Health & Science

New Books Preview

June 2024

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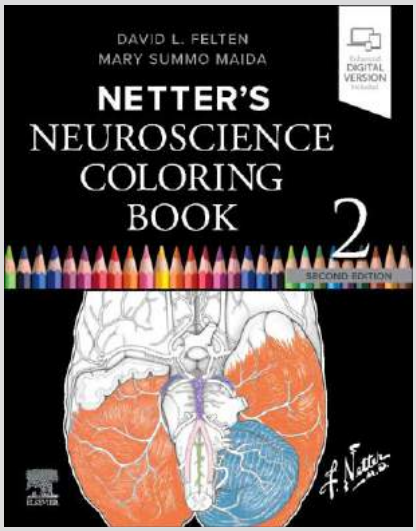
N.B. Please note prices and publication dates may be subject to change without prior notice. Late Addition titles are ones that missed the corresponding New Books Preview Month.

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.

If end-user customers experience any issues, trade should send end-users directly to Elsevier eBooks+ customer support where there is live Q&A and links to customer support with individual customer help via phone, email and live chat.

eBooks+



Netter's Neuroscience Coloring Book, 2e

David L. Felten, MD, PhD, Associate Dean of Clinical Sciences, University of Medicine and Health, New York, New York and **Mary Summo Maida**, Ph.D., Adjunct Professor of Neurobiology & Anatomy, University of Rochester School of Medicine, Rochester, New York

ISBN: 9780443117312
PREVIOUS ISBN: 9780323509596
PUB DATE: Jun 28, 2024
LIST PRICE: £17.99 / $22.99 / €21.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 332
AUDIENCE: Students in neuroscience courses or who are preparing for an upcoming neuroscience course/program (these range from high school students and premeds to medical and health professions students and students in neuroscience research, linguistics, etc.)
BIC CODES: MFC
THEMA CLASSIFICATION: THEMAMFC

A fun and relaxing way to gain a better understanding of neuroscience

KEY FEATURES

More than "just" a coloring book, this unique learning tool offers:

- **More than 145 key topics in neuroscience and neuroanatomy**, using bold, clear drawings based on classic Netter art.
- **Coloring exercises** for visual and tactile learning as you trace pathways and tracts, reinforcing spatial, functional, and clinical concepts in this fascinating field.
- **A clear organization with 4 major sections:** (1) Overview of the nervous system; (2) regional neuroscience; (3) systemic neuroscience; and (4) global neuroscience.
- **Three major components for each topic and accompanying illustrations:** What is it and what does it do?; Color the most important structures; and What is the functional and clinical significance?
- **Text revision based on extensive student feedback**.
- **New coloring exercises** on Endogenous Opioid Systems, Insular Cortex, Prefrontal Cortex, Dementias, Alzheimer's Disease, Posttraumatic Stress, Traumatic Brain Injury (TBI), and Brain Substrates of Addictive Disorders.
- **Clinical Notes** that bridge basic science with health care and medicine.

Expanded workbook review questions and **bulleted lists** throughout to reinforce comprehension and retention.

DESCRIPTION

Reinforce your knowledge of neuroanatomy, neuroscience, and common neurologic disorders with this active, engaging, and relaxing review method! *Netter's Neuroscience Coloring Book, 2nd Edition,* makes abstract concepts more concrete as you **use color and tactile movement to reinforce your memory and understanding** of the brain, spinal cord, and peripheral nervous system. It's a fun and interactive way to learn and review a complex but fascinating subject—whether you're taking a course in neuroscience, preparing for a neuroscience program, or planning a career in research, science, or medicine and healthcare.

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Medical Education Anatomy

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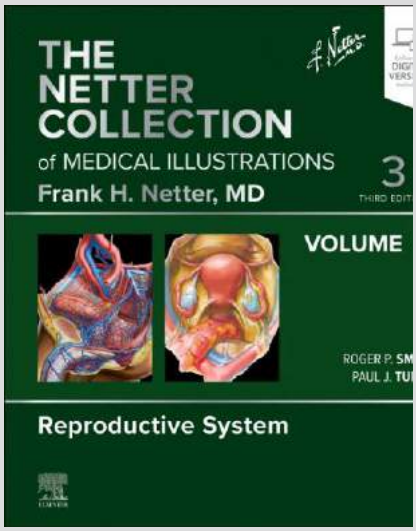

The Netter Collection of Medical Illustrations: Reproductive System, Volume 1, 3e

Roger Smith, MD, Parkland, Florida and **Paul Turek**, MD, Former Endowed Chair Professor, UCSF

ISBN: 9780323880831
PREVIOUS ISBN: 9781437705959
PUB DATE: Jul 19, 2024
LIST PRICE: £63.99 / $99.99 / €74.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 9.5 x 11.5
PAGES: c. 338
ILLUSTRATIONS: 280 illustrations (280 in full color)
AUDIENCE: Diverse worldwide market; both practitioners and trainees across medical and health professions; institutions For the series: medical schools with a systems-based curriculum (students, instructors, staff, library); clinical practitioners at all levels (especially nonspecialists and specialists interested in areas outside of their specialty); Netter fans and gift-buyers for Netter fans. For the book/volume: offices/depts/individuals in ob-gyn; urology; fertility and reproductive medicine
BIC CODES: MFC
THEMA CLASSIFICATION: THEMAMFC; THEMAMFKC

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An exquisite visual overview of every body system, as only Netter can provide

A Volume in the *Netter Green Book Collection* Series

KEY FEATURES

- Depicts the **development, function, and pathology** of female, male, and intersex reproductive states.
- Covers **timely topics** like preimplantation genetic diagnosis at IVF; transgender medicine and procedures; menorrhagia; a wider variety of dermatoses; nipple discharge; vulvar trauma; treatment options for pelvic floor support; sperm epigenetics and DNA fragmentation; paternal age-related childhood diseases; syndromic sperm problems (PLcZ deficiency); and advanced sperm sorting technology.
- Provides a **concise overview of complex information** by seamlessly integrating anatomical and physiological concepts using practical clinical scenarios.
- Shares the **expertise and knowledge of two world-class editors**, Drs. Roger Smith (a gynecologist) and Paul Turek (a urologist and microsurgeon), both talented and clear thinkers in the field of reproductive biology and medicine.
- Compiles **Dr. Frank H. Netter's master medical artistry**—an aesthetic tribute and source of inspiration for medical professionals for over half a century—along with new art in the Netter tradition for each of the major body systems, making this volume a powerful and memorable tool for building foundational knowledge and educating patients or staff.
- **NEW! 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, make notes and highlights, and have content read aloud.

DESCRIPTION

Offering a **concise, highly visual approach** to the basic science and clinical pathology of the reproductive system, this updated volume in *The Netter Collection of Medical Illustrations* (the CIBA "Green Books") contains unparalleled didactic illustrations reflecting the latest medical knowledge. Revised by Drs. Roger P. Smith and Paul J. Turek, *Reproductive System, Volume 1* **integrates core concepts of anatomy, embryology, physiology, and genetics with common clinical correlates** across health, medical, and surgical disciplines. **Classic Netter art, updated and new illustrations, and modern imaging** continue to bring medical concepts to life and make this timeless work an essential resource for students, clinicians, and educators.

Medical Education Anatomy

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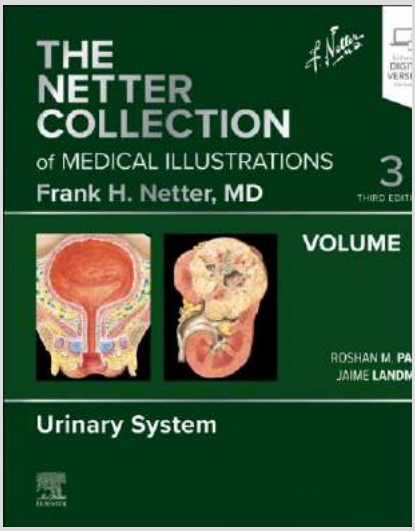

The Netter Collection of Medical Illustrations: Urinary System, Volume 5, Vol 5, 3e

Edited by : **Roshan Patel**, MD, Assistant Professor of Clinical Urology, Director, Kidney Stone Center, University of California, Irvine, California and **Jaime Landman**, MD, Professor and Chairman, Department of Urology, University of California Irvine, Irvine, California

ISBN: 9780323880862
PREVIOUS ISBN: 9781437722383
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LIST PRICE: £63.99 / $99.99 / €74.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 9.5 x 11.5
PAGES: c. 308
ILLUSTRATIONS: 260 illustrations (260 in full color)
AUDIENCE: Diverse worldwide market; both practitioners and trainees across medical and health professions; institutions For the series: medical schools with a systems-based curriculum (students, instructors, staff, library); clinical practitioners at all levels (especially nonspecialists and specialists interested in areas outside of their specialty); Netter fans and gift-buyers for Netter fans. For the book/volume: offices/depts/individuals in urology and nephrology
BIC CODES: MFC
THEMA CLASSIFICATION: THEMAMFC

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An exquisite visual overview of every body system, as only Netter can provide

A Volume in the *Netter Green Book Collection* Series

KEY FEATURES

- Provides a **complete overview of the kidney, ureters, prostate, and bladder,** from normal anatomy, histology, physiology, and development to glomerular and tubular diseases, infections, urological surgeries, and cancers.
- Covers **timely topics** like the urinary microbiome, enucleation of prostate, and robotic simple prostatectomy.
- Provides a **concise overview of complex information** by integrating anatomical and physiological concepts with clinical scenarios.
- Shares the **experience and knowledge** of expert editors and authors.
- Compiles **Dr. Frank H. Netter's master medical artistry**—an aesthetic tribute and source of inspiration for medical professionals for over half a century—along with new art in the Netter tradition for each of the major body systems, making this volume a powerful and memorable tool for building foundational knowledge and educating patients or staff.
- **NEW! 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, make notes and highlights, and have content read aloud.

