIENCE: Scientists, educators, and graduate students in all important related topics linking land, water, food, energy, and climate at their nexus, Policy makers who have devoted themselves to fostering the development of more sufficient and sustainable ecosystems by anticipating the importance of biodiversity and land–water–food–energy security

BIC CODES: TQ

THEMA CLASSIFICATION:
THEMATQ

Discusses the interface between soil sciences, hydrology, economy, ecology, agronomy, and environmental sciences

KEY FEATURES

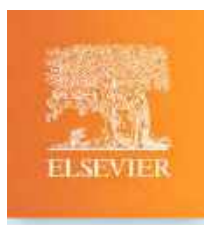
- Summarizes important advances in cutting-edge models in ecology and agro-ecology and their implications at various spatiotemporal scales
- Includes important perspectives to promote the development of multidisciplinary integrated modeling platforms, elucidating the interacting laws of physics and economic/ecological principles and linking resources (land and water), food, energy, and climate at their nexus
- Focuses on the water–food–energy nexus and related ecological research using a systems analytical approach and applications
- Provides vital information to support policymakers and improve decision-making

DESCRIPTION

Integrated Systems Analysis of Ecosystems: The Land, Water, Food, and Climate Nexus focuses on the interface between soil sciences, hydrology, economy, ecology, agronomy, and environmental sciences. The book cuts across disciplinary boundaries and addresses broad issues impacting soil, water, food, and energy security, as well as the operation of agricultural and ecological processes. It will summarize important advances in cutting-edge models in ecology and agro-ecology, including biophysical process-oriented models and land use integrated models, along with their implications at various spatiotemporal scales.

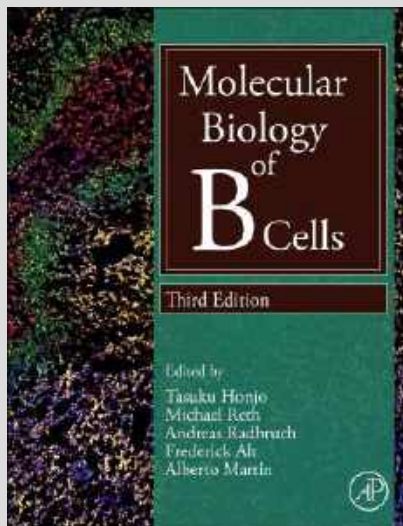


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EARTH & ENVIRONMENT Ecology

<https://virtuale.elsevier.com>, www.elsevier.com



Molecular Biology of B Cells, 3e

Edited by : **Tasuku Honjo**, Professor of Department of Immunology and Genomic Medicine, Kyoto University, Japan; Chairman of Board of Directors, Shizuoka Prefectural University Corporation, Japan; **Michael Reth**, Professor for Molecular Immunology, Institute of Biology III, University of Freiburg, Germany; **Andreas Radbruch**, Professor of Rheumatology, Charité, Medical Faculty, Humboldt University of Berlin, Germany; **Frederick Alt**, Professor of Pediatrics and Professor of Genetics, Harvard Medical School, Boston, MA, USA and **Alberto Martin**, University of Toronto, Department of Immunology, St. George Campus, Medical Sciences Building, Toronto, ON, Canada

ISBN: 9780323958950

PREVIOUS ISBN: 9780123979339

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 /

€175.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 8.50w x 10.875h

PAGES: c. 600

AUDIENCE: Researchers, scientists, clinicians, clinical investigators, pathologists, medical students, and graduate students in the biomedical sciences in immunology, rheumatology, genetics, cell biology and molecular biology, Academic institutions especially those researchers active in immunology/oncology/infectious disease and those teaching immunology for graduate and post-graduate degrees, Later stage professionals who need to either revise or develop detailed B cell knowledge due to their individual circumstances, scientists whose work unexpectedly incorporates B cell biology and clinicians who encounter B cell based diseases

BIC CODES: PSD, PSAK, MJCM

THEMA CLASSIFICATION:

THEMAPSAK; THEMAMJCM



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Fully revised and updated definitive reference on the molecular biology of B cells

KEY FEATURES

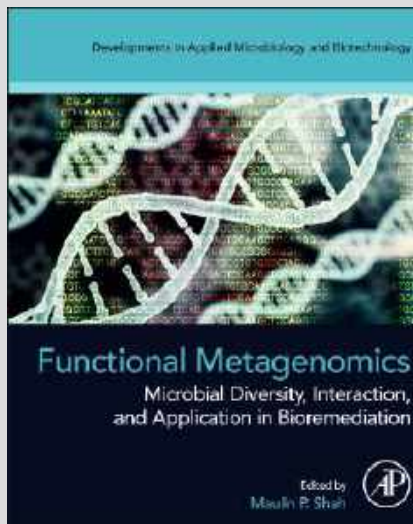
- Provides new research on normal versus abnormal B cell development and function
- Contains studies on therapeutic antibodies in cancer and infectious diseases
- Covers research on therapeutically targeting B cells in inflammation or autoimmune diseases

DESCRIPTION

Molecular Biology of B Cells, Third Edition provides a comprehensive reference on how B cells are generated, selected, activated, and engaged in antibody production. These developmental and stimulatory processes are described in molecular, immunological, and genetic terms to give a clear understanding of complex phenotypes. The book offers an integrated view of B cells to produce a normal immune response as a constant, and the molecular basis of numerous diseases due to B cell abnormality. This new edition provides updated research on B cell development and function, the use of therapeutic antibodies in cancer and infectious disease, and more. With updated research and continued comprehensive coverage of all aspects of B cell biology, *Molecular Biology of B Cells*, this updated release is a definitive resource, vital for researchers across molecular biology, immunology, and genetics.

LIFE SCIENCES Microbiology

<https://virtuale.elsevier.com>, www.elsevier.com



Functional Metagenomics

Microbial Diversity, Interaction, and Application in Bioremediation

Edited by : Maulin P Shah

ISBN: 9780323983723
PUB DATE: Jan 01, 2024
LIST PRICE: £134.00 / \$175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 300
AUDIENCE: academicians like Professors and teaching faculties of bioscience and microbiology.
BIC CODES: PSG
THEMA CLASSIFICATION: THEMPSG

Explores the role of metagenomics in studying microbial diversity, interaction, and application in environmental bioremediation studies

A Volume in the *Developments in Applied Microbiology and Biotechnology Series*

KEY FEATURES

- Provides comprehensive information to readers on state-of-the-art applications in metagenomics
- Summarizes our current knowledge of the use of metagenomics and gives a novel and powerful insight into the already existing bioremediation process
- Gives an overall picture of metagenomics, its application, processes, and future prospects in the field of bioremediation

DESCRIPTION

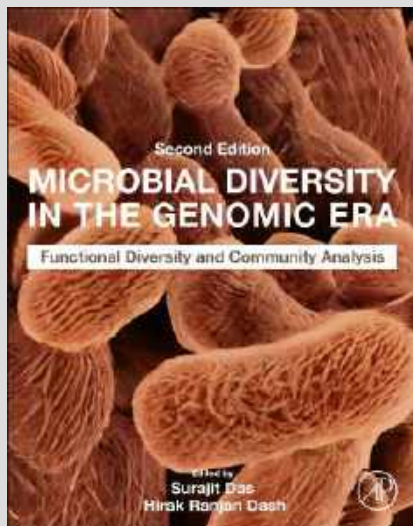
Functional Metagenomics: Microbial Diversity, Interaction, and Application in Bioremediation uses a 20-chapter, easy-to-understand format to centralize the practical application ideas for functional metagenomics. This important resource not only includes chapters on next-generation sequencing technologies to study important biogeochemical cycles, degradation pathways and detoxification, but also gives insight into several tools that have been developed to integrate metadata and sequence data, allowing downstream comparative analyses of different datasets using several ecological indices. The book's content further explains newly developed techniques for sequencing DNA, generating shorter fragments than Sanger sequencing techniques to quickly read larger sequences in a shorter amount of time. The content finally explores the role of metagenomics in studying microbial diversity, interaction, and application in bioremediation studies and gives the reader overall detailed information regarding metagenomics and its application and techniques.



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Microbial Diversity in the Genomic Era, 2e

Functional Diversity and Community Analysis

Edited by : **Surajit Das**, Assistant Professor, Laboratory of Environmental Microbiology and Ecology, NIT, India and **Hirak Ranjan Dash**, Scientific Officer (DNA), Forensic Science Laboratory, Sagar Home (Police) Department, Madhya Pradesh, India

ISBN: 9780443133206

PREVIOUS ISBN: 9780128148495

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 /

€175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 8.50w x 10.875h

PAGES: c. 699

AUDIENCE: Researchers in genomics, genetics, microbiology, biochemistry, molecular biology, and phylogeny, Students and clinicians

BIC CODES: PSAK, PSAK1

THEMA CLASSIFICATION:

THEMAPSAK

A deep, applied compilation of microbial genomics research applications and methodologies, from extremophile environment analysis to human microbiome studies

KEY FEATURES

- Instructs in techniques used for microbial taxonomy and phylogeny, with discussions of their applications and respective pros and cons
- Reviews the evolving field of microbial typing and the genomic technologies that enable comparative metagenomic analysis of complex microbial environments
- Covers microbiome directed translational research, as well as whole genome sequencing for studying microbial diversity, with newly added research protocols and case studies
- Reviews future applications in the field of microbiome directed medicine
- Features chapter contributions from global experts in the field

DESCRIPTION

Microbial Diversity in the Genomic Era: Functional Diversity and Community Analysis, Second Edition presents techniques used for microbial taxonomy and phylogeny, along with their applications and respective strengths and challenges. The book incorporates recently developed biosystematics methods and approaches to assess microbial taxonomy, with suitable recommendations for where to apply them across the range of bacterial identification and infectious disease research. Sections provide a broad overview of microbial genomics research and microbiome directed medicine and update on molecular tools for microbial diversity research, extremophilic microbial diversity, functional microbial diversity across application areas, microbial diversity and infectious disease research, and future directions. Step-by-step methodologies are provided for key techniques, along with applied case studies that break down recent research studies into practical components, thus illuminating pathways for new studies across the field.

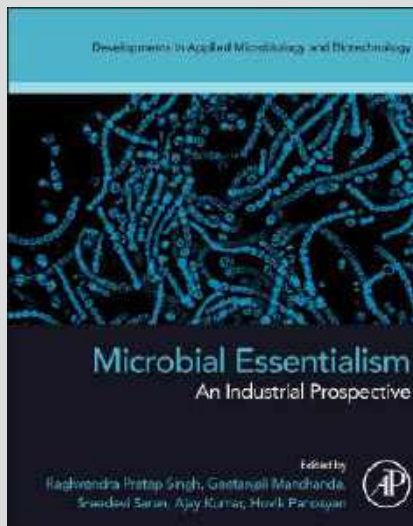


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LIFE SCIENCES Molecular Biology

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Microbial Essentialism

An Industrial Prospective

Edited by : **Raghvendra Pratap Singh**, Assistant Professor, Department of Research and Development, Biotechnology, Uttarakhand University, Dehradun, India; **Geetanjali Manchanda**, Department of Botany and Environmental Studies, DAV University, Jalandhar, Punjab, India; **Sreedevi Sarsan**, Assistant Professor and Head, Department of Microbiology, St. Pious X Degree and PG College for Women, Hyderabad, India; **Ajay Kumar**, Associate Professor, Sam Higginbottom University of Agriculture, Technology and Sciences, Dept. of Industrial Microbiology, Jacob Institute of Biotechnology and Bioengineering, Sam Higginbottom University of Technology and Sciences, Prayagraj, Uttar Pradesh, India and **Hovik Panosyan**, Department of Biochemistry, Microbiology and Biotechnology, Yerevan State University, Yerevan, Armenia

ISBN: 9780443139321
PUB DATE: Mar 01, 2024
LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 326

AUDIENCE: Researchers, academics, as well as industry professionals in the field of microbial biotechnology, applied microbiology, and biotechnology with keen interest in microbial-based product development and sustainable application, Graduate and post-graduates interested in the application of microbial properties to create products or by-products for agriculture, industrial, clinical, and commercial uses

BIC CODES: PSG

THEMA CLASSIFICATION: THEMPSG

Explores the latest techniques, technologies, approaches, options, and application of microorganisms in the manufacture of industrially important products

A Volume in the *Developments in Applied Microbiology and Biotechnology Series*

KEY FEATURES

- Covers key aspects of microbial physiology, exploring the versatility of microorganisms and their diverse metabolic activities and products
- Provides methods and various traditional and novel applications of microorganisms to industrial processes
- Contributed by a multidisciplinary group of experts who offer not only a thorough evaluation of the primary literature, but also invaluable first-hand experience in industrial microbiology and biotechnology

DESCRIPTION

Microbial Essentialism: An Industrial Prospective refers to properties specifically possessed by microbes, including the secretion of metabolites which make them unique. These microorganisms can be commercially exploited for beneficial purposes such as the production of whole microbial cells, for products for direct use, or as starting raw materials in the manufacture of other commercial products. The book reviews the newest techniques, approaches, and options in the use of microorganisms for the manufacture of industrially important products such as pharmaceuticals, industrial enzymes, chemicals, proteins, foods and beverages, and fuels. Additional sections cover fundamental principles of established and innovative industrial microbiology and biotechnology processes and products while also discussing industrial microorganisms and the technology required for large-scale cultivation and isolation of fermentation products.

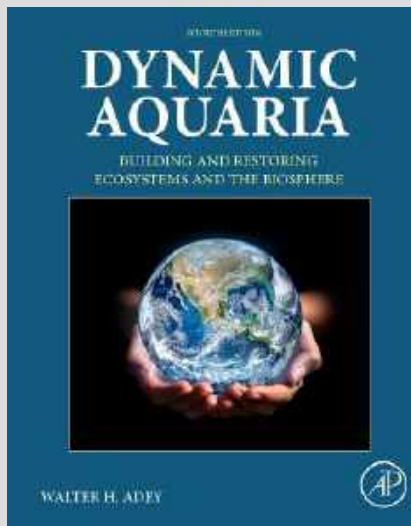


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Dynamic Aquaria, 4e

Building and Restoring Ecosystems and the Biosphere

Walter H. Adey, Smithsonian Institute

ISBN: 9780443154188

PREVIOUS ISBN: 9780124054646

PUB DATE: Feb 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Textbook

FORMAT: Hardback

TRIM: 7.50w x 9.25h

PAGES: c. 500

AUDIENCE: Practitioners and students in marine biology aquatic science; animal scientists; conservation researchers and practitioners; aquaculturalists

BIC CODES: PSP, RNCB, RNKH, TVT, RNKH1, PSPM

THEMA CLASSIFICATION: THEMAPSPM; THEMARNCB; THEMARNKH1; THEMATVT; THEMARNK

Provides an updated understanding of the physical-chemical relationship between Earth's atmosphere and its oceans

KEY FEATURES

- Offers the basic physical and chemical background necessary for understanding aquatic and marine ecosystems
- Expands available electro-mechanical tools for developing living system models
- Features new information on the biomimicry water control system, Algal Turf Scrubbing (ATS)
- Evidences how ecosystem modeling can contribute to the understanding of climate change

DESCRIPTION

Dynamic Aquaria: Building and Restoring Ecosystems and the Biosphere, 4th Edition demonstrates how the living systems modeling of aquatic ecosystems for ecological, biological, and physiological research, and ecosystem restoration can produce answers to very complex ecological questions. It describes unique characteristics of water that have allowed carbon chemistry to flourish and evolve life over 4 billion years, and current disruptions such as global warming, overfishing, and chemical pollution. New content in this edition includes the use of LED lighting, DNA sequencing in microcosm construction and analysis, and the expansion of the bioengineered tool Algal Turf Scrubbing (ATS) as a tool to combat global pollution problems. It also features new information on marine calcification, research microcosms, thermogeography, and methods of water movement for minimizing plankton loss. This book supports a deeper biological and ecological intelligence among the human population to better understand the processes behind environmental issues. *Dynamic Aquaria: Building and Restoring Ecosystems and the Biosphere, 4th Edition* is a vital resource and suitable course text for studying or practicing aquatic biologists, ecologists, and aquaculturists. Researchers and activists in conservation work will also find this useful.