DESCRIPTION

Offering a **concise, highly visual approach** to the basic science and clinical pathology of the urinary system, this updated volume in *The Netter Collection of Medical Illustrations* (the CIBA "Green Books") contains unparalleled didactic illustrations reflecting the latest medical knowledge. Revised by Drs. Jaime Landman and Roshan M. Patel, *Urinary System, Volume 5* **integrates core concepts of anatomy, physiology, and other basic sciences with common clinical correlates** across health, medical, and surgical disciplines. **Classic Netter art, updated and new illustrations, and modern imaging** continue to bring medical concepts to life and make this timeless work an essential resource for students, clinicians, and educators.

Medical Education Anatomy

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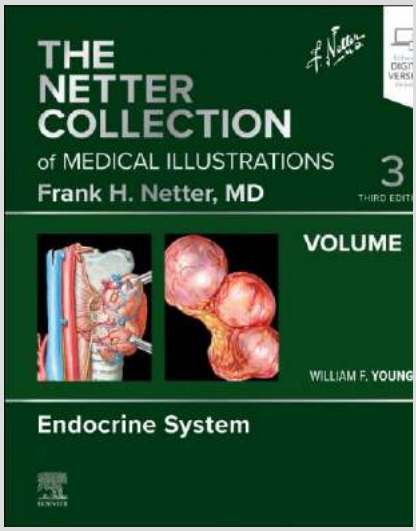

The Netter Collection of Medical Illustrations: Endocrine System, Volume 2, 3e

William F. Young, MD, Division of Endocrinology, Diabetes, Metabolism, and Nutrition, Tyson Family Endocrinology Clinical Professor and Professor of Medicine, Mayo Clinic College of Medicine, Rochester, Minnesota

ISBN: 9780323881265
PREVIOUS ISBN: 9781416063889
PUB DATE: Jul 19, 2024
LIST PRICE: £69.99 / $107.99 / €80.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 9.5 x 11.5
PAGES: c. 260
ILLUSTRATIONS: 200 illustrations (200 in full color)
AUDIENCE: Diverse worldwide market; both practitioners and trainees across medical and health professions; institutions For the series: medical schools with a systems-based curriculum (students, instructors, staff, library); clinical practitioners at all levels (especially nonspecialists and specialists interested in areas outside of their specialty); Netter fans and gift-buyers for Netter fans. For the book/volume: offices/depts/individuals in endocrinology, metabolism, diabetology
BIC CODES: MFC
THEMA CLASSIFICATION: THEMAMFC

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An exquisite visual overview of every body system, as only Netter can provide

A Volume in the *Netter Green Book Collection* Series

KEY FEATURES

- Provides a **complete overview of the endocrine system** through multidisciplinary coverage of endocrinology as a whole.
- Covers **timely topics** like the Carney triad, updates on genetic basis of endocrine disorders, pituitary stalk lesions; empty sella syndrome; thyroid biopsy; metastatic pheochromocytoma and paraganglioma; adrenocortical carcinoma; diabetes-related dermatologic manifestations; and McCune-Albright syndrome.
- Provides a **concise overview of complex information** integrating anatomical and physiological concepts with clinical scenarios.
- Compiles **Dr. Frank H. Netter's master medical artistry**—an aesthetic tribute and source of inspiration for medical professionals for over half a century—along with new art in the Netter tradition for each of the major body systems, making this volume a powerful and memorable tool for building foundational knowledge and educating patients or staff.
- **NEW! 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, make notes and highlights, and have content read aloud.

DESCRIPTION

Offering a **concise, highly visual approach** to the basic science and clinical pathology of the endocrine system, this updated volume in *The Netter Collection of Medical Illustrations* (the CIBA "Green Books") contains unparalleled didactic illustrations reflecting the latest medical knowledge. Revised by Dr. William F. Young, Jr., *Endocrine System, Volume 2* **integrates core concepts of anatomy, embryology, physiology, and genetics with common clinical correlates** across health, medical, and surgical disciplines. **Classic Netter art, updated and new illustrations, and modern imaging** continue to bring medical concepts to life and make this timeless work an essential resource for students, clinicians, and educators.

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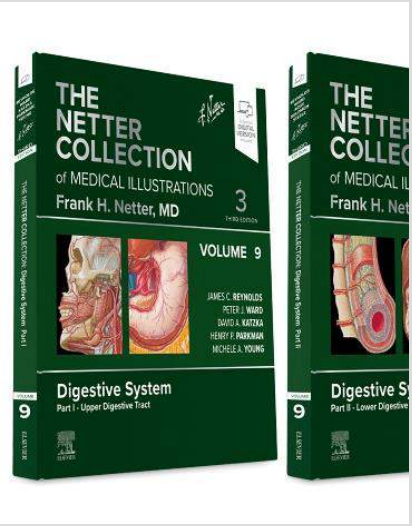

The Netter Collection of Medical Illustrations: Digestive System Package, 3e

James C. Reynolds, MD, Professor of Clinical Medicine, Co-Director, Neurogastroenterology and Motility Program, Perelman Center for Advanced Medicine, University of Pennsylvania

ISBN: 9780323881883
PREVIOUS ISBN: 9780323396257
PUB DATE: Jun 14, 2024
LIST PRICE: £155.99 / $239.99 / €179.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM:
PAGES: c. 0
AUDIENCE: Diverse worldwide market; both practitioners and trainees across medical and health professions; institutions For the series: medical schools with a systems-based curriculum (students, instructors, staff, library); clinical practitioners at all levels (especially nonspecialists and specialists interested in areas outside of their specialty); Netter fans and gift-buyers for Netter fans. For the book/volume: offices/depts/individuals in GI/Gastroenterology. Much of the content will be superficial for their daily practice purposes, but it will be appreciated for its artistic depictions of the field and something to be used with patients, staff, and students/trainees.
BIC CODES: MFC
THEMA CLASSIFICATION: THEMAMFC

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An exquisite visual overview of every body system, as only Netter can provide

A Volume in the *Netter Green Book Collection* Series

KEY FEATURES

- Provides a **highly visual guide to the entire digestive system in three convenient books**.
- Covers **new topics throughout,** including gastrointestinal manifestations of COVID; mechanisms of disease: functional disorders; diagnostic tests in gastric disorders: EndoFLIP of the esophagus; endoscopic pyloromyotomy for gastroparesis; gut microbiome; colon cancer screening guidelines; lower gastrointestinal bleeds; and hepatitis caused by other viruses.
- Provides a **concise overview of complex information** by integrating anatomical and physiological concepts using practical clinical scenarios.
- Compiles **Dr. Frank H. Netter's master medical artistry**—an aesthetic tribute and source of inspiration for medical professionals for over half a century—along with new art in the Netter tradition for each of the major body systems, making this volume a powerful and memorable tool for building foundational knowledge and educating patients or staff.
- **NEW! 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, make notes and highlights, and have content read aloud.

DESCRIPTION

Offering a **concise, highly visual approach** to the basic science and clinical pathology of the digestive system, these three updated books in *The Netter Collection of Medical Illustrations* (the CIBA "Green Books") contain unparalleled didactic illustrations reflecting the latest medical knowledge. Revised under the expert editorial leadership of Dr. James C. Reynolds, *Upper Digestive Tract* (Part 1), *Lower Digestive Tract (*Part 2), and *Liver, Biliary Tract, and Pancreas* (Part 3) of *Digestive System, Volume 9,* **integrate core concepts of anatomy, physiology, and other basic sciences with common clinical correlates** across health, medical, and surgical disciplines. **Classic Netter art, updated and new illustrations, and modern imaging** continue to bring medical concepts to life and make this timeless work an essential resource for students, clinicians, and educators.

Medical Education Clinical Student - Internal Med

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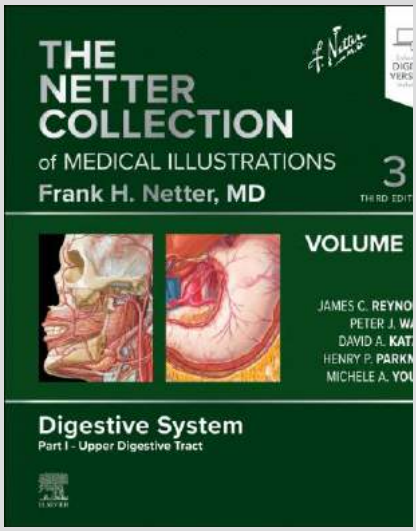

The Netter Collection of Medical Illustrations: Digestive System, Volume 9, Part I - Upper Digestive Tract, 3e

Edited by : **James C. Reynolds**, MD, Professor of Clinical Medicine, Co-Director, Neurogastroenterology and Motility Program, Perelman Center for Advanced Medicine, University of Pennsylvania; **Peter J. Ward**, PhD, Professor of Anatomy, West Virginia School of Osteopathic Medicine; **David A. Katzka**, MD, Mayo Clinic, Rochester MN; **Henry P. Parkman**, MD, FACG, AGAF, Stanley Lorber Chair in Gastroenterology Professor of Medicine, Director, GI Motility Laboratory, Gastroenterology Section, Lewis Katz School of Medicine, Temple University, Philadelphia, PA, United States Vice Chair of Research, Department of Medicine

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DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 290
ILLUSTRATIONS: 250 illustrations (250 in full color)
AUDIENCE: Diverse worldwide market; both practitioners and trainees across medical and health professions; institutions For the series: medical schools with a systems-based curriculum (students, instructors, staff, library); clinical practitioners at all levels (especially nonspecialists and specialists interested in areas outside of their specialty); Netter fans and gift-buyers for Netter fans. For the book/volume: offices/depts/individuals in GI/Gastroenterology. Much of the content will be superficial for their daily practice purposes, but it will be appreciated for its artistic depictions of the field and something to be used with patients, staff, and students/trainees.
BIC CODES: MJ
THEMA CLASSIFICATION: THEMAMJ

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An exquisite visual overview of every body system, as only Netter can provide

A Volume in the *Netter Green Book Collection* Series

KEY FEATURES

- Provides a **highly visual guide** to the mouth, pharynx, esophagus, and stomach in a single source, from basic sciences and normal anatomy and function through pathologic conditions.
- Offers **expert coverage of key topics** such as gastrointestinal manifestations of COVID; mechanisms of disease: functional disorders; diagnostic tests in gastric disorders: EndoFLIP of the esophagus; and endoscopic pyloromyotomy for gastroparesis.
- Provides a **concise overview of complex information** by integrating anatomical and physiological concepts with practical clinical scenarios.
- Compiles **Dr. Frank H. Netter's master medical artistry**—an aesthetic tribute and source of inspiration for medical professionals for over half a century—along with new art in the Netter tradition for each of the major body systems, making this volume a powerful and memorable tool for building foundational knowledge and educating patients or staff.
- **NEW! 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, make notes and highlights, and have content read aloud.

DESCRIPTION

Offering a **concise, highly visual approach** to the basic science and clinical pathology of the digestive system, this updated volume in *The Netter Collection of Medical Illustrations* (the CIBA "Green Books") contains unparalleled didactic illustrations reflecting the latest medical knowledge. Revised by Drs. James C. Reynolds, Peter J. Ward, David A. Katzka, Henry P. Parkman, and Michele A. Young, *Upper Digestive Tract*, Part 1 of the *Digestive System, Volume 9,* **integrates core concepts of anatomy, physiology, and other basic sciences with common clinical correlates** across health, medical, and surgical disciplines. **Classic Netter art, updated and new illustrations, and modern imaging** continue to bring medical concepts to life and make this timeless work an essential resource for students, clinicians, and educators.

Medical Education Anatomy

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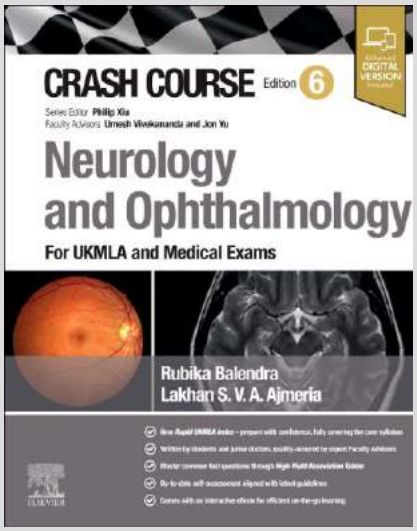

Crash Course Neurology and Ophthalmology, 6e

For UKMLA and Medical Exams

Rubika Balendra; **Lakhan Ajmeria**; **Umesh Vivekananda**, MA, MRCP, PhD, Specialist Registrar in Neurology, St. George's Hospital, London, UK and **Philip Xiu**, MA (Cantab) MB BChir MRCP MRCGP MScClinEd FHEA MAcadMEd RCPathME, GP Registrar, Yorkshire Deanery, Leeds, UK.

ISBN: 9780443115561
PREVIOUS ISBN: 9780702073854
PUB DATE: Jun 20, 2024
LIST PRICE: £32.99 / $31.99 / €30.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 0
BIC CODES: MJN, M, MJ
THEMA CLASSIFICATION: THEMAMKJ

A Volume in the *CRASH COURSE* Series

KEY FEATURES

- Fully aligned to UKMLA requirements, with key ‘conditions’ and ‘presentations’ highlighted in handy checklists - save valuable revision time and be confident you have the syllabus covered
- Written by senior students and recent graduates - those closest to what is essential for exam success
- Quality assured by leading Faculty Advisors - ensures complete accuracy of information
- Features the ever popular 'Hints and Tips' boxes and other useful aide-mémoires - distilled wisdom from those in the know
- Updated self-assessment section matching the latest exam formats – confirm your understanding and improve exam technique fast

DESCRIPTION

Crash Course – your effective every-day study companion PLUS the perfect antidote for exam stress! Save time and be assured you have the essential information you need in one place to excel on your course and achieve exam success.

A winning formula now for over 25 years, having sold over 1 million copies and translated in over 8 languages, each series volume has been fine-tuned and fully updated with a full-colour layout tailored to make your life easier. Especially written by senior students or junior doctors – those who understand what is essential for exam success – with all information thoroughly checked and quality assured by expert *Faculty Advisers*, the result is books that exactly meet your needs and you know you can trust.

Each chapter guides you succinctly through the full range of curriculum topics in the UKMLA syllabus, integrating clinical considerations with the relevant basic science and avoiding unnecessary or confusing detail. A range of text boxes help you get to the hints, tips and key points you need fast! A fully revised self-assessment section matching the latest exam formats is included to check your understanding and aid exam preparation. The accompanying enhanced, downloadable eBook completes this invaluable learning package.

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Medical Education UKNL Clinical Students

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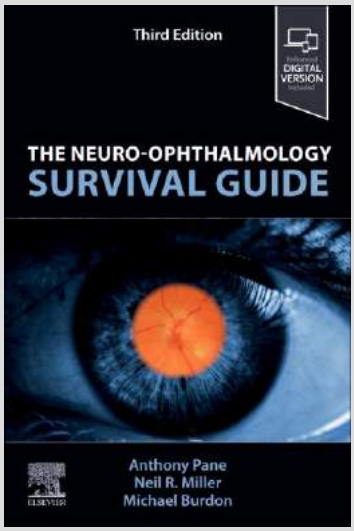

The Neuro-Ophthalmology Survival Guide, 3e

Anthony Pane, MBBS MMedSc FRANZCO PhD, Neuro-Ophthalmologist, Queensland Eye Institute, Brisbane, Australia; **Neil R. Miller**, MD FACS, Professor of Ophthalmology, Neurology and Neurosurgery, Frank B Walsh Professor of Neuro-ophthalmology, Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD, USA and **Michael Burdon**, BSc MB BS MRCP FRCOphth, Consultant Neuro-Ophthalmologist, Selly Oak Hospital, Birmingham, UK

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FORMAT: Paperback
TRIM: [x] 156 x 234
PAGES: c. 0
BIC CODES: MJQ
THEMA CLASSIFICATION: THEMAMJQ

KEY FEATURES

- A practical and accessible handbook for the ophthalmologist, optometrist, or other physician without a specialist interest in neuro-ophthalmology.
- Simplifies a subject that is often a cause of litigation against practising ophthalmologists and exam failure for trainees and residents.
- Aids diagnosis in a field in which mistakes may lead to serious consequences, e.g. patients with brain tumours presenting with blurred or double vision.
- Uniquely guides the reader from presenting symptoms, through a series of simple but safe flowcharts and checklists, to the necessary tests, diagnosis, and timely treatment.
- The first chapter presents 20 'golden rules' to keep you and your patients out of trouble.
- Updates throughout the text include recent advances in diagnosis and treatment for conditions with improved pathophysiological insights; genetic aspects of several conditions and their impact on management; imaging and laboratory tests available for diagnosis of disorders.
- New self-assessment quizzes to consolidate everyday clinical skills or for exam preparation.
- More than 60 online videos demonstrate examination techniques as well as abnormal eye movements, eyelid problems and pupil abnormalities.

DESCRIPTION

This book is a practical, symptom-based, 'how-to' guide to neuro-ophthalmology for all trainee and practising ophthalmologists, optometrists, and physicians whose practice includes patients with eye or brain issues. Each chapter focusses on a specific clinical symptom and includes an introduction to the clinical assessment of a symptom; an examination checklist; a management flowchart to be followed; clinical diagnostic criteria checklists; and further information on the diseases that can cause the symptom with a brief discussion of appropriate management.