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COVER IMAGE
FORTHCOMING

Metabolites as Signals in Immunity and Inflammation

Edited by : **Zbigniew Zastona**, Inflammation Research Group, School of Biochemistry and Immunology, Trinity Biomedical Sciences Institute, Trinity College, Ireland; **Tristram Ryan**, Inflammation Research Group, School of Biochemistry and Immunology, Room 4.32, Trinity Biomedical Sciences Institute, Trinity College Dublin, Ireland and **Luke O. Neill**, Inflammation Research Group, School of Biochemistry and Immunology, Trinity Biomedical Sciences Institute, Trinity College Dublin, Ireland

ISBN: 9780443154478

PUB DATE: Mar 01, 2025

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 294

AUDIENCE: Researchers and postgraduate students in immunology, biomedicine, biotechnology, Big Pharma curiosity to see trends in science, Biotech R&D companies with novel targets in their pipeline – high reward high risk takers

BIC CODES: MJCM

THEMA CLASSIFICATION: THEMAMJCM

Elucidates the novel functions of metabolites that are independent of their conventional roles in biosynthesis and bioenergetics

KEY FEATURES

- Provides insights into novel immunotherapeutic targets
- Brings together personalized medicine, physiology, and immunobiology
- Describes the changes that occur in intracellular metabolic pathways in immune cells during activation
- Highlights changes in thinking about the field of immunology

DESCRIPTION

Metabolites as Signals in Immunity and Inflammation describes the revolution in the definition of the word metabolism, highlighting changes in thinking about the whole field of immunology. These changes occur thanks to breakthrough experiments in basic research, and with the help of new technologies that allow for the testing of immunology hypotheses. In recent years, a substantial number of findings have been made around immunometabolism. What is emerging is a complex interplay between metabolic reprogramming and immunity, which is providing an extra dimension to our understanding of the immune system in health and disease.



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LIFE SCIENCES Immunology

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Trends in Clinical Diseases, Production and Management of Goats

Edited by : **Tanmoy Rana**, BVSc, MVSc, PhD, West Bengal University of Animal and Fishery Sciences

ISBN: 9780443154850

PUB DATE: Jan 01, 2024

LIST PRICE: £134.00 / \$175.00 /
€155.00

DISCOUNT: MRW

FORMAT: Hardback

TRIM: 7.50w x 9.25h

PAGES: c. 540

AUDIENCE: Postgraduate students,
researchers, academicians, in
microbiology, and veterinary science,
industrialists

BIC CODES: PSGD

THEMA CLASSIFICATION:
THEMAPSG

Thoroughly discusses systemic diseases and treatments in goats based on microbial pathogenesis

KEY FEATURES

- Provides knowledge about diseases associated with various types of microbial pathogens
- Emphasizes the importance of various diseases in goats and their influence on human health
- Schematically delivers the magnitude of the diseases and their clinical management practices
- Describes disease evaluation and its pathogenesis
- Identifies the pathogens, their severity to animals, and exhibition of disease manifestation

DESCRIPTION

Trends in Clinical Diseases, Production and Management of Goats examines goat diseases and their remedial measures after drug application. The book elaborates on disease and pathogenesis in a systematic way, describing disease evaluation, pathogenesis, identifications of pathogens and their severity to animals, exhibition of disease manifestation, and preventive and treatment strategies to counteract the aetiopathogenesis caused by pathogens. Further, the book gives insights on the microbial pathogenesis of goats, an overview of clinical diseases of goats, and the impact on human health, aiming its content towards a broad audience, including microbiologists, veterinary scientists, and those working in the industry.

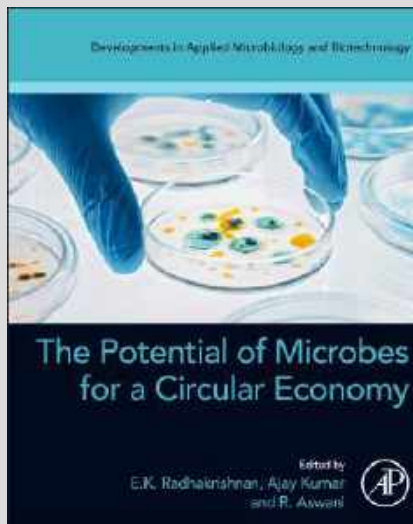


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LIFE SCIENCES Zoology

<https://virtuale.elsevier.com>, www.elsevier.com



The Potential of Microbes for a Circular Economy

Edited by : **Radhakrishnan E.K.**, PhD, Assistant Professor, School of Biosciences of Mahatma Gandhi University and Joint Director, Inter University Centre for Organic Farming and Sustainable Agriculture (IUCOFSA), Mahatma Gandhi University, Kottayam, India; **Aswani Raveendran**, Research Scholar, School of Biosciences, Mahatma Gandhi University, Kottayam, India and **Ajay Kumar**, Ph.D., Agricultural Research Organization

ISBN: 9780443159244
PUB DATE: Jan 01, 2024
LIST PRICE: £134.00 / \$175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 294
AUDIENCE: Researchers in applied microbiology and biotechnology industries, engineers, government policy makers
BIC CODES: PSG
THEMA CLASSIFICATION: THEMAPSG

Compiles the latest advancements of microbes and microbial products in a circular economy

A Volume in the *Developments in Applied Microbiology and Biotechnology Series*

KEY FEATURES

- Provides a thorough understanding on the role of microbes in the circular economy that can help to develop effective bio-based formulations for field applications
- Describes the basic principles and applications of the Circular Economy
- Gives insights on the important role of microorganisms explored in the circular economy, which in turn provides new insights into the sustainable ecosystem

DESCRIPTION

The Potential of Microbes for a Circular Economy provides an understanding of the role of microbes in a circular economy (CE). The book covers the development of effective bio-based formulations for field applications and describes the basic principles and applications, the important role of microorganisms, and new insights into a sustainable ecosystem for the circular economy. In addition, it compiles the latest advancement in the field of CE by covering microbes and microbial products, thus providing microbiologists the tools to engage with the public, policymakers, and industry to inform the debate on addressing current challenges.



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COVER IMAGE
FORTHCOMING

Neuropsychiatric Disorders and Epigenetics, 2e

Edited by : **Jacob Peedicayil**, Professor, Department of Pharmacology and Clinical Pharmacology, Christian Medical College, Vellore, India and **Dennis R. Grayson**, Professor of Molecular Neuroscience, University of Illinois at Chicago, IL, USA

ISBN: 9780443185168

PREVIOUS ISBN: 9780128002261

PUB DATE: Sep 28, 2023

LIST PRICE: £115.00 / \$150.00 /

€130.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 7.50w x 9.25h

PAGES: c. 398

AUDIENCE: Researchers in genetics, genomics, molecular biology, neuroscience, biological psychiatry, pharmaceutical science, and clinical therapy, Clinicians and students, trainees

BIC CODES: MFN, JMM

THEMA CLASSIFICATION:

THEMAJMM; THEMAMFN

A deep, foundational reference on the epigenetic basis of common neuropsychiatric disorders, from disease biology to therapeutic interventions

A Volume in the *Translational Epigenetics* Series

KEY FEATURES

- Analyzes the effects of environmental stimuli on epigenetic states that correlate with neuropsychiatric disease induction
- Reviews the epigenetic basis for common neuropsychiatric disorders, thereby guiding translational therapies for clinicians and mechanistic studies for scientists
- Features extensive use of diagrams, illustrations, tables, and graphical abstracts for each section to reinforce understanding
- Includes chapter contributions from leading global experts

DESCRIPTION

Neuropsychiatric Disorders and Epigenetics, Second Edition is a comprehensive reference on the epigenetic basis of common neuropsychiatric disorders. The volume is organized into chapters covering individual neuropsychiatric disorders, from addiction to anxiety and autism spectrum disorders, and is contributed by leading experts in their respective fields. The epigenetic aspects of each disorder are discussed in the context of the full range of associated epigenetic mechanisms, including DNA modification, histone post-translational modification, chromatin organization, and non-coding RNA. A particular emphasis is placed on potential epigenetic interventions when the effects of environmental stimuli on epigenetic states is particularly relevant to disease. This new edition has been fully updated to reflect recent research advances enabled by genomic technologies, as well as therapeutic interventions for previously unmanageable disorders. Several new chapters have been added on disorders or approaches not considered in the earlier edition, including epigenetics and anxiety disorders, epigenetics and neuroimaging in neuropsychiatric disorders, genome-wide approaches to epigenetic research, and the epigenetics of spinal muscular atrophy.



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LIFE SCIENCES Genetics

<https://virtuale.elsevier.com>, www.elsevier.com



New Insights, Trends, and Challenges in the Development and Applications of Microbial Inoculants in Agriculture

Sergio de los Santos Villalobos, Research Professor, Instituto Tecnológico de Sonora-Sonora, Mexico

ISBN: 9780443188558

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 150

AUDIENCE: Researchers, students, and industry personnel in applied biotechnology, soil microbiology, soil and agricultural sustainability, agronomy, and microbiology. industry personnel and consultants on the use and production of microbial inoculants

BIC CODES: PSA

THEMA CLASSIFICATION: THEMAPS

Provides new insights, trends and challenges in third generation biofertilizers for worldwide sustainable food security

A Volume in the *Developments in Applied Microbiology and Biotechnology Series*

KEY FEATURES

- Presents new updates that are based on new research and approaches in the production of microbial inoculants
- Focuses on the needs of readers, covering key steps and points that should not be overlooked
- Links scientific and practical knowledge so readers can apply the knowledge acquired in their research on the development of biofertilizers and biopesticides
- Helps companies can their inoculant production processes
- Provides updates on how the criteria and selection of bioproducts based on PGPM can increase efficiency of crops through correct application and evaluation of plant performance

DESCRIPTION

New Insights, Trends and Challenges in the Development and Applications of Microbial Inoculants in Agriculture provides information about how to develop high-quality microbial inoculants (biofertilizers and biopesticides) for increasing crop yields and quality and reducing the economic, environmental and health costs of food production. The book's chapters discuss cutting-edge approaches and techniques to develop bioformulations as reliable, viable solutions for food production, including the importance of a legal framework to guarantee the quality and safety of these bio-products. Additionally, it provides information on the current limitations and future approaches to enhance microbial inoculant development for contributing to global food security.

Interest in biofertilizers and the potential for their use in sustainable agriculture is increasing. However, many commercial bioproducts are low quality due to the lack of quality standards which causes a decrease in efficiency, high variability in the field, and loss of confidence from farmers.



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LIFE SCIENCES Microbiology

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

On Epigenetics and Evolution

Edited by : **Carlos M. Guerrero-Bosagna**, Assistant Professor, IFM Biology unit, Linköping University Linköping, Sweden

ISBN: 9780443190513

PUB DATE: Mar 01, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 460

AUDIENCE: Researchers and students in genetics, genomics, molecular biology, developmental biology, evolutionary biology, pharmaceutical science, nutrition, toxicology, physiology, and clinical therapy, Clinicians

BIC CODES: PSAK, PSAK1

THEMA CLASSIFICATION: THEMPSAK

Unites key themes in epigenetic and evolutionary biology research, with a focus on recent findings, evolving applications, and societal impact

A Volume in the *Translational Epigenetics* Series

KEY FEATURES

- Introduces and examines the role of epigenetic modifications in regulating genomic variability, and thus evolutionary biology, across species
- Draws together key themes across epigenetic evolution in plants, invertebrates, and vertebrates, and the role of epigenetics in human evolution
- Includes bulleted chapter summaries and key points lists, terms and definitions, and rich use of illustrations where possible to reinforce understanding and actionability of the content
- Features chapter contributions from international leaders in the field

DESCRIPTION

On Epigenetics and Evolution, a new volume in the *Translational Epigenetics* series, introduces key themes from current epigenetic evolution research with contributions from leading scientists around the world that investigate the role of epigenetic mechanisms in evolution from a variety of different angles, with each contribution combining theory, current research overviews, and applications. This book gives researchers, students, and clinicians a better understanding of the origin of genotypic and phenotypic variability, the role of epigenetics in development and inheritance, how epigenetics may affect speciation and geographic distribution, and the evolution of epigenetic mechanisms in different taxa. Other modalities and subtopics explored include epigenetics in neutral evolution; epigenetics and cellular physiology; Paleo-epigenetics; Archeo-epigenetics; epigenetics and pathogen evolution; epigenetics in unicellular organisms; epigenetic evolution in plants, invertebrates, and vertebrates; and the role of epigenetics in human evolution and its societal impact.