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Medical Education UKNL PO - Postgraduate

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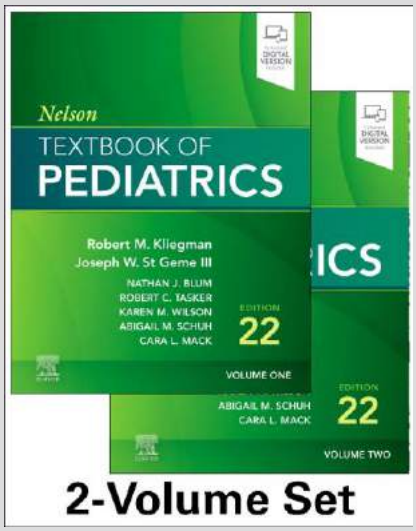

Nelson Textbook of Pediatrics, 2-Volume Set, 22e

Edited by : **Robert M. Kliegman**, MD, Professor & Chair Emeritus, Department of Pediatrics - Medical College of Wisconsin Nelson Undiagnosed & Rare Disease Program; **Joseph W. St. Geme III**, MD, Chair, Department of Pediatrics, Professor of Pediatrics and Microbiology, Perelman School of Medicine at the University of Pennsylvania and Physician-in-Chief, Leonard and Madlyn Abramson Endowed Chair in Pediatrics, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

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FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 4740
ILLUSTRATIONS: 2627
AUDIENCE: Pediatric residents and practitioners (75,000 in the US; 200,000 ROW)
BIC CODES: MJW
THEMA CLASSIFICATION: THEMAMKD

International Edition Available!
ISBN: 9780808921820
LIST PRICE: £81.99 / $94.00 / €116.00

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The gold standard reference in pediatrics—comprehensive, authoritative, and reader-friendly

KEY FEATURES

- Features a **user-friendly format** with short chapters and subchapters that allow you to quickly find the information you need.
- Includes **more than 60 new chapters** on topics covering the impact of social factors on children's health, the impact of genetic discoveries on understanding diagnosing and treating childhood diseases, updating of current evidenced based diagnostic and therapeutic approaches to childhood diseases, and more.
- Offers **new and expanded information** on gene therapy; interferonopathies; reactive infectious mucocutaneous eruption (RIME); e-cigarette or vaping use-associated lung injury (EVALI); monkeypox; food protein-induced enterocolitis syndrome (FPIES); signaling pathway disorders; ciliopathies; very early onset inflammatory bowel disease; Epstein-Barr virus susceptibility disorders; marijuana smoke exposure; and much more.
- Features **hundreds of new figures and tables** throughout for visual clarity and quick reference, real-time videos, and **regular updates online**, written exclusively for Nelson.
- Provides fresh perspectives from **two new associate editors**: Abigail M. Schuh and Cara L. Mack, both of Medical College of Wisconsin.
- Remains **your indispensable source** for definitive, evidence-based answers on every aspect of pediatric care.
- **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. Any additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

Covering **every aspect of general pediatric practice**, as well as details for many pediatric subspecialists, *Nelson Textbook of Pediatrics, 22nd Edition*, brings you fully up to date with everything from rapidly changing diagnostic and treatment protocols to new technologies to the wide range of biologic, psychologic, and social problems faced by children today. Edited and written by experts and prominent members of the pediatric medical community, this comprehensive two-volume reference **covers both the science and art** of pediatric practice. It remains the **reference of choice** among pediatricians, pediatric residents, and others involved in the care of young patients, delivering the information you need in a concise, easy-to-use format for everyday reference and study.

Speciality Medicine Peds

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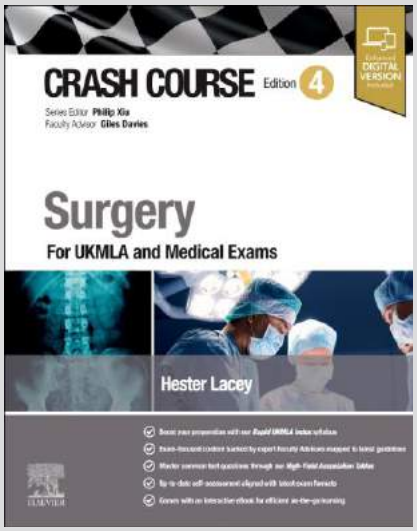

Crash Course Surgery, 4e

For UKMLA and Medical Exams

Hester Lacey and **Giles Davies**

ISBN: 9780443115714
PREVIOUS ISBN: 9780723434757
PUB DATE: Jun 28, 2024
LIST PRICE: £32.99 / $40.99 / €38.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 0
BIC CODES: MNC
THEMA CLASSIFICATION: THEMAMNC

A Volume in the *CRASH COURSE* Series

KEY FEATURES

- Fully aligned to UKMLA requirements, with key ‘conditions’ and ‘presentations’ highlighted in handy checklists - save valuable revision time and be confident you have the syllabus covered
- Written by senior students and recent graduates - those closest to what is essential for exam success
- Quality assured by leading Faculty Advisors - ensures complete accuracy of information
- Features the ever popular 'Hints and Tips' boxes and other useful aide-mémoires - distilled wisdom from those in the know
- Updated self-assessment section matching the latest exam formats – confirm your understanding and improve exam technique fast

DESCRIPTION

Crash Course – your effective every-day study companion PLUS the perfect antidote for exam stress! Save time and be assured you have the essential information you need in one place to excel on your course and achieve exam success.

A winning formula now for over 25 years, having sold over 1 million copies and translated in over 8 languages, each series volume has been fine-tuned and fully updated with a full-colour layout tailored to make your life easier. Especially written by senior students or junior doctors – those who understand what is essential for exam success – with all information thoroughly checked and quality assured by expert *Faculty Advisers*, the result is books that exactly meet your needs and you know you can trust.

Each chapter guides you succinctly through the full range of curriculum topics in the UKMLA syllabus, integrating clinical considerations with the relevant basic science and avoiding unnecessary or confusing detail. A range of text boxes help you get to the hints, tips and key points you need fast! A fully revised self-assessment section matching the latest exam formats is included to check your understanding and aid exam preparation. The accompanying enhanced, downloadable eBook completes this invaluable learning package.

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Medical Education UKNL Clinical Students

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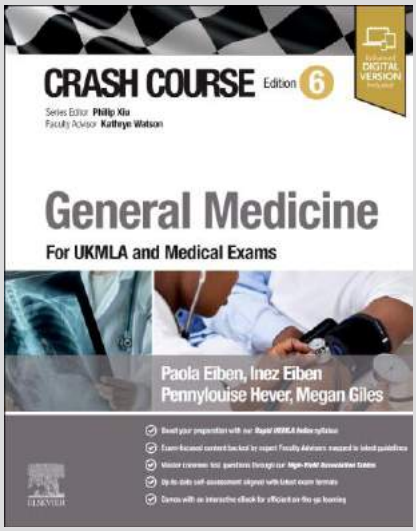

Crash Course General Medicine, 6e

For UKMLA and Medical Exams

Inez Eiben, MBBS, BSc, MRCS, Clinical Fellow in Plastic Surgery, Guy's and St. Thomas' NHS Foundation Trust, London, UK.; **Paola Eiben**, MBBS, BSc, MRCP, Clinical Fellow in Critical Care Medicine, King's College Hospital NHS Foundation Trust, London, UK.; **Pennylouise Hever**; **Megan Giles**; **Kathryn Watson**, MBBS, BSc, MRCP, PGCert, FHEA, ST7 Renal and General Medicine, St. George's Hospital NHS Trust, London, UK and **Philip Xiu**, MA (Cantab) MB BChir MRCP MRCGP MScClinEd FHEA MAcadMEd RCPathME, GP Registrar, Yorkshire Deanery, Leeds, UK.

ISBN: 9780443115387
PREVIOUS ISBN: 9780702073724
PUB DATE: Jun 20, 2024
LIST PRICE: £38.99 / $48.99 / €45.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 0
BIC CODES: MJ
THEMA CLASSIFICATION: THEMAMJ

A Volume in the *CRASH COURSE* Series

KEY FEATURES

- Fully aligned to UKMLA requirements, with key ‘conditions’ and ‘presentations’ highlighted in handy checklists - save valuable revision time and be confident you have the syllabus covered
- Written by senior students and recent graduates - those closest to what is essential for exam success
- Quality assured by leading Faculty Advisors - ensures complete accuracy of information
- Features the ever popular 'Hints and Tips' boxes and other useful aide-mémoires - distilled wisdom from those in the know
- Updated self-assessment section matching the latest exam formats – confirm your understanding and improve exam technique fast

DESCRIPTION

Crash Course – your effective every-day study companion PLUS the perfect antidote for exam stress! Save time and be assured you have the essential information you need in one place to excel on your course and achieve exam success.

A winning formula now for over 25 years, having sold over 1 million copies and translated in over 8 languages, each series volume has been fine-tuned and fully updated with a full-colour layout tailored to make your life easier. Especially written by senior students or junior doctors – those who understand what is essential for exam success – with all information thoroughly checked and quality assured by expert *Faculty Advisers*, the result is books that exactly meet your needs and you know you can trust.

Each chapter guides you succinctly through the full range of curriculum topics in the UKMLA syllabus, integrating clinical considerations with the relevant basic science and avoiding unnecessary or confusing detail. A range of text boxes help you get to the hints, tips and key points you need fast! A fully revised self-assessment section matching the latest exam formats is included to check your understanding and aid exam preparation. The accompanying enhanced, downloadable eBook completes this invaluable learning package.