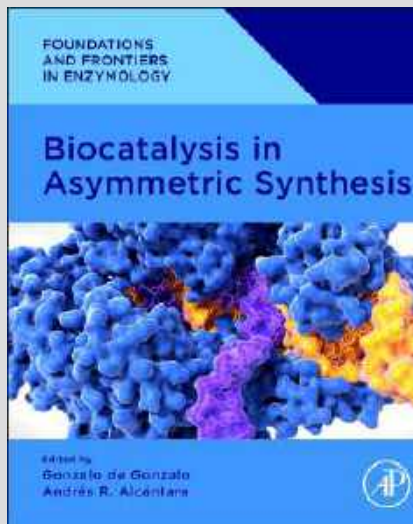


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LIFE SCIENCES Genetics

<https://virtuale.elsevier.com>, www.elsevier.com



Biocatalysis in Asymmetric Synthesis

Edited by : **Gonzalo De Gonzalo**, PhD, Associate Professor, Organic Chemistry Department, Chemistry Faculty, University of Seville, Spain and **Andrés R. Alcántara**, PhD, Full Professor at the Department of Chemistry in Pharmaceutical Sciences, Pharmacy Faculty Complutense University of Madrid, Spain

ISBN: 9780443190575

PUB DATE: May 01, 2024

LIST PRICE: £134.00 / \$175.00 / €155.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 452

AUDIENCE: Biochemists, biotechnologists, organic chemists, green chemists, biochemical engineers, chemical engineers, Students

BIC CODES: PSB, PHVN, PSBZ, PSD, TCB

THEMA CLASSIFICATION: THEMPSB; THEMAPHVN; THEMPSD; THEMATCB

Provides a deep, practical exploration of biocatalysis in asymmetric synthesis, as applied across industries and in sustainable production processes

A Volume in the *Foundations and Frontiers in Enzymology Series*

KEY FEATURES

- Explores biocatalysts as exquisite catalysts for fine chiral compound synthesis in different reaction media
- Features both foundational overviews and applied, practical examples across research and industry
- Includes chapter contributions from international leaders in the field

DESCRIPTION

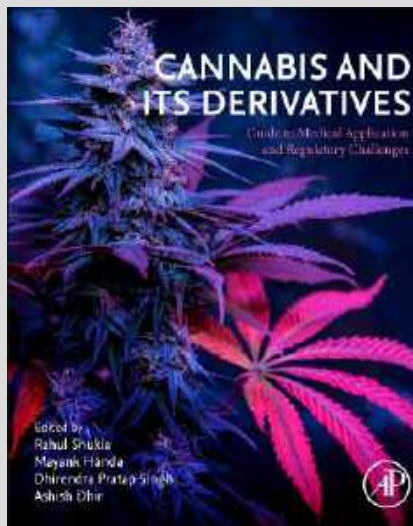
Biocatalysis in Asymmetric Synthesis, a new volume in the *Foundations and Frontiers of Enzymology* series, offers an applied discussion on synthesizing biological catalysts using asymmetric synthesis for varying applications. Here, global experts in the field analyze a wide variety of biocatalysts and their physical states, process conditions for their asymmetric synthesis, solvents required during synthesis, and even downstream procedures for the recovery of final products. The book adopts an interdisciplinary approach, merging fundamental biology and its synthetic applications across industries with a wide range of practical examples, from directed evolution to biotransformation and production of novel enzymes and non-conventional catalysts. Throughout the book, the impact and application of biocatalysis in sustainable processing is considered in-depth. This book will also help non-experts in biocatalysis to apply this knowledge in their own research, providing a thorough overview of the ways asymmetric biocatalytic approaches may be adapted for different disciplines and downstream products.



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LIFE SCIENCES Molecular Biology
<https://virtuale.elsevier.com>, www.elsevier.com



Cannabis and its Derivatives

Guide to Medical Application and Regulatory Challenges

Edited by : **Rahul Shukla**, PhD, Assistant Professor, Department of Pharmeceutics, National Institute of Pharmaceutical Education and Research, Raebareli, Uttar Pradesh, India; **Ashish Dhir**, PhD, Associate Principal Scientist- Drug Discovery, USA; **Mayank Handa**, M.Pharm, National Institute of Pharmaceutical Education and Research-Raebareli, Lucknow, India and **Dhirendra Pratap Singh**, Neurotoxicology and Immunotoxicology Laboratory, ICMR-National Institute of Occupational Health, Ahmedabad, India

ISBN: 9780443154898

PUB DATE: May 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 372

AUDIENCE: Researchers and scientists in Pharmacology, and clinical researchers, Drug development corporate researchers

BIC CODES: PSA

THEMA CLASSIFICATION: THEMAPS

A complete reference on the clinical pharmacology of Cannabis derivatives and their regulatory frameworks

KEY FEATURES

- Explores the potential of Cannabis derivatives and medicinal properties in several medical fields
- Highlights the regulatory challenges around the clinical use and research of Cannabis
- Covers applications to conditions like cancer, neurological disorders, pain management, and interactions with other drugs

DESCRIPTION

Cannabis and its Derivatives: Guide to Medical Application and Regulatory Challenges summarizes the current state of research and clinical pharmacology of cannabis-based therapeutics, along with associated regulatory frameworks. Sections cover historical, botanical, and taxonomical platforms of cannabis, chemical derivatives of the cannabis plant, a literature review of therapeutic applications, the biological fate of cannabis and its metabolic products, pain management, neurological disorders, cancer management, interactions with other drugs, veterinary applications, and the adverse effects of Cannabis overuse in humans. The book's final section is devoted to discussions around regulatory challenges and future considerations. This is the ideal reference pharmaceutical scientists, clinicians, and academic researchers who want access to updated information on the therapeutic applications of cannabis and its derivatives. Corporate researchers will also benefit from this book's presentation of the associated regulatory environment.

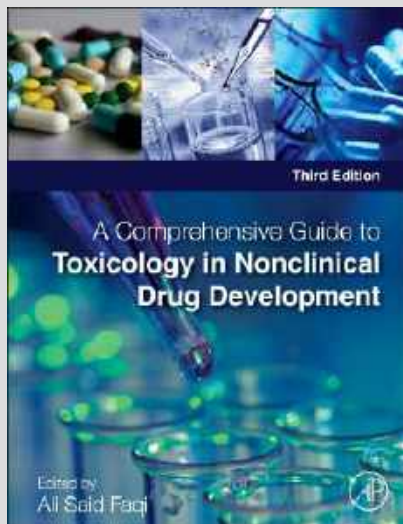


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LIFE SCIENCES Pharmacology

<https://virtuale.elsevier.com>, www.elsevier.com



A Comprehensive Guide to Toxicology in Nonclinical Drug Development, 3e

Edited by : **Ali S. Faqi**, DVM, PhD, DABT, ATS, ASF Scientific Solutions, Portage, MI, USA

ISBN: 9780323857048

PREVIOUS ISBN: 9780128036204

PUB DATE: Jan 01, 2024

LIST PRICE: £195.00 / \$250.00 /

€220.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 8.50w x 10.875h

PAGES: c. 949

AUDIENCE: Toxicologists working in nonclinical drug development and pharmaceutical scientists needing information on toxicology during drug development, Toxicology professors and students, regulatory toxicologists, medical and veterinary scientists

BIC CODES: KNDP, MGMT, MMG

THEMA CLASSIFICATION:

THEMAMKGT; THEMAMKG;

THEMAKND

A comprehensive, end-to-end overview of applied toxicology in drug development

KEY FEATURES

- Provides updated, unique content not covered in one comprehensive resource, including chapters on stem cells, antiviral drugs, anti-diabetic drugs, and immunotherapy
- Includes the latest international guidelines for nonclinical toxicology in both small and large molecules
- Incorporates practical examples in order to illustrate day-to-day activities and expectations associated with working in nonclinical toxicology

DESCRIPTION

A Comprehensive Guide to Toxicology in Nonclinical Drug Development, Third Edition is a valuable reference providing a complete understanding of all aspects of nonclinical toxicology in pharmaceutical research. This updated edition has been expanded and re-developed covering a wide-range of toxicological issues in small molecules and biologics. Topics include ADME in drug discovery, pharmacokinetics, toxicokinetics, formulations, and genetic toxicology testing. The book has been thoroughly updated throughout to reflect the latest scientific advances and includes new information on antiviral drugs, anti-diabetic drugs, immunotherapy, and a discussion on post-pandemic drug development challenges and opportunities. This is an essential and practical resource for all toxicologists involved in nonclinical testing in industry, academic, and regulatory settings.

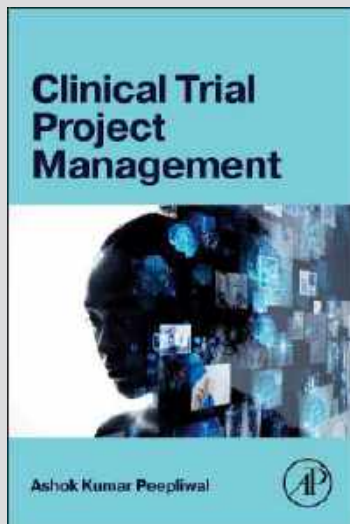


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LIFE SCIENCES Pharmacology

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Clinical Trial Project Management

Ashok Kumar Peepliwal, Associate Professor, School of Pharmaceutical Management, IIMMR University, Jaipur, Rajasthan, India

ISBN: 9780443136276

PUB DATE: Jan 01, 2024

LIST PRICE: £130.00 / \$170.00 / €148.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 307

AUDIENCE: Clinical study Coordinators, Clinical Research Associates (CRA), Clinical Team Leaders (CTL), Clinical Project Managers (CPM), and other Clinical Research Professionals, Courses: MBBS, Bachelor of Science, Bachelor of Pharmacy, Bachelor of nursing, Bachelor of biotechnology, Master of science, Master of Pharmacy, Doctoral Program courses, and Community Medicine courses

BIC CODES: KNDP, MMG

THEMA CLASSIFICATION: THEMAMKG; THEMAKND

Provides a detailed overview of how to conduct clinical trials, in an international context

KEY FEATURES

- Covers how to conduct clinical trials in detail
- Present useful, basic, and advanced statistical tools
- Provides real-time project management methods like Program Evaluation Review Technique (PERT) and Critical Path Method (CPM) to manage complex projects are described in the book

DESCRIPTION

Clinical Trial Project Management provides a detailed overview of how to conduct clinical trials in an international context. The process of conducting clinical studies across nations is based on a set of regulatory regimes developed by respective regulatory agencies. The book focuses on clinical study protocol approval processes, Ethics Committee approval processes, clinical study feasibilities, site selection, site initiation, site monitoring, database lock, sit close-out, clinical data processing and management, SAE reporting and compensation, randomization procedure, pharmacovigilance, statistical tools, BA/BE studies, and clinical study report writing. The book comprehensively covers the entire clinical trial process of conductance. In addition, the author also incorporates the clinical trial approval processes of USFDA, EMA, and JAPAN for conducting clinical trials.



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LIFE SCIENCES Pharmacology

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COVER IMAGE
FORTHCOMING

Misfolding of Amyloid-beta and tau in Alzheimer's and Other Neurodegenerative Diseases

Louise Serpell, Professor of Biochemistry, Sussex Neuroscience, School of Life Sciences, University of Sussex, Falmer, East Sussex, UK

ISBN: 9780323992688

PUB DATE: Jan 01, 2025

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 280

AUDIENCE: Researchers in Alzheimer's disease and protein misfolding in neurodegenerative diseases, Pharmaceutical companies interested in amyloid targets for neurodegenerative diseases

BIC CODES: MFG, PSAK, MJN, PSAN

THEMA CLASSIFICATION:
THEMAPSAK; THEMAMKJ;
THEMAPSAN

A full reference guide to protein misfolding in Alzheimer's and related diseases

KEY FEATURES

- Focuses on structural biology and the cellular effects leading to Alzheimer's and other neurodegenerative diseases
- Answers the question, how do Amyloid beta and tau influence one another?
- Discusses the Kinetics, conformational change, role of sequence, and mutations of Amyloid-beta and tau

DESCRIPTION

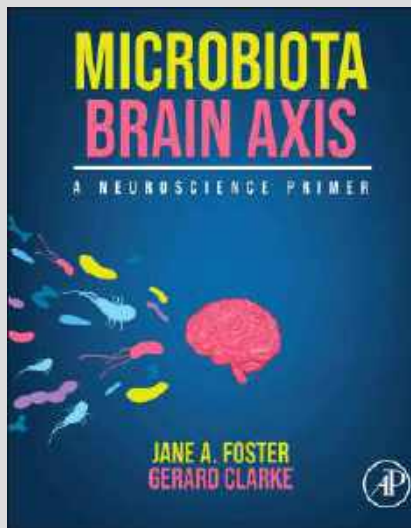
Misfolding of Amyloid-beta and tau in Alzheimer's and Other Neurodegenerative Diseases describes historical discoveries of these two major proteins in Alzheimer's disease and other neurodegenerative conditions. The book navigates through the importance of protein self-assembly, protein conformational change, and structural studies in understanding the positioning in the disease pathway. How these proteins are involved in the pathway to neuronal dysfunction, and the importance of understanding protein conformation and deposition for diagnosis are also highlighted. Although Alzheimer's disease was discovered over 100 years ago, the role of protein misfolding in the pathology and cause of Alzheimer's disease remains unclear. Amyloid-beta and Tau are both proteins well known for their involvement in Alzheimer's disease. Both proteins misfolding and aggregate are deposited as cross-beta amyloid fibrils in the tissues.



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LIFE SCIENCES Neuroscience
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Microbiota Brain Axis

A Neuroscience Primer

Jane A. Foster, Professor, Department of Psychiatry and Behavioural Neurosciences, McMaster University, Hamilton, Ontario, Canada and **Gerard Clarke**, Lecturer, Department of Psychiatry and Neurobehavioural Science and Principal Investigator, APC Microbiome Ireland, University College Cork, Cork, Ireland

ISBN: 9780128148006

PUB DATE: Mar 01, 2024

LIST PRICE: £97.99 / \$125.00 / €110.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 480

AUDIENCE: Advanced students, basic researchers, and clinical researchers in behavioral neuroscience, neuroimmunology, biological psychiatry, developmental neuroscience, and related fields; researchers in physiology, nutrition, immunology, and gastroenterology
BIC CODES: PSAN, MJCM, MJG, JMM

THEMA CLASSIFICATION:

THEMAMJCM; THEMAPSAN;
THEMAMFGM; THEMAMJG;
THEMAJMM

Provides a neuroscience framework for understanding the relationship among the gut, the brain and behavior

KEY FEATURES

- Reviews the many approaches to manipulating the microbiota in animal studies - including the use of germ-free animals, antibiotics and diet - and covers the strengths and limitations of each
- Outlines available microbiota research tools, such as 16S sequencing and shot-gun metagenomics
- Provides a comprehensive guide to analyzing microbiota-related data and the many choices for bioinformatics

DESCRIPTION

Microbiota Brain Axis: A Neuroscience Primer provides neuroscience researchers with a comprehensive guide on how to conduct effective microbiota-brain research, understand the appropriate methodologies, and collect and analyze microbiota data. The book begins with an introduction to the importance of the microbiota-brain communication in development and how microbiota impact neurodevelopmental disorders, mental health and neurodegeneration. In addition, the book discusses advances in microbiota analysis tools and techniques for neuroscience related research.



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LIFE SCIENCES Neuroscience

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Clinical Aspects of Multiple Sclerosis Essentials and Current Updates

Edited by : **Shitiz Sriwastava**, Division of Multiple Sclerosis and Neuroimmunology, Department of Neurology, McGovern Medical School (UT Health), University of Texas Health Science Center at Houston, Houston, TX, USA and **Evanthis Bernitsas**, Department of Neurology, Wayne State University, USA

ISBN: 9780323953436

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 330

AUDIENCE: General Neurologists, Neuroimmunologist, Rheumatologist, Emergency Medicine Physicians, Neuro critical Physician, Physician assistants, Nurse practitioner Interventional Neurologists, Intensivists, Patients with MS, Researchers, Medical Students, Pharmacologists Medical school mentor, instructor, teachers, medial lab scientific researcher, neurosurgeons, pediatric physician and resident, OBG-GYN

BIC CODES: PSAK, MFG, PSAN, MJN

THEMA CLASSIFICATION:

THEMAPSAN; THEMAMKJ; THEMPSAK

An update review on the underlying mechanisms and new therapies of Multiple Sclerosis

KEY FEATURES

- Explores the practical applications of optical coherence tomography (OCT) and OCT angiography (OCTA) in assessing MS.
- Delves into utilizing advanced imaging modalities and corresponding radiological findings for the diagnosis and monitoring.
- Includes cutting-edge technologies: 7 Tesla (7T) magnetic resonance imaging (MRI), diffusion tensor imaging (DTI), positron emission tomography (PET), and magnetic resonance spectroscopy (MR spectroscopy).

DESCRIPTION

Clinical Aspects of Multiple Sclerosis Essentials and Current Updates offers readers a comprehensive and up-to-date analysis of multiple sclerosis (MS) and its related disorders, providing the latest research findings and insights to ensure readers are well informed. This book thoroughly examines the underlying genetic factors contributing to the development of the disease while emphasizing the significant role of vitamin D in both the pathogenesis and treatment of MS. Furthermore, this book provides essential information on current treatment guidelines for effectively managing MS during pregnancy. This includes a specific focus on optimizing outcomes and addressing the complexities involved, healthcare professionals are equipped to handle the challenges presented by this specific patient population. Overall, this book delivers meticulous, updated, and extensive information on all aspects of MS, from demographic features and etiopathogenesis to the latest diagnostic and therapeutic interventions. With a focus on delivering valuable knowledge and practical insights, Clinical Aspects of Multiple Sclerosis Essentials and Current Updates serves as an essential resource for healthcare professionals and researchers seeking a deeper understanding of MS.

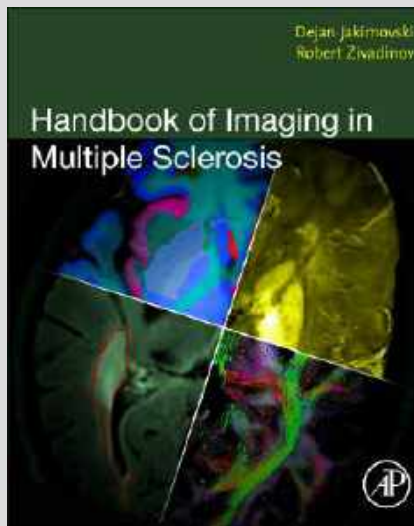


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LIFE SCIENCES Neuroscience

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Handbook of Imaging in Multiple Sclerosis

Edited by : **Dejan Jakimovski**, Research Assistant Professor at the Department of Neurology, University at Buffalo, the State University of New York and Clinical Research Unit Director at Buffalo Neuroimaging Analysis Center. and **Robert Zivadinov**, University at Buffalo, State University of New York, Buffalo, NY, USA

ISBN: 9780323957397

PUB DATE: Jan 01, 2025

LIST PRICE: £130.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 430

AUDIENCE: Neurologists, Radiologists, Researchers in the field of Neurology/Radiology/Multiple Sclerosis, Radiology residents, Neurology residents, Physicists, Immunologists, Neuroscience researchers, Biomedical engineering PhD students, Physics and neuroscience students

BIC CODES: PSAN

THEMA CLASSIFICATION: THEMAPSAN

A comprehensive review of all non-conventional imaging modalities currently developed in the field of multiple sclerosis

KEY FEATURES

- Reviews all non-conventional imaging modalities currently developed in the field of multiple sclerosis
- Written by an international list of authors that are very highly regarded in the very specific field of their respective chapter
- Includes information regarding the basics of acquisition and analysis that would allow researchers set-up their own MRI research

DESCRIPTION

Handbook of Imaging in Multiple Sclerosis provides an up-to-date introduction into multiple sclerosis disease, including new findings on the pathophysiological processes, the clinical presentation, diagnosis, and treatment of the disease. This book includes in-depth chapters exploring the use of conventional and non-conventional imaging methods. These chapters cover magnetic resonance imaging (MRI) specific topics such as measurement of brain atrophy and susceptibility-weighted imaging. Additional chapters explore the use of additional imaging methods such as positron emission tomography (PET), optical coherence tomography (OCT) and high field MRI (use of 7T MRI scanners).

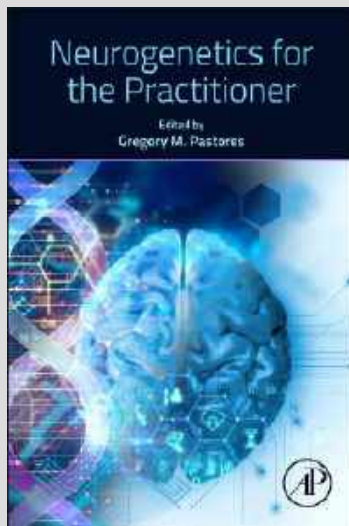


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LIFE SCIENCES Neuroscience

<https://virtuale.elsevier.com>, www.elsevier.com



Neurogenetics for the Practitioner

Edited by : **Gregory M. Pastores**, University College Dublin, Ireland

ISBN: 9780323994170

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 /
€130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 330

AUDIENCE: Neurologist, Geneticist,
Internists, Pediatricians, Nurses,
Genetic Counselors, Genetic Lab
personnel, Medical students

BIC CODES: PSAN, MFG, PSAK,
MJN

THEMA CLASSIFICATION:

THEMAPSAN; THEMAMKJ;

THEMAPSAK

Comprehensive guide to the diagnosis and treatment of neurological disorders using neurogenetics

KEY FEATURES

- Reviews genetic testing for diagnostic confirmation, including carrier testing and prenatal diagnosis
- Explores various therapeutic strategies based on genetic interventions
- Discusses when a neurologic problem may have an underlying genetic cause

DESCRIPTION

Neurogenetics for the Practitioner provides clinicians with a navigation tool to help diagnose and treat patients with neurological disorders using neurogenetics. Sections introduce the reader to an overview of genetic principles, including practical applications in relation to diagnosis and current limitations. Additional chapters highlight how to workup patients presenting with certain features, including cerebral palsy/intellectual disability, congenital muscular dystrophy, cognitive decline/dementia, peripheral neuropathy, and paroxysmal disorder. The final section explores therapeutic strategies based on genetic interventions and genetic counselling options. This internationally contributed book will become the essential reference guide for neurologists.

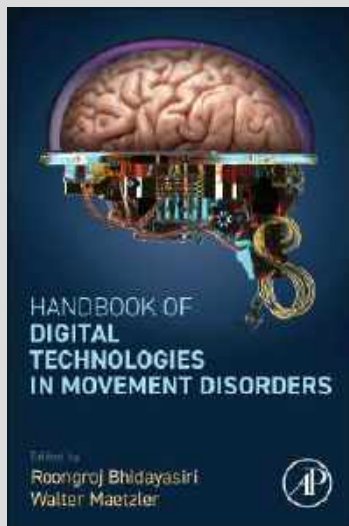


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LIFE SCIENCES Neuroscience

<https://virtuale.elsevier.com>, www.elsevier.com



Handbook of Digital Technologies in Movement Disorders

Edited by : **Roongroj Bhidayasiri**, Chulalongkorn Comprehensive Movement Disorders Center, Chulalongkorn University Hospital, Bangkok, Thailand and **Walter Maetzler**, Full Professor for neurogeriatrics and Deputy Director of the neurology department of the University Hospital in Kiel, Germany.

ISBN: 9780323994941

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 380

AUDIENCE: Medical professionals and clinical researchers working in the field of Parkinson's disease and other movement disorders, movement disorder specialists, Technology (including, for example, hardware and software developers, data manager) developers interested in devices for the assessment of movement disorders, informed patients with experience in co-design of studies and trials in the field, policy makers, legal authorities, persons from industry involved in trial design and medical product development

BIC CODES: MJN, MFG, PSAN

THEMA CLASSIFICATION: THEMAMKJ; THEMAPSAN

Comprehensive guide to recent developments in the field of movement disorders and technology

KEY FEATURES

- Reviews different stakeholders' perspectives on technology in movement disorders
- Presents technological advancements for diagnosing, monitoring, and managing Parkinson's disease
- Discusses challenges with implementing technology into treatment

DESCRIPTION

Handbook of Digital Technologies in Movement Disorders aims to unite these factors to provide a comprehensive guide to patient focused treatments for movement disorders. Sections cover an introduction to digital technologies, concepts, and terminologies, review various perspectives on technology in movement disorders, including patient and medical professionals, and present technologies used in detecting, measuring progression, and determining response to treatments. Additional chapters review the technology used in various treatments of movement disorders, including assistive and robotic technologies. Finally, the last section examines the challenges with technology, including privacy and other ethical issues. Over the past few years, there have been fundamental changes in the diagnosing and treating patients with chronic diseases, significantly affecting management of neurological movement disorders. In addition, the health and fitness sector developed several devices to better classify, track, and potentially treat chronic diseases. Both handling and interpreting these large datasets has been revolutionized, by machine and deep learning approaches, leading to new and more effective therapies, resulting in longer survival rates.

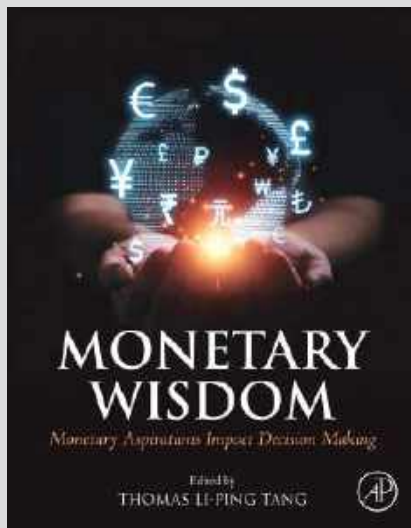


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LIFE SCIENCES Neuroscience

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Monetary Wisdom

Monetary Aspirations Impact Decision Making

Edited by : **Thomas Li-Ping Tang**, Professor in the Management Department at the Jennings A. Jones College of Business, Middle Tennessee State University (MTSU).

ISBN: 9780443154539

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 280

AUDIENCE: Graduate students, researchers in the field of applied psychology, Industrial/organizational psychology, behavioral economics

BIC CODES: JPSSL, JMJ

THEMA CLASSIFICATION: THEMAJM; THEMAJMJ

An innovative, multidisciplinary perspective on decision-making and money

KEY FEATURES

- Examines how monetary values frame everyday decisions
- Provides an innovative and cross-cultural view of monetary decisions
- Reviews how monetary values affect behaviors in leadership and organizations

DESCRIPTION

Monetary Wisdom: Monetary Aspirations and Decision-Making presents an excellent collection of innovative and a multi-cultural views on how money has affected decision-making, not only at an individual level but also at an organizational level. This book discusses the powerful motivators of money and the connection to ethical decision-making, both in organizations and social life. As globalization has created economic prosperity for citizens around the world, these challenges have changed how people work, live, and thus do business.

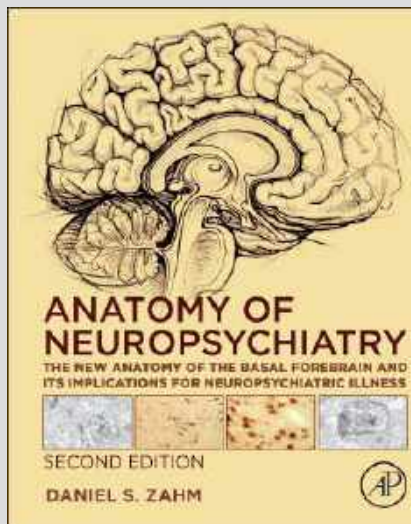


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LIFE SCIENCES Psychology

<https://virtuale.elsevier.com>, www.elsevier.com



Anatomy of Neuropsychiatry, 2e

The New Anatomy of the Basal Forebrain and Its Implications for Neuropsychiatric Illness

Daniel S. Zahm, Saint Louis University, St. Louis, MO, USA

ISBN: 9780443155963

PREVIOUS ISBN: 9780123742391

PUB DATE: Nov 15, 2023

LIST PRICE: £115.00 / \$150.00 /

€130.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 7.50w x 9.25h

PAGES: c. 395

AUDIENCE: Student and Clinician in neuroanatomy, neuropharmacology, neurophysiology, neurology, psychiatry, basic neuroscience researchers, occupational and physical therapists.

BIC CODES: MMJ, MJN, MMH, MFC

THEMA CLASSIFICATION:

THEMAPSAN; THEMAMFC

A completely revised reference of an anatomical systems analysis of brain structures and pathways relating to emotion, motivation, memory, and adaptive behaviors

KEY FEATURES

- Reviews the key concepts of the Limbic System
- Examines the anatomy of the Basal Forebrain and the Greater Limbic Lobe
- Includes clinical and basic science boxes highlighting specific concepts, structures, or neuronal circuits from a clinical perspective
- Features ten brain dissection videos by the late Lennart Heimer, M.D.

DESCRIPTION

Anatomy of Neuropsychiatry: The New Anatomy of the Basal Forebrain and Its Implications for Neuropsychiatric Illness, Second Edition presents the anatomical systems that take part in the scientific and clinical study of emotional functions and neuropsychiatric disorders. The book discusses the limbic system—the cortical and subcortical structures in the human brain involved in emotion, motivation, and emotional association with memory—at length and how this is no longer a useful guide to the study of psychiatric disorders. Newly revised, this book now includes chapters focusing on the anatomy of Basal Forebrain and Cerebellum Macrosystems and the role these macrosystems play in motion, emotion, and neuropsychiatric illnesses. This book will help reader develop an understanding of the gross anatomical organization of the human forebrain.

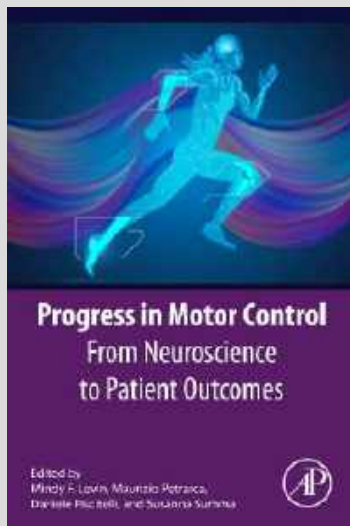


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LIFE SCIENCES Neuroscience

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Progress in Motor Control

From Neuroscience to Patient Outcomes

Edited by : **Mindy F. Levin**, PT, PhD Professor, School of Physical and Occupational Therapy Faculty of Medicine and Health Sciences McGill University Montreal, Quebec, Canada; **Maurizio Petrarca**, PT, PhD Head of Movement Analysis and Robotics Laboratory, "Bambino Gesù" Children's Hospital, Research Institute, Rome, Italy; **Daniele Piscitelli**, PT, PhD, Assistant Professor, The University of Connecticut, USA and **Susanna Summa**, Researcher, Movement Analysis and Robotics Laboratory, "Bambino Gesù" Children's Hospital, Research Institute, Rome, Italy

ISBN: 9780443239878

PUB DATE: Jan 01, 2024

LIST PRICE: £121.00 / \$150.00 / €142.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 242

AUDIENCE: Clinical professionals and researchers in motor control, neuroscience, human movement and neuroengineering, physiotherapy

BIC CODES: PSAN

THEMA CLASSIFICATION: THEMAPSAN

A comprehensive reference on motor control translating research to clinical practice

KEY FEATURES

- Translates the principles of motor control to improve sensorimotor outcomes in patients
- Reviews coordination topics including locomotor coordination, visual perception and head stability
- Explores movement analysis knowledge in rehabilitative tools

DESCRIPTION

Principles of Motor Control in Clinical Settings: From Neuroscience to Patient Outcomes updates the state of the art of knowledge among scientists on basic and applied research on control of movements of biological systems, through a clinical perspective. Motor control is a scientific area characterized by multidisciplinary approaches. This book promotes the application of this area into clinical practice. The chapters focus on topics in the field of motor control including neural control of goal-oriented action, theories on rules of interaction during motor learning, and action coordination up to human and machine interaction. Edited by experts in the field, this book translates current theoretical outcomes into neuroscience and therapeutic solutions.