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Medical Education UKNL Clinical Students

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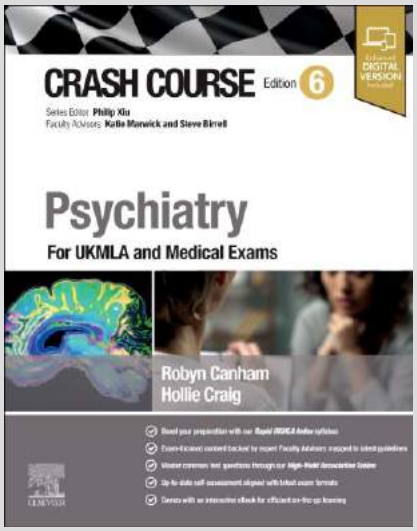

Crash Course Psychiatry, 6e

For UKMLA and Medical Exams

Robyn Canham; **Hollie Craig**; **Katie FM Marwick**, MA (Hons), MBChB (Hons), MCRPsych, PhD, Honorary Specialty Registrar in General Adult Psychiatry, NHS Lothian; Clinical Lecturer in Psychiatry, University of Edinburgh, UK; **Philip Xiu**, MA (Cantab) MB BChir MRCP MRCGP MScClinEd FHEA MAcadMEd RCPathME, GP Registrar, Yorkshire Deanery, Leeds, UK. and **Steve Birrell**

ISBN: 9780443115738
PREVIOUS ISBN: 9780702073830
PUB DATE: Jun 05, 2024
LIST PRICE: £32.99 / $40.99 / €38.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 0
BIC CODES: MMH
THEMA CLASSIFICATION: THEMAMKL

A Volume in the *CRASH COURSE* Series

KEY FEATURES

- Fully aligned to UKMLA requirements, with key ‘conditions’ and ‘presentations’ highlighted in handy checklists - save valuable revision time and be confident you have the syllabus covered
- Written by senior students and recent graduates - those closest to what is essential for exam success
- Quality assured by leading Faculty Advisors - ensures complete accuracy of information
- Features the ever popular 'Hints and Tips' boxes and other useful aide-mémoires - distilled wisdom from those in the know
- Updated self-assessment section matching the latest exam formats – confirm your understanding and improve exam technique fast

DESCRIPTION

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A winning formula now for over 25 years, having sold over 1 million copies and translated in over 8 languages, each series volume has been fine-tuned and fully updated with a full-colour layout tailored to make your life easier. Especially written by senior students or junior doctors – those who understand what is essential for exam success – with all information thoroughly checked and quality assured by expert *Faculty Advisers*, the result is books that exactly meet your needs and you know you can trust.

Each chapter guides you succinctly through the full range of curriculum topics in the UKMLA syllabus, integrating clinical considerations with the relevant basic science and avoiding unnecessary or confusing detail. A range of text boxes help you get to the hints, tips and key points you need fast! A fully revised self-assessment section matching the latest exam formats is included to check your understanding and aid exam preparation. The accompanying enhanced, downloadable eBook completes this invaluable learning package.

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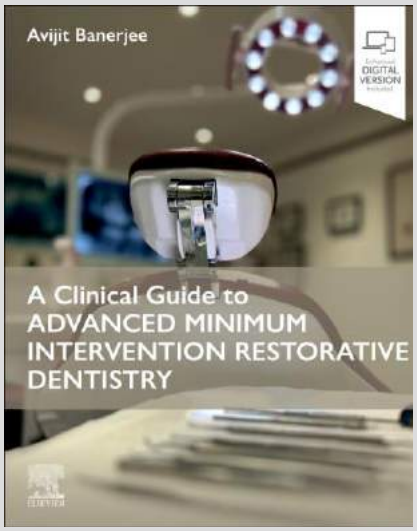

A Clinical Guide to Advanced Minimum Intervention Restorative Dentistry

Avijit Banerjee, BDS MSc PhD LDS FDS (Rest Dent) FDS RCS (Eng) FHEA FICD, Professor of Cariology & Operative Dentistry/Hon Consultant, Restorative Dentistry, Faculty of Dentistry, Oral & Craniofacial Sciences, King's College London, UK.

ISBN: 9780443109713
PUB DATE: Jun 01, 2024
LIST PRICE: £59.99 / $74.99 / €70.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 12
BIC CODES: MMD
THEMA CLASSIFICATION: THEMAMKE

The definitive guide to holistic, person-focused restorative dentistry and cariology for all members of the oral healthcare team

KEY FEATURES

- Suitable for all oral healthcare team members
- Written in a concise, easy-to-read style with tables, flowcharts, illustrations, clinical images and bulleted lists
- Blends clinical and scientific evidence, with clinical cases to support practice
- Well-illustrated clinical guide of step-by-step protocols for learning and practising minimally invasive operative care, progressed from the pioneering work of HM Pickard
- Includes practical dental disease prevention and control strategies
- Covers the latest dental biomaterials and operative technologies
- Contemporary approaches to dental caries management – selective caries removal, adhesion and sealed restorations
- Long term maintenance of functional tooth-restoration complex using the "5Rs" minimally invasive clinical protocols
- Self-assessment tasks and references throughout to support personal learning

DESCRIPTION

As restorative dentistry shifts from a focus on core surgical procedures to the patient and their unique needs and values, this new book from acclaimed restorative dentistry expert Professor Avijit Banerjee is designed to support implementation of holistic patient care for long-term oral and dental health.

The *Guide to Advanced Minimum Intervention Restorative Dentistry* describes the entire clinical journey through the minimum intervention oral healthcare delivery framework, with an emphasis on long term, risk-related, prevention-based care. It presents a blend of clinical and scientific evidence-based clinical protocols to guide the practitioner through the four domains of minimum intervention oral care - identifying disease, prevention / control, minimally invasive operative interventions, and review / re-assessment / active surveillance.

Written in an engaging contemporary style and easy to navigate, this important book is suitable for all members of the team, from undergraduates to experienced primary care practitioners and specialists alike.

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Health Professions I (HP1) UK Dental

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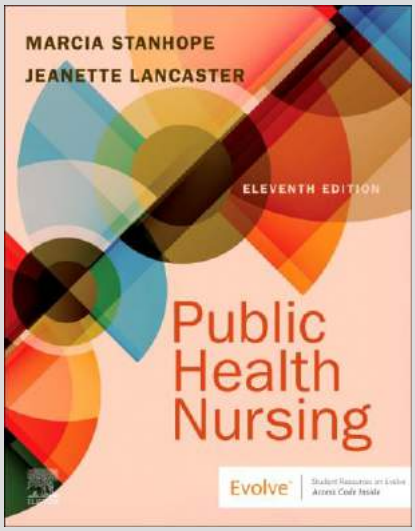

Public Health Nursing, 11e

Population-Centered Health Care in the Community

Marcia Stanhope, PhD, RN, FAAN, Education and Practice Consultant and Professor Emerita, College of Nursing, University of Kentucky, Lexington, Kentucky; **Jeanette Lancaster**, PhD, RN, FAAN, Sadie Heath Cabiness Professor and Dean Emerita, School of Nursing, University of Virginia, Charlottesville, Virginia and Associate, Tuft & Associates, Inc.

ISBN: 9780323882828
PREVIOUS ISBN: 9780323582247
PUB DATE: Jun 24, 2024
LIST PRICE: £106.99 / $154.99 / €118.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 912
ILLUSTRATIONS: 290 illustrations (290 in full color)
AUDIENCE: Community health nursing students in baccalaureate programs
BIC CODES: MQCX
THEMA CLASSIFICATION: THEMAMQCX

Your comprehensive guide to the roles of public health nurses, the clients they care for, and their practice settings

KEY FEATURES

- ***Focus on Quality and Safety Education for Nurses* boxes** give examples of how quality and safety goals, competencies, and objectives, knowledge, skills, and attitudes can be applied in nursing practice in the community.
- ***Evidence-Based Practice* boxes** illustrate the use and application of the latest research findings in public/community health nursing.
- ***Healthy People* boxes** describe federal health and wellness goals and objectives.
- ***Check Your Practice* boxes** feature a scenario and questions to promote active learning and encourage students to use clinical judgment skills as they contemplate how to best approach the task or problem in the scenario.
- ***Linking Content to Practice* boxes** describe the nurse's role in a variety of public and community health areas, giving specific examples of the nurse's role in caring for individuals, families, and populations.
- **UNIQUE! Separate chapters covering promoting healthy communities, the Intervention Wheel, and nurse-led health centers** teach students the initiatives and various approaches to population and community-centered nursing care.
- ***Levels of Prevention* boxes** address the primary, secondary, and tertiary levels of community/public health nursing as related to chapter content.
- ***How To* boxes** provide practical application to practice.
- End-of-chapter ***Practice Application* scenarios, *Key Points,*** and ***Clinical Judgment Activities*** promote application and in-depth understanding of chapter content.