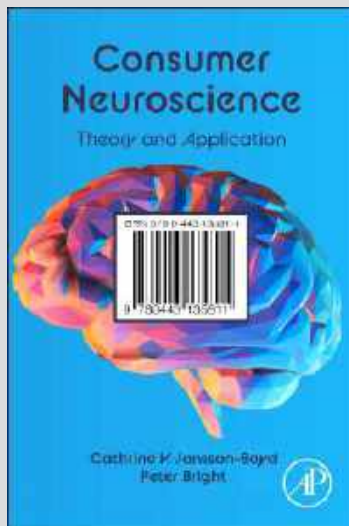


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LIFE SCIENCES Neuroscience

<https://virtuale.elsevier.com>, www.elsevier.com



Consumer Neuroscience

Theory and Application

Cathrine Jansson-Boyd, Department of Psychology, Anglia Ruskin University, UK and **Peter Bright**, Department of Psychology, Anglia Ruskin University and Principal Investigator, Cambridge Neuroscience, UK

ISBN: 9780443135811

PUB DATE: Oct 27, 2023

LIST PRICE: £115.00 / \$150.00 / €130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 268

AUDIENCE: Researchers and students in consumer psychology, consumer behavior, psychology, neuroeconomics, neuroscience, and marketing

BIC CODES: JFFT

THEMA CLASSIFICATION:
THEMAKCK

Overview of how neuroscience can be applied to consumer behavior

KEY FEATURES

- Presents readers with a clear overview of consumer neuroscience as a field
- Includes a visual brain index
- Discusses neuroscientific areas that are highly relevant to consumer sciences but may not yet have been integrated into the discipline
- Offers the combined expertise of a psychologist and a neuroscientist in authoring the book to provide well rounded insights into the area of consumer neuroscience
- Describes unresolved issues and possible methods in consumer neuroscience, along with approaches for tackling them

DESCRIPTION

Consumer Neuroscience: Theory and Application presents a clear overview of the fundamentals of neuroscience and applies the principles to understanding consumer behaviors. The initial chapters introduce the topic to ensure that even those with a limited knowledge of neuroscience will be able to grasp the more advanced content. The book moves on to review methods, the field of affective neuroscience, mechanisms and applications of neuroimaging methods and fundamentals of visual neuroscience. Final sections provide a collection of case studies that allow readers to analyze actual results of different cases in which brain activity was used to answer marketing and business questions.



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LIFE SCIENCES Psychology

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Peptide Chemical Tools for modulating Biology, Vol 698

Edited by : **David M. Chenoweth**, University of Pennsylvania, PA, USA

ISBN: 9780443218149

PUB DATE: Jun 15, 2024

LIST PRICE: £138.00 / \$199.00 /
€142.00

DISCOUNT: Serial

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 400

BIC CODES: PSB, PSD

THEMA CLASSIFICATION:

THEMAPSB; THEMAPSD



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SERIALS Methods in Enzymology
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Heart Development and Disease, Vol 156

Edited by : **Nicole Dubois**, Icahn School of Medicine at Mount Sinai, NY, USA

ISBN: 9780128232972

PUB DATE: Jan 15, 2024

LIST PRICE: £128.00 / \$210.00 /
€150.00

DISCOUNT: Serial

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 350

AUDIENCE: Scientists, researchers,
and students

BIC CODES: PST

THEMA CLASSIFICATION:
THEMAPST

Edited by one of the best scientists in the field, this series presents the latest updates in the field

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in the Current Topics in Developmental Biology series
- Updated release includes the latest information on Heart Development Disease

DESCRIPTION

Heart Development Disease, Volume 156 in the Current Topics in Developmental Biology series, highlights new advances in the field, with this new volume presenting interesting chapters. Each chapter is written by an international board of authors.



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SERIALS Biochemistry, Genetics & Molecular Biology
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

The Neurobiology of Alcohol Abuse, Vol 175

the Mechanisms Behind Developing Dependence, Sub- groups, and Novel Approaches to Treatment

Edited by : **Andrea de Bejczy**, Department of Psychiatry and Neurochemistry, University of Gothenburg, Sweden and **Bo Soderpalm**, Department of Psychiatry and Neurochemistry, University of Gothenburg, Sweden

ISBN: 9780443141645
PUB DATE: Jan 10, 2024
LIST PRICE: £145.00 / \$210.00 /
€150.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 300
AUDIENCE: Undergraduates,
graduates, academics, and
researchers in the field of
neurobiology of alcohol abuse
BIC CODES: MJN, PSAN
THEMA CLASSIFICATION:
THEMAMKJ; THEMAPSAN

Edited by some of the best scientists in the field, this series presents the latest updates in the neurobiology of alcohol abuse

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *International Review of Neurobiology* series
- Updated release includes the latest information on The Neurobiology of Alcohol Abuse

DESCRIPTION

The Mechanisms Behind Developing Dependence, Sub-groups, and Novel Approaches to Treatment, Volume 174 in the *Neurobiology of Alcohol Abuse* series, highlights new advances in the field, with this new volume presenting interesting chapters on topics such as Substitution therapy in alcohol treatment, with a focus on mechanisms and possibilities, Designing and analyzing studies on treatments for alcohol dependence, The harm reduction approach for treatment of alcohol dependence, Current treatments for alcohol dependence, with a suggested focus on mechanisms and possibilities, Metabolomics in relation to alcohol dependence with focus on possibilities for precision medicine, and Repurposing drugs for treatment of alcohol dependence.



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SERIALS Neuroscience
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Advances in Quantum Chemistry, Vol 89

Erkki J. Brändas, Department of Quantum Chemistry, Angstrom Laboratory, Uppsala University, Uppsala, Sweden

ISBN: 9780443241215

PUB DATE: Jan 10, 2024

LIST PRICE: £169.00 / \$245.00 /
€175.00

DISCOUNT: Serial

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 300

AUDIENCE: Quantum chemists who seek to learn more about quantum computing and quantum computing researchers who would like to explore applications in quantum chemistry

BIC CODES: PNR, PN, PHM, PHVN

THEMA CLASSIFICATION:

THEMAPNR; THEMAPHU

Edited by some of the best scientists in the field, this series presents the latest updates in the field of quantum chemistry

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Advances in Quantum Chemistry* serials
- Updated release includes the latest information on this timely topic

DESCRIPTION

Advances in Quantum Chemistry serial highlights new advances in the field with this new volume presenting interesting chapters. Each chapter is written by an international board of authors.



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SERIALS Chemistry & Chemical Engineering
<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

International Review of Movement Disorders, Vol 7

Edited by : **Marina AJ Tijssen De Koning**, Head of Movement Disorders, Department of Neurology, Universitair Medisch Centrum Groningen, The Netherlands

ISBN: 9780323991094

PUB DATE: Jan 07, 2024

LIST PRICE: £178.00 / \$220.00 /
€196.00

DISCOUNT: Serial

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 410

AUDIENCE: Academic, government
and industrial sectors

BIC CODES: MJN, PHFC, TJFD, TJ,
TGM, PH

THEMA CLASSIFICATION:
THEMAMKJ

Edited by one of the best scientists in the field, this series presents the latest updates in the field

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in International Review of Movement Disorders
- Updated release includes the latest information on Myoclonus

DESCRIPTION

International Review of Movement Disorders, Volume 7 highlights new advances in the field, with this new volume presenting interesting topic on Myoclonus.



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SERIALS Neuroscience

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Advances in Genetics, Vol 111

Edited by : **Kelly Hughes**, Professor Ordinaire at the University of Fribourg, Switzerland. and **Stanley Maloy**, Dean of the College of Sciences and Professor of Biology, San Diego State University, USA

ISBN: 9780443193088

PUB DATE: Jan 07, 2024

LIST PRICE: £119.00 / \$171.00 /
€122.00

DISCOUNT: Serial

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 250

AUDIENCE: Molecular geneticists,
clinical geneticists, neurologists,
neuroscientists, molecular biologists,
and biochemists

BIC CODES: PSC, PSD, PSF, PSAK

THEMA CLASSIFICATION:
THEMAPSD; THEMPSF;
THEMAPSC; THEMPSAK

Edited by some of the best scientists in the field, this series presents the latest updates in the field

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in the Advances in Genetics series
- Includes the latest information on new advancements in the study of genetics

DESCRIPTION

Advances in Genetics, Volume 111 in this ongoing series, highlights new advances in the field with this new volume presenting interesting chapters written by an international board of authors.



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SERIALS Biochemistry, Genetics & Molecular Biology
<https://virtuale.elsevier.com>, www.elsevier.com



Immunobiology of COVID19, Vol 202

Edited by : **Asiya Zaidi**, Independent Researcher

ISBN: 9780443132841

PUB DATE: Jan 01, 2024

LIST PRICE: £119.00 / \$171.00 / €122.00

DISCOUNT: Serial

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 280

AUDIENCE: Researchers and scientists in virology, immunology, and infectious diseases. Healthcare professionals, including doctors, nurses, and clinicians. Public health officials and policymakers. Graduate and postgraduate students in relevant fields of study. Academic institutions and libraries with a focus on medical and life sciences

BIC CODES: PSB, PSD

THEMA CLASSIFICATION:

THEMAPSB; THEMAPSD

Unravels the intricate molecular landscape of SARS-CoV-2, from structure and variants to intricate immune responses

KEY FEATURES

- Provides comprehensive coverage of various aspects of the COVID-19 pandemic, including virus structure, variants, immune responses, and disease pathogenesis, including its multiorgan manifestations and long COVID
- Focuses on in-depth analysis of innate and adaptive immune responses to SARS-CoV-2, including B cell and T cell responses
- Presents a richly illustrated resource with informative diagrams and visual aids to enhance understanding of complex concepts and structures related to COVID-19

DESCRIPTION

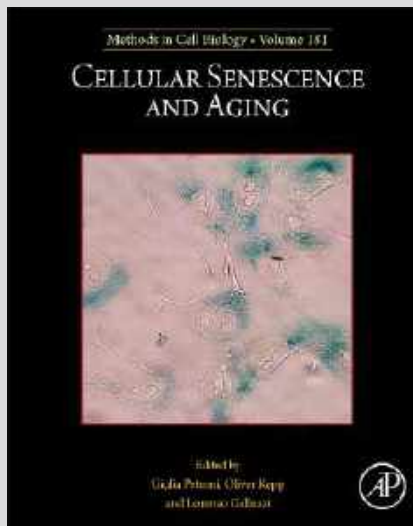
Immunobiology of COVID19, Volume 202 in the *Progress in Molecular Biology and Translational Science* Series provides a comprehensive and in-depth exploration of the SARS-CoV-2 virus and its impact on human health. Written by a team of expert contributors, the book covers various aspects of the virus, including its structure, lifecycle, and genomic replication. It delves into the epidemiology of COVID-19, comparing it with other related coronaviruses and discussing the concept of herd immunity. The structural biology of SARS-CoV-2 is examined, with a focus on techniques such as electron microscopy and cryo-electron tomography. The book also explores the biology of SARS-CoV-2 variants and their immune evasion strategies. Furthermore, it delves into the pathogenesis of COVID-19, examining its multiorgan manifestations and the long-term effects of the disease. The innate and adaptive immune responses to SARS-CoV-2 are discussed in detail, along with the role of B cells and T cells in the immune response. The volume concludes with a look at future insights and potential developments in the field. Accompanied by illustrative diagrams and visuals, this volume will serve as a valuable resource for researchers, healthcare professionals, and anyone interested in understanding the intricate details of SARS-CoV-2 and its impact on global health.



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SERIALS Biochemistry, Genetics & Molecular Biology
<https://virtuale.elsevier.com>, www.elsevier.com



Cellular Senescence and Aging, Vol 181

Edited by : **Giulia Petroni**, Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy; **Oliver Kepp**, Equipe labellisée par la Ligue contre le cancer, Université de Paris, Sorbonne Université and **Lorenzo Galluzzi**, Assistant Professor of Cell Biology in Radiation Oncology, Department of Radiation Oncology, Weill Cornell Medical College, NY, USA

ISBN: 9780443188961
PUB DATE: Jan 01, 2024
LIST PRICE: £139.00 / \$175.00 / €160.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 7.50w x 9.25h
PAGES: c. 300
AUDIENCE: Researchers and students
BIC CODES: PSC, PSD
THEMA CLASSIFICATION: THEMPSF; THEMPS; THEMPSD

Edited by one of the best scientists in the field, this series presents the latest updates in the field

KEY FEATURES

Approx.300 pages

DESCRIPTION

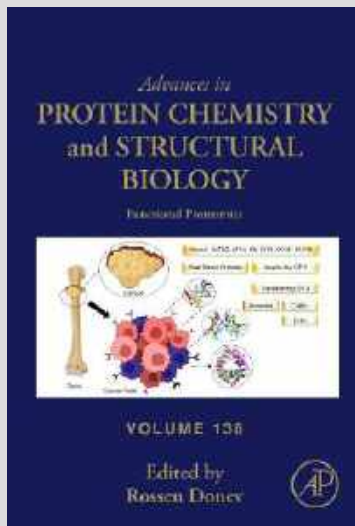
Cellular Senescence and Aging, Volume 181 in the *Methods in Cell Biology* series, highlights new advances in the field, with this new volume presenting interesting chapters. Each chapter is written by an international board of authors.



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SERIALS Biochemistry, Genetics & Molecular Biology
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Advances in Protein Chemistry and Structural Biology, Vol 138

Rossen Donev, Head of Research, MicroPharm Limited, UK

ISBN: 9780443193422
PUB DATE: Jan 01, 2024
LIST PRICE: £119.00 / \$171.00 / €122.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 476
AUDIENCE: Biochemists, biophysicists, cell biologists, protein chemists, structural geneticists, and structural biologists
BIC CODES: PSB, PNN
THEMA CLASSIFICATION: THEMAPPN; THEMPSB

Covers reviews of methodology and research in all aspects of protein chemistry

KEY FEATURES

- Includes new information about Protein Aggregation
- This volume presents chapters by a wide range of leading experts
- Presents new, cutting-edge information that will serve as an essential addition to any bookshelf or laboratory

DESCRIPTION

Published continuously since 1944, the Advances in Protein Chemistry and Structural Biology serial has been a continuous, essential resource for protein chemists. Covering reviews of methodology and research in all aspects of protein chemistry, including purification/expression, proteomics, modeling and structural determination and design, each volume brings forth new information about protocols and analysis of proteins while presenting the most recent findings from leading experts in a broad range of protein-related topics.



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SERIALS Biochemistry, Genetics & Molecular Biology
<https://virtuale.elsevier.com>, www.elsevier.com

Handbook of Nanomaterials, Volume 1

Electronics, Information Technology, Energy, Transportation, and Consumer Products

Edited by : **Muhammad Imran Malik**, Associate Professor, International Center for Chemical and Biological Sciences, University of Karachi, Pakistan; **Dilshad Hussain**, Assistant Professor, LEJ Nanotechnology Centre, International Centre for Chemical and Biological Sciences, University of Karachi, Pakistan; **Muhammad Raza Shah**, Professor, International Center for Chemical and Biological Sciences, H.E.J. Research Institute of Chemistry University, Karachi, Pakistan and **Dong-Sheng Guo**, Professor, College of Chemistry, Nankai University, China



ISBN: 9780323955119

PUB DATE: Jan 01, 2024

LIST PRICE: £200.00 / \$260.00 / €230.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 730

AUDIENCE: Academia: Researchers and advanced students across a range of disciplines, including materials science and engineering, chemistry, chemical engineering, electronics, energy, biomedicine, environmental science, food science, and agriculture. Industry: Scientists, engineers, and R&D professionals with an interest in the use of nanomaterials in a wide range of application areas (electronics, energy, transportation, biomedicine, environment, food, agriculture, consumer products).

BIC CODES: TGM, TJ

THEMA CLASSIFICATION: THEMATGM; THEMATJFD

A fundamental guide to the preparation of nanomaterials for applications in electronics, information technology, energy, transportation, and consumer products

A Volume in the *Micro and Nano Technologies Series*

KEY FEATURES

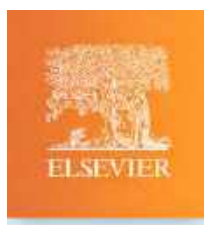
- Introduces the reader to key applications of nanomaterials
- Provides broad, systematic, concise coverage, supporting readers from a range of disciplines
- Covers applications across electronics, information technology, energy, transportation, and consumer products

DESCRIPTION

Handbook of Nanomaterials, Volume One: Electronics, Information Technology, Energy, Transportation, and Consumer Products offers a comprehensive resource that introduces the role of nanotechnology and nanomaterials in a broad range of areas, covering fundamentals, methods, and applications. In this volume, the initial chapters introduce the core concepts of nanotechnology, synthesis methods, and characterization techniques. Following sections focus on key application areas across electronics, information technology, energy, transportation, and consumer products. In each chapter, detailed, but concise information is provided on a specific application, covering methods and latest advances. This book will be of interest to researchers and advanced students approaching nanotechnology from a range of disciplines, including materials science and engineering, chemistry, chemical engineering, electronics, energy, biomedicine, environmental science, food science, and agriculture, as well as scientists, engineers, and R&D professionals with an interest in the use of nanomaterials across a range of industries.

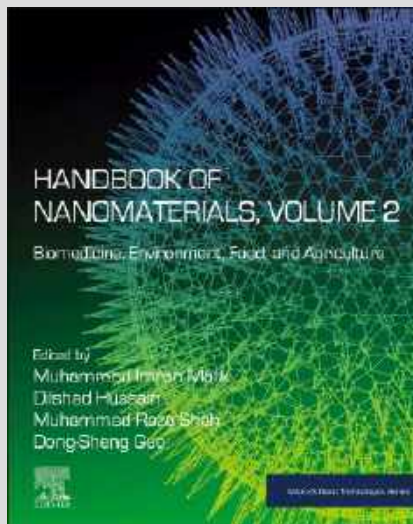


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ENGINEERING Nanotechnology

<https://virtuale.elsevier.com>, www.elsevier.com



Handbook of Nanomaterials, Volume 2

Biomedicine, Environment, Food, and Agriculture

Edited by : **Muhammad Imran Malik**, Associate Professor, International Center for Chemical and Biological Sciences, University of Karachi, Pakistan; **Dilshad Hussain**, Assistant Professor, LEJ Nanotechnology Centre, International Centre for Chemical and Biological Sciences, University of Karachi, Pakistan; **Muhammad Raza Shah**, Professor, International Center for Chemical and Biological Sciences, H.E.J. Research Institute of Chemistry University, Karachi, Pakistan and **Dong-Sheng Guo**, Professor, College of Chemistry, Nankai University, China

ISBN: 9780323955133

PUB DATE: Jan 01, 2024

LIST PRICE: £200.00 / \$260.00 / €230.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 820

AUDIENCE: Academia: Researchers and advanced students across a range of disciplines, including materials science and engineering, chemistry, chemical engineering, electronics, energy, biomedicine, environmental science, food science, and agriculture. Industry: Scientists, engineers, and R&D professionals with an interest in the use of nanomaterials in a wide range of application areas (electronics, energy, transportation, biomedicine, environment, food, agriculture, consumer products).

BIC CODES: TGM, TJ

THEMA CLASSIFICATION: THEMATJFD; THEMATGM

A fundamental guide to the preparation of nanomaterials for applications in biomedicine, environment, food, and agriculture

A Volume in the *Micro and Nano Technologies Series*

KEY FEATURES

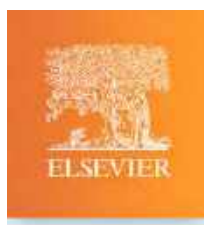
- Introduces the reader to key applications of nanomaterials
- Provides broad, systematic, concise coverage, supporting readers from a range of disciplines
- Covers applications across biomedicine, environmental remediation, food, agriculture, and more

DESCRIPTION

Handbook of Nanomaterials, Volume Two: Biomedicine, Environment, Food, and Agriculture offers a comprehensive resource that introduces the role of nanotechnology and nanomaterials in a broad range of areas, covering fundamentals, methods, and applications. Dedicated sections focus on key applications across biomedicine, environmental remediation, food, agriculture, and other areas. Detailed, but concise information is provided on a specific application, and other key state-of-the-art technologies such as biomimetic nanotechnology and nanotechnology in 3D printing are included. In the final part of the book, there is in-depth coverage of environmental and regulatory issues relating to nanotechnology. This book will be of great interest to researchers and advanced students approaching nanotechnology from a range of disciplines, including materials science and engineering, chemistry, chemical engineering, electronics, energy, biomedicine, environmental science, food science, and agriculture, as well as scientists, engineers, and R&D professionals with an interest in the use of nanomaterials across a range of industries.

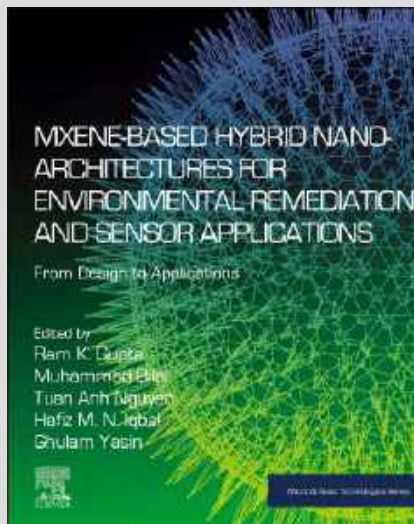


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ENGINEERING Nanotechnology

<https://virtuale.elsevier.com>, www.elsevier.com



MXene-Based Hybrid Nano-Architectures for Environmental Remediation and Sensor Applications

From Design to Applications

Edited by : **Ram Gupta**, Associate Professor, Department of Chemistry, Pittsburg State University, Pittsburg, KS, USA; **Muhammad Bilal**, Associate Professor at the Department of Sanitary Engineering, Faculty of Civil and Environmental Engineering, Gdansk University of Technology, Gdansk, Poland; **Tuan Anh Nguyen**, Principal Research Scientist, Institute for Tropical Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam; **Hafiz M.N. Iqbal**, Research Professor, School of Engineering and Sciences, Tecnologico de Monterrey, Mexico and **Ghulam Yasin**, Research Fellow, Institute for Advanced Study, College of Physics and Optoelectronic Engineering, Shenzhen University, Guangdong, Shenzhen, China

ISBN: 9780323955157

PUB DATE: Jan 01, 2024

LIST PRICE: £180.00 / \$230.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 630

AUDIENCE: Academia: Researchers and advanced students across nanotechnology, environmental science, biotechnology, chemistry, and materials science and engineering. Industry: Scientists, engineers, and R&D professionals with an interest in MXenes and advanced nanomaterials for a range of advanced applications (notably environmental remediation and sensing).

BIC CODES: TGM, TJ

THEMA CLASSIFICATION: THEMATGM; THEMATJFD

A cutting-edge guide to the design of MXene-based hybrid nano-architectures for environmental remediation and sensor applications

A Volume in the *Micro and Nano Technologies Series*

KEY FEATURES

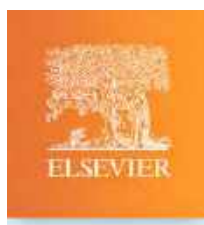
- Covers fundamentals of MXene-based hybrid nanostructures, including synthesis and characterization methods
- Explores innovative and emerging applications, with a focus on environmental remediation and sensors
- Addresses challenges, such as environmental impact and lifecycle, as well as future possibilities

DESCRIPTION

MXene-Based Hybrid Nano-Architectures for Environmental Remediation and Sensor Applications: From Design to Applications brings together the state-of-the-art in molecular design, synthetic approaches, unique properties, and applications of MXene-based hybrid nanomaterials, which combine 2D MXenes with low dimensional materials and open the door to novel solutions in environmental remediation, sensing, and other areas. The book covers synthesis methods, structural design, basic properties, and characterization techniques and provides in-depth coverage of specific areas of environmental remediation and removal, covering gases, toxic heavy metals, organic pollutants, pharmaceuticals, organic dyes, pesticides, and inorganic pollutants. Other sections delve into targeted sensing applications, including electrochemical sensors, optical sensors, biosensors, and strain sensors. The final chapters consider other application areas for MXene-based hybrid nano-architectures, such as wearable devices and thermal energy storage, and address the other key considerations of secondary environmental contamination, toxicity, regeneration and re-use of MXenes, and future opportunities.



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ENGINEERING Nanotechnology

<https://virtuale.elsevier.com>, www.elsevier.com

COVER IMAGE
FORTHCOMING

Micromanufacturing Engineering and Technology, 3e

Edited by : **Yi Qin**, Professor, Chair of Manufacturing Technology and Systems, The University of Strathclyde, UK

ISBN: 9780443154492

PREVIOUS ISBN: 9780323311496

PUB DATE: Jan 01, 2025

LIST PRICE: £210.00 / \$240.00 / €210.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 7.50w x 9.25h

PAGES: c. 880

AUDIENCE: Graduate students, researchers, and engineers interested in micro nano and precision manufacturing

BIC CODES: TJFD, TGM

THEMA CLASSIFICATION: THEMATGM; THEMATJF

Explains the major themes in micromanufacturing and the latest developments from industry and academia

A Volume in the *Micro and Nano Technologies Series*

KEY FEATURES

- Describes how to implement high-volume micromanufacturing production capabilities to reduce costs
- Includes case studies that help explain key micromanufacturing processes in detail
- Guides manufacturing technology selection decisions by considering social, economic, and environmental implications

DESCRIPTION

Micromanufacturing Engineering and Technology, Third Edition covers the major themes in micromanufacturing and the latest developments from industry and academia. Theory and manufacturing processes are addressed, as well as a wide range of practical aspects of micro-manufacturing engineering and utilization, such as design, modeling, materials, tools and equipment issues, automation and manufacturing systems. This fully updated edition features new material on micro-machining, Focused-Ion-Beam machining, laser-machining, micro-forming, micro-EDM, micro-ECM, Deep X-Ray Lithography, hot-embossing, micro-injection moulding, micro-sintering, inkjet technology, 3D printing and additive micro-manufacturing, and much more.

Edited by one of the few world-experts in this relatively new, but rapidly-expanding area and presenting chapters written by a 50-strong team of leading industry specialists, academics and researchers, this book is an invaluable source of information for engineers, R&D researchers and academics.

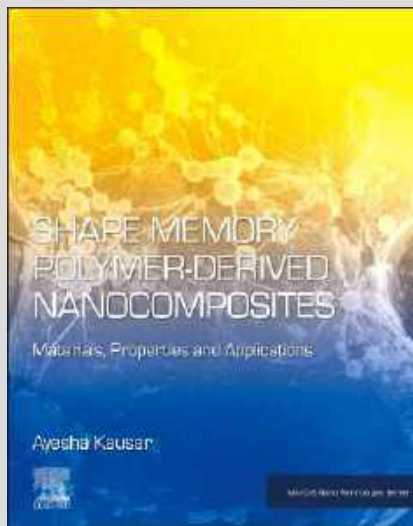


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ENGINEERING Nanotechnology

<https://virtuale.elsevier.com>, www.elsevier.com



Shape Memory Polymer-Derived Nanocomposites

Materials, Properties, and Applications

Ayesha Kausar, Professional Scientist, Pakistan's National Centre for Physics, Islamabad, Pakistan

ISBN: 9780443185045

PUB DATE: Jan 22, 2024

LIST PRICE: £180.00 / \$230.00 / €200.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 380

AUDIENCE: Academia: Researchers and advanced students across nanotechnology, polymer science, composite materials, chemistry, electronics, biomedicine, materials science, and engineering Industry: Scientists, engineers, and R&D professionals with an interest in shape memory polymers and their nanocomposites, for advanced applications (electronics, sensors, textiles, biomedicine, etc.)

BIC CODES: TGM, TJ, PNR, TDCP

THEMA CLASSIFICATION: THEMATDCP; THEMATGMP; THEMATDPF; THEMATGM; THEMATJFD

A comprehensive guide to cutting-edge shape memory nanocomposites, covering fundamentals, materials preparation, and applications

A Volume in the *Micro and Nano Technologies Series*

KEY FEATURES

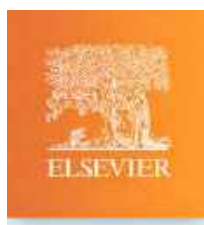
- Provides the essentials of shape memory polymeric nanocomposites
- Includes important categories of shape memory nanocomposites
- Presents current technological applications of shape memory polymers and derived nanocomposite in sponges, aerospace, EMI shielding, ionizing radiation shielding, sensors, actuator, supercapacitor, electronics, and biomedical fields

DESCRIPTION

Shape Memory Polymer derived Nanocomposites: Metals, Properties, and Applications summarizes fundamentals and applications of shape memory polymer derived nanocomposites. The book presents a state-of-the-art assessment, including updates on their flexibility, durability, heat stability, shape deformability, and the shape memory features of these polymers. Essential categories of the stimuli-responsive polymer-based nanocomposites are discussed in terms of recent scientific literature, and subsequent sections of the book are dedicated to the potential of shape memory polymer-based nanocomposite in various technical fields.

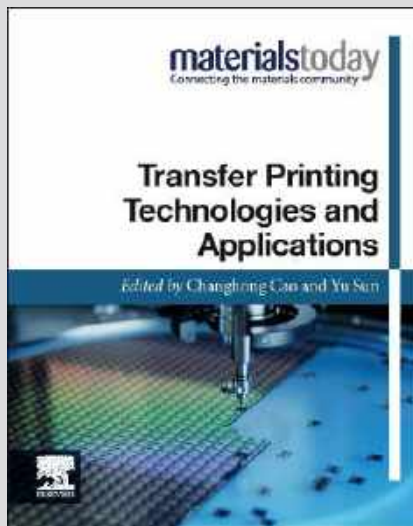


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ENGINEERING Nanotechnology

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Transfer Printing Technologies and Applications

Edited by : **Changhong Cao**, Director, McGill Nano Factory, and Assistant Professor, Department of Mechanical Engineering, McGill University, Quebec, Canada and **Yu Sun**, Professor, Department of Mechanical and Industrial Engineering, University of Toronto, Toronto, ON, Canada

ISBN: 9780443188459

PUB DATE: Jan 01, 2024

LIST PRICE: £205.00 / \$265.00 / €235.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 524

AUDIENCE: Examines a range of transfer printing technologies and their specific features for different applications. Highlights breakthrough results and systems enabled by novel TP techniques. Offers an insightful outlook on trends and future directions in each sub-area of transfer printing.