DESCRIPTION

Gain a solid understanding of community and public health nursing with this industry-standard text! **Public Health Nursing: Population-Centered Health Care in the Community, 11th Edition,** provides up-to-date information on issues such as infectious diseases, natural and man-made disasters, and healthcare policies affecting individuals, families, and communities. This edition has been thoroughly updated to reflect current data, issues, trends, and practices presented in an easy-to-understand, accessible format. Additionally, real-life scenarios show examples of health promotion and public health interventions, and case studies for the Next-Generation NCLEX® Examination help strengthen your clinical judgment. Ideal for BSN and Advanced Practice Nursing programs, this comprehensive, bestselling text will provide you with a greater understanding of public health nursing!

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Nursing Nursing

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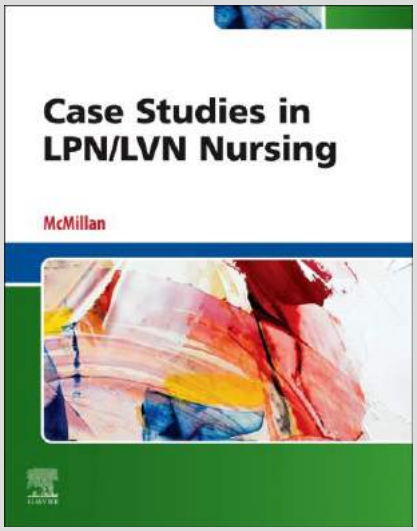

Case Studies in LPN/LVN Nursing

Janis McMillan

ISBN: 9780323711043
PUB DATE: Jun 20, 2024
LIST PRICE: £40.99 / $49.99 / €47.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 190
AUDIENCE: LPN/LVN students 1,127 LPN/LVN programs 104,759 estimated enrolment 56,004 graduates annually Source: IPEDS 2015 data.
BIC CODES: MQC
THEMA CLASSIFICATION: THEMAMQC

Strengthen your clinical reasoning skills with case studies covering all areas of LPN/LVN practice

KEY FEATURES

- **Fifty case studies** cover patient scenarios that span the entire LPN/LVN curriculum.
- **Unfolding case progressions** help you learn to identify changes, anticipate outcomes, and prioritize care.
- **Emphasis on interprofessional collaboration** builds your communication and delegation skills.
- **A variety of question formats** reinforce critical thinking and help you prepare for the NCLEX-PN® exam.
- **Documentation questions** challenge you to identify critical information to chart.

DESCRIPTION

Gain valuable experience applying your knowledge and critical thinking skills to real-world scenarios! **Case Studies in LPN/LVN Nursing** features 50 case studies that cover all clinical areas of practice: fundamental skills, medical-surgical adult health nursing, pediatric, maternity, mental health, geriatric nursing, and leadership management. Patient scenarios help you learn how to apply nursing knowledge to nursing practice by promoting the development of critical thinking and clinical reasoning skills. Cases integrate content on assessment findings, diagnostic/laboratory tests, pharmacology, and nutrition to encourage you to think critically about all aspects of patient care, including the physical and psychosocial needs of the patient, communication, collaboration with the health care team, teaching wellness and health promotion, and integration of cultural competence. Cases unfold as care is provided and a variety of multiple-choice, select-all-that-apply, prioritization, and short-answer questions challenge you to formulate and select relevant and/or potential decisions. The case studies are separated by clinical area, allowing you to use this worktext throughout your nursing program. Questions for the Next-Generation NCLEX® (NGN) prepare you for the biggest change to the NCLEX-PN® test plan to date. Answer keys are available to instructors on our accompanying Evolve website.

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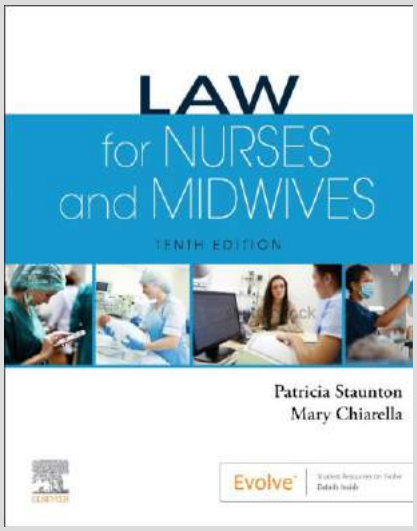
ELSEVIER eBooks+



Law for Nurses and Midwives, 10e

Patricia J Staunton, AM, RN, CM, LLB, MCrim, Barrister-at-Law of the Inner Temple, London, United Kingdom and **Mary Chiarella**, AM, RN, RM, LLB (Hons), PhD (UNSW), FACN, FRSM, Professor Emerita, Susan Wakil School of Nursing and Midwifery, University of Sydney, NSW, Australia

ISBN: 9780729544702
PREVIOUS ISBN: 9780729543484
PUB DATE: Jun 01, 2024
LIST PRICE: £48.99 / $59.99 / €55.99
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 0
BIC CODES: MQC
THEMA CLASSIFICATION: THEMAMQC

KEY FEATURES

Key features

- Comprehensive and fully updated guide to the laws, codes and regulations that govern nursing and midwifery practice
- Includes relevant case law and hypothetical examples — shows how legal principles directly relate to daily clinical practice
- Legal, ethical and regulatory concepts introduced in an engaging way — easy to read and understand
- Includes practical considerations of ethical decision-making
- Logical sequencing and flow of information, with end-of-chapter review questions and key points boxes to support learning
- Cases and case examples throughout demonstrate concepts and application to practice

New to this edition

- Covers hot topics including voluntary assisted dying, changes to organ and tissue transplantation and donation, and updated discussion on codes of ethics and codes of conduct
- Provides the most comprehensive guide to mental health legislation of any text available for undergraduate and postgraduate nurses and midwives in Australia

DESCRIPTION

Comprehensive, accessible and practical legal advice for students and practitioners

First published in 1985, *Law for Nurses and Midwives* continues to provide the most comprehensive and practical nursing text available to assist nurses and midwives to practise professionally and safely.

The book is designed to support the reader to apply relevant legal, ethical and regulatory principles to their day-to-day clinical practice. For example, when students are starting a surgical placement, they can find the latest practical legal advice on consent; when they are on a medical placement, they can refer to the chapter on medications.

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Nursing Health Prof ANZ Nursing Education ANZ

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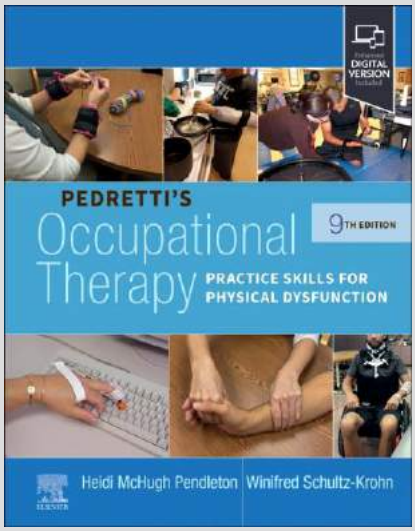

Pedretti's Occupational Therapy, 9e

Practice Skills for Physical Dysfunction

Heidi McHugh Pendleton, PhD, OTR/L, FAOTA, Professor, Department of Occupational Therapy, San Jose State University, San Jose, CA, USA and **Winifred Schultz-Krohn**, PhD, OTR/L, BCP, SWC, FAOTA, Professor, Department of Occupational Therapy, San Jose State University, San Jose, CA, USA

ISBN: 9780323792554
PREVIOUS ISBN: 9780323569088
PUB DATE: Jul 18, 2024
LIST PRICE: £86.99 / $121.99 / €97.99
DISCOUNT: Textbook
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 1372
AUDIENCE: Occupational Therapy students – -Doctor of Occupational Therapy (DOT) 20 accredited programs 2,086 students enrolled - Master of Occupational Therapy (MOT) 162 accredited programs 19,262 students enrolled
BIC CODES: MQT
THEMA CLASSIFICATION: THEMAMQT

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Gain the knowledge and skills you need to succeed in Occupational Therapy along a continuum of care

KEY FEATURES

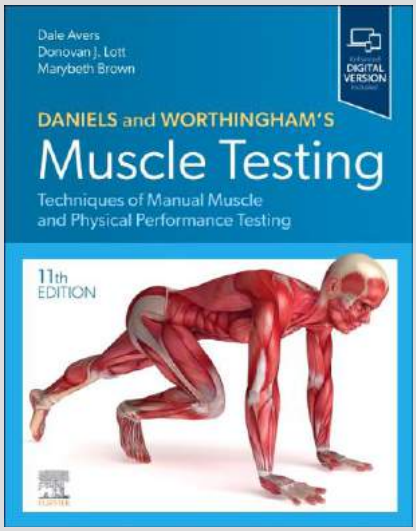
- **UNIQUE! Threaded case studies** begin and are woven through each chapter, helping you develop clinical reasoning and decision-making skills and to apply concepts to real-life clinical practice.
- **UNIQUE! *Ethical Considerations* boxes** examine the obligation to collaborate with clients on their care, using evidence to select treatment options.
- **UNIQUE! *OT Practice Notes*** convey important tips and insights into professional practice.
- **Illustrated, evidence-based content** provides a foundation for practice, especially relating to evaluation and intervention.
- **Information on prevention** — rather than simply intervention or treatment — shows how OTs can take a proactive role in client care.
- **Focus on health promotion and wellness** addresses the role of the occupational therapist in what the AOTA has identified as a key practice area.
- **Content on cultural and ethnic diversity** is included in every chapter, reflecting occupational therapy's commitment to this important issue.
- **Key terms, chapter outlines, and chapter objectives** highlight the information you can expect to learn from each chapter.