BIC CODES: TGM, TJ

THEMA CLASSIFICATION: THEMATJFD; THEMATGM

A comprehensive resource covering transfer printing methods and their state-of-the-art applications

A Volume in the *Materials Today* Series

KEY FEATURES

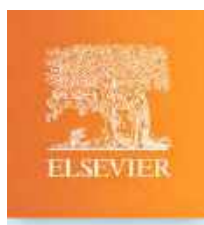
- Examines a range of transfer printing technologies and their specific features for different applications
- Highlights breakthrough results and systems enabled by novel TP techniques
- Offers an insightful outlook into trends and future directions in each sub-area of transfer printing

DESCRIPTION

Transfer Printing Technologies and Applications is a complete guide to transfer printing techniques and their cutting-edge applications. Sections in the book explore the fundamentals behind these technologies, along with state-of-the-art applications enabled by transfer printing techniques, including areas such as flexible sensors, flexible transistors, wearable devices, thin film-based energy systems, flexible displays, microLED-based displays, metal films, and more. A concluding chapter addresses current challenges and future opportunities in this innovative field. This book will be of interest to researchers and advanced students across nanotechnology, materials science, electrical engineering, mechanical engineering, chemistry, and biomedicine, as well as scientists, engineers, R&D professionals, and more.

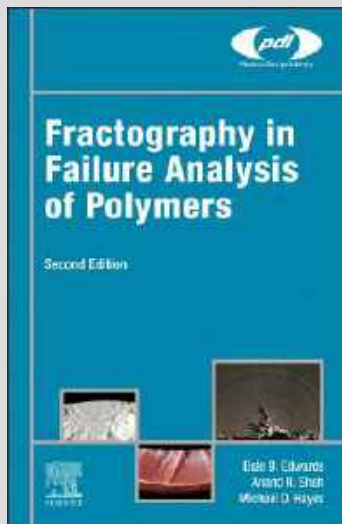


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ENGINEERING Nanotechnology

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Fractography in Failure Analysis of Polymers, 2e

Michael D. Hayes, Engineering Systems Inc. (ESI), USA; Dale B. Edwards, Engineering Systems Inc. (ESI), USA and Anand R. Shah, Engineering Systems Inc. (ESI), USA

ISBN: 9780443190032

PREVIOUS ISBN: 9780323242721

PUB DATE: Jan 19, 2024

LIST PRICE: £165.00 / \$210.00 /

€185.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 260

AUDIENCE: Industry: Engineers, manufacturers, product designers, consultants, and other plastics professionals; forensic investigators; plastics experts or mechanical engineers examining failed parts.

Research: Educators, researchers, and advanced students in plastics processing, materials science, and mechanical engineering.

BIC CODES: TGM, TGB, TDCP, PNR

THEMA CLASSIFICATION:

THEMATGM; THEMATGB;

THEMATDCP; THEMATDPF;

THEMATGMP

An essential resource on the use of fractography techniques in failure analysis of polymers, including extensive case studies and best practice

A Volume in the *Plastics Design Library Series*

KEY FEATURES

- Presents comprehensive coverage of applied fractography, enabling improved reliability and longevity of plastic parts and products
- Includes case studies that demonstrate material selection decisions and how to reduce failure rates
- Provides best practices on how to analyze the cause of material failures, along with guidelines on improving design and manufacturing decisions

DESCRIPTION

Fractography in Failure Analysis of Polymers, Second Edition provides a practical guide to the science of fractography and its application in the failure analysis of plastic components. In addition to a brief background on the theory of fractography, the book's authors discuss the various fractographic tools and techniques used to identify key fracture characteristics. Case studies in this new edition have been expanded, including a wide range of polymer types, new technologies, applications, and failure modes, as well as best practice guidelines. Detailed images and their appropriate context are presented for reference in failure investigations. This text is vital for engineers who must determine the root causes of failure when it occurs, helping them further study the ramifications of product liability claims, environmental concerns, and brand image. This is also a valuable resource for all plastics professionals, including manufacturers, product designers, and consultants, forensic investigators, as well as educators in materials science.



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ENGINEERING Materials

<https://virtuale.elsevier.com>, www.elsevier.com



Artificial Intelligence in Textile Engineering

Basic Concepts and Applications

Anindya Ghosh, Associate Professor at the Government College of Engineering and Textile Technology, Berhampore, West Bengal, India.; **Subhasis Das**, Assistant Professor in the Department of Textile Technology, Government College of Engineering & Textile Technology, Berhampore. and **Bapi Saha**, Assistant Professor of mathematics at the Government College of Engineering and Textile Technology, Berhampore, West Bengal, India.

ISBN: 9780443153952
PUB DATE: Jun 01, 2024
LIST PRICE: £157.00 / \$210.00 / €185.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 280
AUDIENCE: Researchers in academia and industry involved in textile engineering R&D
BIC CODES: TGM, TDH
THEMA CLASSIFICATION: THEMATGM; THEMATDPF

Explains artificial intelligence techniques from first principles, helping textile material scientists and engineers find innovative new solutions

KEY FEATURES

- Includes MATLAB® codes for solving various artificial intelligence techniques
- Provides case studies, practical examples of textile engineering problems and self-study problems in each chapter
- Presents step-by-step mathematical derivations of artificial intelligence techniques throughout

DESCRIPTION

Artificial Intelligence in Textile Engineering: Basic Concepts and Applications explains techniques from first principles in the perfect way for textiles materials scientists and engineers. The book discusses how the technology has caused a substantial impact across the textiles supply chain, making products more efficient, flexible, and reliable. Techniques such as artificial neural network, support vector machine, fuzzy logic, rough set, evolutionary algorithm, and hybrid intelligence systems are described with application to textiles. Readers are supported throughout with step-by-step mathematical derivations of AI techniques, case studies, and MATLAB codes, giving readers from different backgrounds the perfect entry to AI solutions.

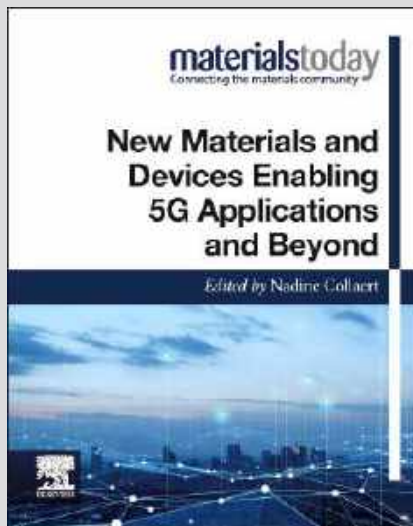


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TEXTILE TECHNOLOGY

<https://virtuale.elsevier.com>, www.elsevier.com



New Materials and Devices Enabling 5G Applications and Beyond

Edited by : **Nadine Collaert**, Program Director, Imec, Leuven, Belgium

ISBN: 9780128228234

PUB DATE: Jan 01, 2024

LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 7.50w x 9.25h

PAGES: c. 250

AUDIENCE: Materials Scientists & Engineers; Electrical/Optical Engineers

BIC CODES: TJFD, TGM, TTB

THEMA CLASSIFICATION:

THEMATTB; THEMATGM;

THEMATJF

Provides a key introduction to the challenges and opportunities for advances in materials and devices for 5G and beyond

A Volume in the *Materials Today* Series

KEY FEATURES

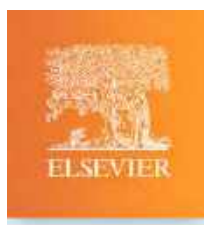
- Reviews challenges and emerging opportunities for materials, devices, and integration to enable 5G technologies
- Includes discussion of technologies such as RF-MEMs, RF FINFETs, and transistors based on current and emerging materials (InP, GaN, etc.)
- Focuses on mm-wave frequencies up to the terahertz regime

DESCRIPTION

New Materials and Devices for 5G Applications and Beyond focuses on the materials, device architectures, and enabling integration schemes for 5G applications and emerging technologies. The book gives a comprehensive overview of the tradeoffs, challenges, and unique properties of novel upcoming technologies. Starting from the application side and its requirements, the book examines different technologies under consideration for different functions, both conventional and more exploratory, and within this context the book provides guidance to the reader on how to possibly optimize the system for a particular application. This book aims at guiding the reader through the technologies required to enable 5G applications, with the main focus on mm-wave frequencies, up to THz. It is suitable for industrial researchers and development engineers, and researchers in materials science, device engineering, and circuit design.

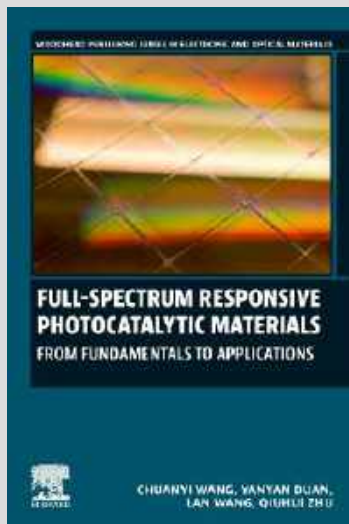


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ENGINEERING Materials

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Full-Spectrum Responsive Photocatalytic Materials

From Fundamentals to Applications

Chuanyi Wang, School of Environmental Science and Engineering, Shaanxi University of Science and Technology, Weiyang District, Xi'an, Shaanxi, P.R.China; **Yanyan Duan**, IMDEA Materials Institute, Getafe, Spain; **Lan Wang**, School of Environmental Science and Engineering, Shaanxi University of Science and Technology, Weiyang District, Xi'an, Shaanxi, P.R. China and **Qihui Zhu**, School of Environmental Science and Engineering, Shaanxi University of Science and Technology, China

ISBN: 9780443136313

PUB DATE: Mar 01, 2024

LIST PRICE: £165.00 / \$200.00 / €190.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 260

AUDIENCE: Material science students and researchers in the field of semiconductors and photocatalysis, Chemists, chemical engineers, and Research & Development scientists, etc.

BIC CODES: THX, TDCB, TJ, TGM, PNRH

THEMA CLASSIFICATION: THEMATDC; THEMATHV; THEMATJF; THEMATGM; THEMAPNR

Describes the latest developments in fabrication strategies, synthesis and characterization techniques of full-spectrum photocatalysts

A Volume in the *Woodhead Publishing Series in Electronic and Optical Materials* Series

KEY FEATURES

- Provides new insights into full-spectrum (UV-VIS-NIR) responsive photocatalysts and successful approaches for developing these materials
- Assists readers working to develop more efficient catalysts and establish a solid structure–activity correlation
- Suggests possibilities for the alteration of conventional photocatalysts to utilize the full spectrum of solar light

DESCRIPTION

Full-Spectrum Responsive Photocatalytic Materials: From Fundamentals to Applications provides a comprehensive overview on the design, synthesis concepts, mechanisms, characterization techniques, and advances and limitations in applications of full-spectrum responsive photocatalytic materials. The book starts with the fundamentals of full-spectrum responsive materials. It then discusses the problems of most semiconductors that are not active in the whole solar spectrum and explains the benefits of utilizing full-spectrum responsive photocatalysts. Other sections describe examples of full-spectrum responsive photocatalysts classified by material types and provide the design principles and characterization protocols for these promising materials.

Photocatalysis technology based on semiconductor materials holds great promise in various fields due to its potential advantages in energy-saving, cost and environmental impact. Maximizing the utilization of solar energy is always the target of pursuits in the areas of photocatalysis, and understanding and constructing appropriate full-spectrum (UV-VIS-NIR) responsive photocatalytic materials offer ways to better realize the practical utilization of photocatalysis.

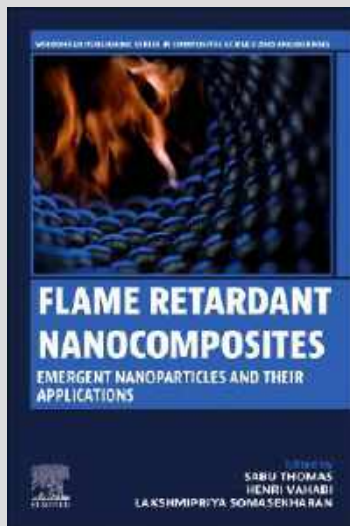


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Flame Retardant Nanocomposites

Emergent Nanoparticles and their Applications

Edited by : **Sabu Thomas**, Vice-chancellor, Mahatma Gandhi University, Kottayam, Kerala, India; **Henri Vahabi**, Associate Professor, University of Lorraine, Metz, France and **Lakshmi Priya Somasekharan**, Mahatma Gandhi University, India

ISBN: 9780443154218

PUB DATE: Jan 01, 2024

LIST PRICE: £175.00 / \$330.00 / €285.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 464

AUDIENCE: Academic and industrial researchers, materials scientists and engineers, polymer technologists and chemists working in fire retardant and heat resistant applications of nanocomposites, Postgraduates working in the flame retardancy of polymers and polymer nanocomposites

BIC CODES: TDCP, TDCQ

THEMA CLASSIFICATION: THEMATDPF; THEMATGM; THEMATGMP

Provides a detailed overview of fire-retardant polymer nanocomposite systems

A Volume in the *Woodhead Publishing Series in Composites Science and Engineering Series*

KEY FEATURES

- Provides a detailed overview of fire retardant polymer nanocomposite systems, including different nanofillers
- Describes fire mechanisms behind nanocomposite structure and morphology
- Covers the latest developments and the most recent applications in industry, defense, and space

DESCRIPTION

Flame Retardant Nanocomposites: Emergent Nanoparticles and their Applications covers the broad area of flame retardant polymer nanocomposites, their preparation, fire retardant mechanisms, and the various factors that affect them. The influence of various nanoparticles on their flammability is discussed in detail, as well as their structure, free radical trapping ability, char formation, and eventual barrier properties. This book will be a valuable reference resource for students, researchers, and engineers covering this important field of research. Chapters discuss the effect of different nanoparticles, their dispersion, and the effect of different polymer structures on fire retardant properties, along with possible applications.