DESCRIPTION

Gain the knowledge and skills you need to treat clients/patients with physical disabilities! **Pedretti's Occupational Therapy: Practice Skills for Physical Dysfunction, 9th Edition** uses a case-based approach threaded through each chapter to provide a solid foundation in evaluation, intervention, and clinical reasoning. The text continues to support the entry-level occupational therapist and the experienced occupational therapist focused on expanding skills and knowledge. With the OT practice framework as a guide, you will focus on the core concepts and central goals of client care. And by studying threaded case studies, you will learn to apply theory to clinical practice. Written by a team of expert OT educators and professionals led by Heidi McHugh Pendleton and Winifred Schultz-Krohn, this edition includes an eBook free with each new print purchase, featuring a fully searchable version of the entire text.

Health Professions I (HP1)
Occupational Therapy
https://virtuale.elsevier.com, www.elsevier.com

Also includes resources via:



Daniels and Worthingham's Muscle Testing, 11e

Techniques of Manual Muscle and Physical Performance Testing

Dale Avers, PT, DPT, PhD, FAPTA, Professor, Department of Physical Therapy Education, College of Health Professions, SUNY Upstate Medical University, Syracuse, New York; **Donovan J. Lott**, PT, PhD, CSCS and **Marybeth Brown**, PT, PhD, FACSM, FAPTA, Professor Department of Physical Therapy University of Missouri School of Health Professions Columbia, Missouri

ISBN: 9780323824200
PREVIOUS ISBN: 9780323569149
PUB DATE: Jun 14, 2024
LIST PRICE: £82.99 / $117.99 / €92.99
DISCOUNT: Textbook
FORMAT: Spiral bound
TRIM: 8.50w x 10.875h
PAGES: c. 435
AUDIENCE: Physical Therapy (DPT) students – 243 accredited programs; 17 developing programs; 31,380 students enrolled Physical Therapy Assistant (PTA) students – 360 accredited programs; 40 developing programs; 12,945 students enrolled Occupational Therapy students– Doctor of Occupational Therapy (DOT) 20 accredited programs 2,086 students enrolled Master of Occupational Therapy (MOT) 162 accredited programs 19,262 students enrolled Occupational Therapy Assistant (OTA) 215 accredited programs 9,580 students enrolled
BIC CODES: MQS, MX

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Gain a thorough understanding of procedures and clinical decision making in manual muscle testing and physical performance testing

KEY FEATURES

- **Drawings and arrows, along with clear written directions,** make it easy to understand and perform muscle testing procedures to assess deficits in strength, balance, and range of motion.
- **More than 500 illustrations** clearly show testing sequences, muscle anatomy, and muscle innervation.
- **Content on the muscle dynamometer and muscle dynamometry data** introduces you to muscle dynamometry, including muscle dynamometer methods and results with each muscle.
- **Ideal exercises for selected muscles** thoroughly explain procedures based on the literature.
- **Chapter on functional performance testing** covers functional strength testing in older adults and those with functional decline, and testing muscle performance in various clinical settings.
- **Chapter on strength testing** for active populations includes a variety of tests appropriate for many settings with reference data for comparison.

DESCRIPTION

Daniels and Worthingham's Muscle Testing, 11th Edition offers the clear information needed to master procedures and enhance clinical decision making in manual muscle testing and performance testing. Comprehensive discussion of the value of strength testing with clear, illustrated instructions provide a detailed guide to patient positioning, clinician instructions, and application of skill. In addition to updated muscle testing of normal individuals and others with weakness or paralysis, this edition includes updated information on alternative strength and performance tests for all adult populations. Updated comprehensive coverage for muscle dynamometry and ideal exercises enhances this texts' relevance for today's clinician. An eBook version *included with print purchase* provides access to all the text, figures, and references, with the ability to search, customize content, make notes and highlights, and have content read aloud.

Health Professions I (HP1) Physical Therapy

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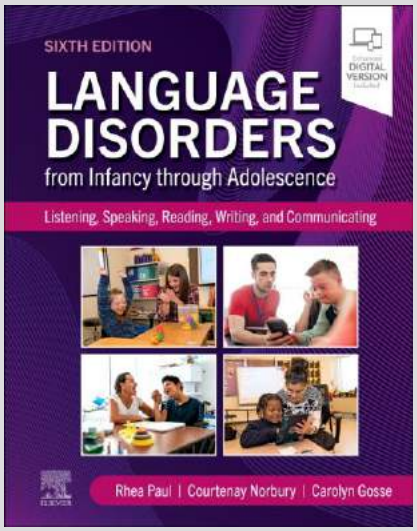

Language Disorders from Infancy through Adolescence, 6e

Listening, Speaking, Reading, Writing, and Communicating

Rhea Paul, PhD, CCC-SLP, Professor and Founding Chair, Department of Speech Language Pathology, Sacred Heart University, Fairfield, Connecticut; **Courtenay Norbury**, DPhil, Psychology and Language Sciences, University College London and **Carolyn Gosse**, PhD, CCC-SLP, Speech-Language Pathology Clinical Fellow, Early Childhood Special Education, Charlottesville City Public Schools, Charlottesville, Virginia

ISBN: 9780323830157
PREVIOUS ISBN: 9780323442343
PUB DATE: Jun 10, 2024
LIST PRICE: £113.99 / $152.99 / €127.99
DISCOUNT: Textbook
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 844
ILLUSTRATIONS: 225 illustrations (40 in full color)
AUDIENCE: Speech-Language Pathology students – -Master of Speech-Language Pathology 282 accredited programs -Doctor of Speech-Language Pathology Speech-Language Pathologists (SLP) – -153,700 jobs in 2018 [BLS]
BIC CODES: MMZL
THEMA CLASSIFICATION: THEMAMKZL

Learn how to effectively assess and treat childhood language disorders from infancy through adolescence, all with one textbook!

KEY FEATURES

- **UNIQUE! Practice exercises with sample transcripts** in the assessment chapters guide you in practicing analysis methods.
- **UNIQUE! Helpful study guides** at the end of each chapter provide opportunities to review and apply key concepts.
- **Clinical application focus** includes features such as cases studies, clinical vignettes, and suggested projects.
- **Video-based projects** support cooperative learning activities.
- **Highly regarded lead author is an expert in language disorders in children** and provides authoritative guidance on the diagnosis and management of pediatric language disorders.
- **More than 230 tables and boxes** organize and summarize important information such as dialogue examples, sample assessment plans, assessment and intervention principles, activities, and sample transcripts.

DESCRIPTION

Spanning the entire child developmental period, **Language Disorders from Infancy Through Adolescence, 6th Edition** is the go-to text for learning evidence-based methods for assessing childhood language disorders and providing scientifically based treatment. The most comprehensive title available on childhood language disorders, it uses a descriptive-developmental approach to present basic concepts and vocabulary, an overview of key issues and controversies, the scope of communicative difficulties that make up child language disorders, and information on how language pathologists approach the assessment and intervention processes. This edition also features significant updates in research, trends, neurodiversity, cultural diversity, and best practices. An eBook, *included with print purchase,* provides access to all the text, figures, references, and bonus video clips, with the ability to search, customize content, make notes and highlights, and have content read aloud.

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Health Professions I (HP1) Speech Therapy

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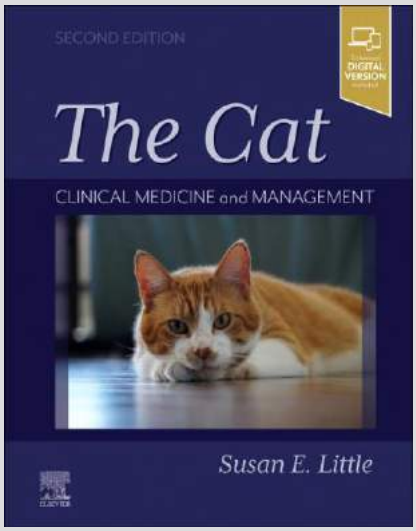
Also includes resources via: eBooks+



THE CAT, 2e

Clinical Medicine and Management

Edited by : **Susan E. Little**, DVM, DABVP (Feline)

ISBN: 9780323496872
PREVIOUS ISBN: 9781437706604
PUB DATE: Jun 21, 2024
LIST PRICE: £161.99 / $224.99 / €188.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 1606
BIC CODES: MZC
THEMA CLASSIFICATION: THEMAMZC

Expert coverage of the unique concerns and challenges facing any practitioner providing care for cats

KEY FEATURES

- **Covers the latest advances in feline medicine** from a systemic and adjunctive care perspective, making it the **most comprehensive feline medical reference available** with a strong clinical focus.
- **Addresses key topics unique to feline medicine and not currently covered in other books**, including: insights and clinical advances attributable to the mapping of the feline genome; medical conditions associated with behavioral problems; managing the feline patient with co-existing and chronic diseases; special medical problems and care considerations for the geriatric cat; environmental enrichment for the indoor cat; feline zoonotic agents and implications for human health; and humane solutions for shelter medicine and overpopulation challenges.
- **Helps meet the increasing demand for state-of-the-art medical care by cat owners,** including advanced diagnostic services and treatments designed to extend and improve quality of life for feline companions.
- **Features a full-color design with hundreds of schematic drawings, tables, boxes, key points, algorithms, and photographs** for quick and easy access to information.