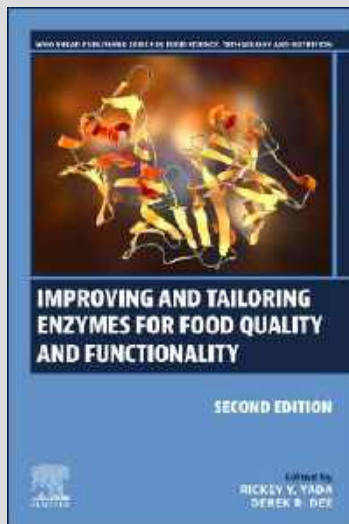


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ENGINEERING Materials

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Improving and Tailoring Enzymes for Food Quality and Functionality, 2e

Edited by : **Rickey Y. Yada**, Dean, Faculty of Land and Food Systems, University of British Columbia, Vancouver, BC, Canada and **Derek R. Dee**, Assistant Professor in the Food, Nutrition and Health Program, University of British Columbia, Canada

ISBN: 9780443154379

PREVIOUS ISBN: 9781782422853

PUB DATE: Apr 01, 2024

LIST PRICE: £208.00 / \$275.00 / €240.00

DISCOUNT: Reference

FORMAT: Hardback

TRIM: 6.00w x 9.00h

PAGES: c. 260

AUDIENCE: R&D managers in the food industry, food engineering professionals, Postgraduate students and academic researchers in enzymes and food processing

BIC CODES: TDCT

THEMA CLASSIFICATION:

THEMATDCT

Provides the latest information on enzymes and their applications in the food industry

A Volume in the *Woodhead Publishing Series in Food Science, Technology and Nutrition Series*

KEY FEATURES

- Thoroughly updated revision covering a broad range of topics related to enzymes and their use in the food industry
- Presents both the fundamental theory and recent examples from the literature, including the fundamentals of protein folding and enzyme catalysis, the preparation of enzymes from natural and recombinant sources, immobilizing enzymes, and a range of specific food applications
- Covers new research directions in enzymes, thus helping those trying to solve a technical issue or develop a new product

DESCRIPTION

Improving and Tailoring Enzymes for Food Quality and Functionality, Second Edition covers the most relevant information demanded in the production, engineering, and application of enzymes. The title is very detailed and an important cross-discipline resource that merges academia and industry. This totally revised new edition covers a broad range of topics related to enzymes and their use in food, presenting both the fundamental theory and practical application, updated with interesting novel information on biosensors, waste, valorization, up-cycling and engineering perspectives, besides an increased focus on sustainability.



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FOOD SCIENCE, TECHNOLOGY & NUTRITION
<https://virtuale.elsevier.com>, www.elsevier.com



Structural Health Monitoring/Management (SHM) in Aerospace Structures

Edited by : **Fuh-Gwo Yuan**, Professor, Department of Mechanical and Aerospace Engineering, North Carolina State University, USA

ISBN: 9780443154768

PUB DATE: May 01, 2024

LIST PRICE: £200.00 / \$265.00 / €230.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 530

AUDIENCE: R&D managers, materials scientists and engineers and researchers working in industry, academia and government research agencies developing new systems for the SHM of aerospace, mechanical and civil engineering structures, as well as SHM system designers.

BIC CODES: TDCP, TDCQ

THEMA CLASSIFICATION: THEMATDPF; THEMATGM; THEMATGMP

Presents recent developments in the structural health monitoring management of aerospace, mechanical, and civil engineering structures

A Volume in the *Woodhead Publishing Series in Composites Science and Engineering Series*

KEY FEATURES

- Presents new developments in smart materials for sensing and actuation
- Discusses new developments in mechanical metamaterials
- Presents the latest on signal/imaging processing for damage diagnosis
- Explores damage prognosis and integrated vehicle health management (IVHM)
- Covers new developments in machine learning and artificial Intelligence

DESCRIPTION

Structural Health Monitoring/Management (SHM) in Aerospace Structures provides readers with the spectacular progress that has taken place over the last twenty years with respect to the area of Structural Health Monitoring (SHM) Management. The SHM field encompasses transdisciplinary areas, including smart materials, sensors and actuators, damage diagnosis and prognosis, signal and image processing algorithms, wireless intelligent sensing, data fusion, and energy harvesting. This book focuses on how SHM techniques can be applied to aircraft, mechanical and civil engineering structures with particular emphasis on composite materials. This will be a valuable reference resource for R&D managers, materials scientists, and engineers working in the aerospace sector, for researchers and system designers working in industry, and for academia and government research agencies developing new systems for the SHM of aerospace, mechanical, and civil engineering structures.

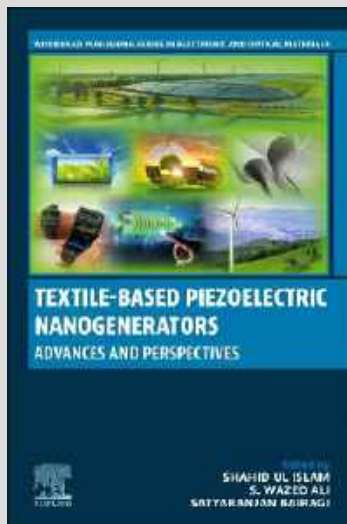


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ENGINEERING Materials

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Textile Based Piezoelectric Nanogenerators

Advances and Perspectives

Edited by : **Shahid Ul Islam**, Fulbright Researcher and Cultural Ambassador, University of California Davis, USA; **Wazed Ali**, Associate Professor, Department of Textile and Fiber Engineering, Indian Institute of Technology Delhi, Hauz Khas, New-Delhi, India and **Satyaranjan Bairagi**, Postdoctoral Fellow, School of Engineering, University of Glasgow, Glasgow, UK

ISBN: 9780443154799

PUB DATE: Jun 01, 2024

LIST PRICE: £185.00 / \$245.00 / €210.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 512

AUDIENCE: Materials Scientists and Engineers, Energy Scientists

BIC CODES: TDH

THEMA CLASSIFICATION:

THEMATDCP; THEMATDPF;

THEMATGMP

Comprehensive reference on the current research directions of piezoelectric textiles for renewable energy technologies

A Volume in the *Woodhead Publishing Series in Electronic and Optical Materials* Series

KEY FEATURES

- Introduces textile-based piezoelectric materials used for energy harvesting from mechanical energy waste
- Covers the fabrication of piezoelectric nanogenerators in conventional textiles for the development of next-generation wearable energy harvesters
- Provides systematic and comprehensive coverage on the topic
- Highlights current and potential applications of textile-based piezoelectric nanogenerators

DESCRIPTION

Textile-Based Piezoelectric Nanogenerators: Advances and Perspectives reviews materials, fabrication methods, and applications of piezoelectric textile materials for smart wearable systems and portable electronic technologies. In the book, current achievements in piezoelectric nanogenerators are summarized, and applications of the textile-based piezoelectric nanogenerators in the fields of sensing, structural health monitoring, and energy harvesting are discussed. Drawbacks and opportunities in these areas are also investigated, making this reference suitable for materials scientists and engineers in academia and R&D.



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ENGINEERING Materials

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COVER IMAGE
FORTHCOMING

Toughening Mechanisms in Composite Materials, 2e

Edited by : **Qing-Hua Qin**, Professor, Department of Engineering, Shenzhen MSU-BIT University; International University Park Road, Longgang, Shenzhen, Guangdong, China and **Jianqiao Ye**, Professor and Chair, Mechanical Engineering, Lancaster University, UK

ISBN: 9780443154812

PREVIOUS ISBN: 9781782422792

PUB DATE: Jan 01, 2024

LIST PRICE: £115.00 / \$150.00 /

€130.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 490

AUDIENCE: Professional engineers in industry and academia, research scientists, and postgraduate students in applied mechanics and materials engineering, physicists, and materials scientist

BIC CODES: TDCQ, TDCP

THEMA CLASSIFICATION:

THEMATGMP; THEMATGM;

THEMATDPF

Provides fundamental knowledge on toughening mechanisms in a wide range of composite materials

A Volume in the *Woodhead Publishing Series in Composites Science and Engineering Series*

KEY FEATURES

- Provides fundamental knowledge on toughening mechanisms in a wide range of composite materials
- Covers particle-reinforced and fibre-reinforced composites
- Covers developments in nanotube toughened composites and toughened graphene ceramic composites
- Covers latest developments in the fields including additive manufacturing, digitalization, and computational modelling
- Covers new emerging technologies such as metamaterials. Cellular structures, phase change materials, 2D heterogenous and auxetic materials

DESCRIPTION

Toughening Mechanisms in Composite Materials was first published in May 2015. The book provided comprehensive and technically detailed coverage of composites and their toughening mechanisms. Unique in its direct and comprehensive approach, the book presented fundamental knowledge on composites' toughening mechanisms as well as comprehensive treatment of numerical methods. The field has however witnessed remarkable advances especially in the area of additive manufacturing, which has widened the range of advanced materials and the diversity of their applications. In this fully updated second edition, each chapter has been revised to take account of recent developments. A brand-new chapter has also been included on additive manufacturing of hierarchical composites and their corresponding characterization techniques. The book summarizes the current state-of-the-art and presents recent research outcomes. It details the development of each of the techniques, beginning with basic principles, and new concepts are illustrated with examples wherever possible.

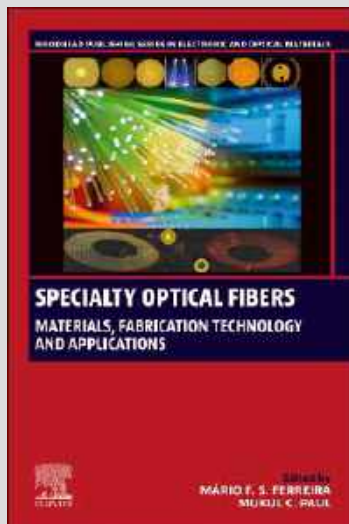


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ENGINEERING Materials

<https://virtuale.elsevier.com>, www.elsevier.com



Specialty Optical Fibers

Materials, Fabrication Technology and Applications

Edited by : **Mário Fernando Santos Ferreira**, Department of Physics, University of Aveiro, Aveiro, Portugal and **Mukul Chandra Paul**, Fibre Optics and Photonics Division, CSIR-Central Glass and Ceramic Research Institute, Kolkata, India

ISBN: 9780443184956

PUB DATE: Mar 01, 2024

LIST PRICE: £190.00 / \$250.00 / €220.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 530

AUDIENCE: Materials Scientists and Engineers, Electrical Engineers, Practitioners in Fiber Optics Industry/R&D

BIC CODES: TGM, TJFD

THEMA CLASSIFICATION:
THEMATGM; THEMATJF

Comprehensive reference book on the current research directions in specialty optical fiber materials, designs, fabrication, and applications

A Volume in the *Woodhead Publishing Series in Electronic and Optical Materials* Series

KEY FEATURES

- Includes an overview of specialty optical fiber materials design and fabrication technologies
- Reviews fundamentals of the most relevant optical fiber materials, including their physics, chemistry, and optoelectronics principles
- Explores current research directions and future opportunities and challenges of utilization of optical fibers for a wide range of diverse applications

DESCRIPTION

Specialty Optical Fibers: Materials, Fabrication Technology and Applications reviews theoretical and experimental photonic research relevant to the synthesis, processing, characterization, modeling, physical features, and applications of Specialty Optical Fibers (SOFs) with significant technological impact potential. All fiber-based advanced photonics device components rely on specialty optical fibers, which have either a unique waveguide structure or a novel material composition. High power optical amplifiers, high power fiber, and novel fabrication techniques for optical fiber design have enabled significant technological advances. The book provides discussion on these applications, including current research directions, future opportunities, and remaining challenges. It is suitable for researchers in academia and practitioners in R&D working in materials science, electrical engineering, and fiber optics.



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ENGINEERING Materials

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Materials for Electronics Security and Assurance

Navid Asadizanjani, Assistant Professor, University of Florida, USA; **Chengjie Xi**, University of Florida, Florida Institute for Cyber Security Research, Gainesville, FL, USA and **Mark M. Tehranipoor**, Ph.D., Department of Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA

ISBN: 9780443185427
PUB DATE: Mar 01, 2024
LIST PRICE: £155.00 / \$200.00 / €175.00

DISCOUNT: Reference

FORMAT: Paperback

TRIM: 6.00w x 9.00h

PAGES: c. 380

AUDIENCE: Materials Scientists, Computer Engineers, Electrical Engineers

BIC CODES: TGM, TJFD

THEMA CLASSIFICATION:

THEMATGM; THEMATJF

Provides readers with a comprehensive introduction to the critical role of materials in electronics hardware security

KEY FEATURES

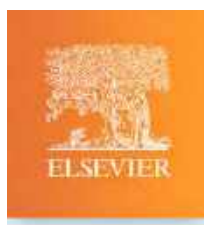
- Discusses materials as enablers to provide electronics assurance, counterfeit detection/protection, and fingerprinting
- Provides an overview of benefits and challenges of materials-based security solutions to inspire future materials research directions
- Includes an introduction to material perspectives on hardware security to enable cross collaboration between materials, design, and testing

DESCRIPTION

Materials for Electronics Security and Assurance reviews the properties of materials that could enable devices that are resistant to tampering and manipulation. The book discusses recent advances in materials synthesis and characterization techniques for security applications. Topics addressed include anti-reverse engineering, detection, prevention, track and trace, fingerprinting, obfuscation, and how materials could enable these security solutions. The book introduces opportunities and challenges and provides a clear direction of the requirements for material-based solutions to address electronics security challenges. It is suitable for materials scientists and engineers who seek to enable future research directions, current computer and hardware security engineers who want to enable materials selection, and as a way to inspire cross-collaboration between both communities.

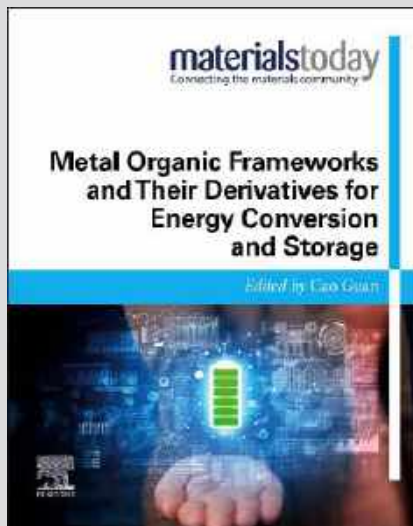


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Metal Organic Frameworks and Their Derivatives for Energy Conversion and Storage

Edited by : **Cao Guan**, Institute of Flexible Electronics, Northwestern Polytechnical University, Xi'an, China Key Laboratory of Flexible Electronics of Zhejiang Province, Ningbo Institute of Northwestern Polytechnical University, Ningbo, China

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Comprehensive reference on the design and synthesis of metal organic framework derived materials for electrochemical energy storage technologies

A Volume in the *Materials Today* Series

KEY FEATURES

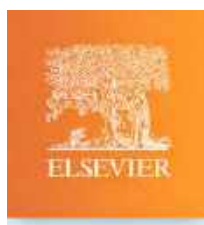
- Reviews the current research directions of metal-organic frameworks and their derived materials for electrochemical energy storage and conversion technologies
- Discusses synthesis and design strategies of metal-organic framework derived materials
- Focuses on the material-structure-property relationship and the impact towards the improved performance of metal-organic framework materials

DESCRIPTION

Metal Organic Frameworks and Their Derivatives for Energy Conversion and Storage comprehensively covers the updated design and synthesis of metal organic frameworks (MOFs) and their derived materials, also including their applications in electrochemical energy conversion and storage. The book starts with a systematic description of the rational structure design and facile fabrication methods of MOF-based materials and various MOF derivatives and then includes examples of MOFs and MOF-derived materials used for solar water splitting, electrocatalysis, batteries and supercapacitors are demonstrated. Finally, developing trends, such as integrating MOFs with other smart materials and emerging 3D printing technologies are covered. This book is suitable for a wide readership in material science, chemical science, energy fields, and engineering.



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