DESCRIPTION

Comprehensive in scope and exclusively devoted to feline medical care, Dr. Susan Little's **The Cat: Clinical Medicine and Management, 2nd Edition,** is an essential resource for providing complete, state-of-the-art care to cats. Authoritative, clinically focused information is enhanced by full-color images, tables, boxes, algorithms, key points, and more — all in an easy-to-understand, quick-reference format. Dr. Little and her expert contributors address the unique concerns and challenges facing any practitioner providing care for cats, including the latest advances in feline medical diagnosis and management and the clinical applications to everyday practice. An eBook version, *included with print purchase,* provides access to all the text, figures, and references, with the ability to search, customize content, make notes and highlights, and have content read aloud. The eBook also offers convenient video lessons and client handouts.

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Health Professions I (HP1)
Veterinary Medicine
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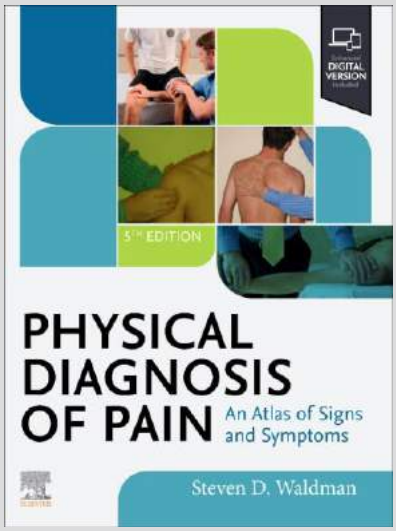

Physical Diagnosis of Pain, 5e

Steven D. Waldman, MD, JD, University of Missouri Kansas City School of Medicine

ISBN: 9780443118036
PREVIOUS ISBN: 9780323712606
PUB DATE: Jun 01, 2024
LIST PRICE: £173.99 / $214.99 / €199.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 528
ILLUSTRATIONS: Approx. 955 illustrations (855 in full color)
AUDIENCE: Pain Medicine practitioners and trainees (anesthesiologists, neurologists, physical medicine and rehab, orthopods etc.)
BIC CODES: MMB
THEMA CLASSIFICATION: THEMAMKA

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Dr. Steven D. Waldman's clear, award-winning roadmap for evaluating and diagnosing pain

KEY FEATURES

- Examines **the full range of pain-related conditions** in the cervical spine, shoulder, elbow, forearm, wrist and hand, chest wall, thorax and thoracic spine, lumbar spine, abdominal wall and pelvis, hip, knee, ankle and foot.
- Addresses sacroiliac joint pain as well as entrapment neuropathies including carpal tunnel syndrome, tardy ulnar palsy, ilioinguinal neuralgia, and tarsal tunnel syndrome.
- Follows a **consistent format in each chapter** for quick reference: anatomy, inspection, palpation, and range of motion, followed by relevant special tests.
- Features **hundreds of high-quality radiographic images, clinical photos, and color line drawings** to demonstrate the physical exam clearly and simply.
- Contains **new content spanning 50 new conditions** and their associated tests, including the Soto-Hall Test for Upper Thoracic Spine Pain, Sill Sign for Lumbar Instability, Compression Test for Sacroiliac Joint Pain, Rust Sign for Cervical Spine Instability, Linder Sign for Cervical Myelopathy, Jull Test for Cervical Strain, Shoulder Abduction Relief Test for Cervical Spine Pain, Kleiger Test for High Ankle Sprain, Valleix Sign for Posterior Tarsal Tunnel Syndrome, and more.
- Includes **50+ real-time videos** of Dr. Waldman and his staff performing physical examination techniques, providing expert, how-to-do-it guidance.
- **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. Any additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

In this **easy-to-follow, how-to-do-it atlas**, internationally recognized pain expert Dr. Steven D. Waldman provides a compendium of practical physical examination techniques that you can use in your daily practice to evaluate and diagnose patients in pain. *Physical Diagnosis of Pain, 5th Edition*, is the only atlas devoted to this critical area of pain medicine, offering a **real-world focus on how clinicians evaluate pain:** "What is it?" rather than "Where is it?". You'll be guided step by step through the evaluation and diagnosis of **more than 280 pain-related conditions** based on physical signs. Concise, superbly illustrated chapters help you rapidly diagnose pathology based on physical techniques rather than relying on imaging alone.

Speciality Medicine Anesthesiology

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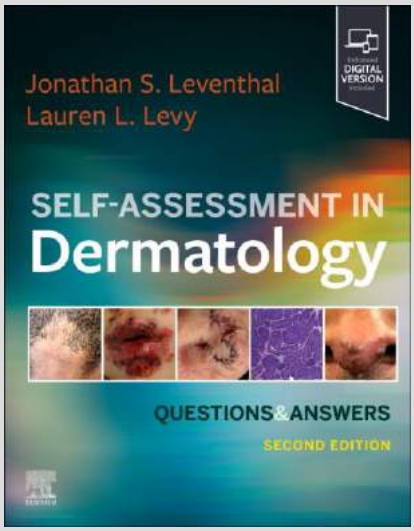

Self-Assessment in Dermatology, 2e

Questions and Answers

Edited by : **Jonathan Leventhal**, MD, Assistant Professor of Dermatology; Department of Dermatology; Director of Onco-Dermatology Clinic, Yale New Haven Hospital (YNHH), Yale Branford Dermatology, Yale Dermatology Associates and **Lauren L. Levy**, MD, Dermatologist, Private Practice, Clinical Instructor, Department of Dermatology, Icahn School of Medicine at Mount Sinai, New York City, NY, USA

ISBN: 9780443114779
PREVIOUS ISBN: 9780323662000
PUB DATE: Jun 03, 2024
LIST PRICE: £80.99 / $99.99 / €92.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 0
BIC CODES: MJK
THEMA CLASSIFICATION: THEMAMJK

Prepare for success on your dermatology exams

KEY FEATURES

- Tests your knowledge with **640 questions and answers**, both in print and interactively online.
- Contains **fully revised content throughout**, with new information on current FDA-approved drugs, biologics and other therapeutic advances, and more.
- Covers general dermatology and visual recognition, pediatric dermatology, dermatopathology, procedural dermatology, and basic science—all topics covered on the ABD applied exam.
- Provides **focused explanations** for both correct and incorrect answers, and contains numerous **clinical and dermatopathology images**.
- Corresponds to the blueprint of the ABD primary certification exam.
- Includes **single best answer questions, case vignettes, and follow-up questions**; each question links to a chapter in Bolognia's *Dermatology* for further reading.
- **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. Additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

Test your dermatology knowledge and prepare to ace your exams with *Self-Assessment in Dermatology: Questions and Answers, 2nd Edition*. Featuring **more than 600 questions** that follow the American Board of Dermatology exam blueprint, this convenient study tool provides **authoritative, up-to-date information** on every aspect of the field. **Eight practice tests** have been carefully tailored for effective exam review by Yale authors who have had recent experience and success with the exam.

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Speciality Medicine Dermatology

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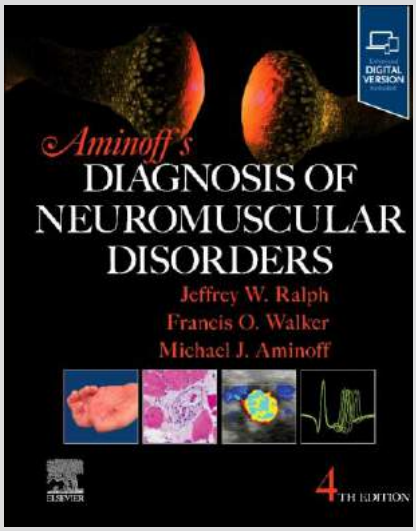

Aminoff's Diagnosis of Neuromuscular Disorders, 4e

Michael J. Aminoff, MD, DSc, FRCP, Distinguished Professor Emeritus in Neurology; University of California San Francisco; **Jeffrey W. Ralph**, MD, Clinical Professor; Director, Neuromuscular Medicine Fellowship Program; University of California San Francisco; **Francis Walker**, MD, Emeritus Professor of Neurology and Wake Forest University School of Medicine

ISBN: 9780323871068
PREVIOUS ISBN: 9780443076817
PUB DATE: Apr 16, 2024
LIST PRICE: £148.99 / $183.99 / €173.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 7.50w x 9.25h
PAGES: c. 706
AUDIENCE: clinical neurologists and physiatrists, neuromuscular clinicians, and clinical neurophysiologists and electromyographers. It will also be an important reference source for trainees and those preparing for board certification in neurology, physiatry (physical medicine and rehabilitation), neuromuscular medicine, clinical neurophysiology, and electrodiagnostic medicine..
BIC CODES: MMB
THEMA CLASSIFICATION: THEMAMKA

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An up-to-date review of the clinical, electrodiagnostic, and imaging aspects of neuromuscular medicine

KEY FEATURES

- Describes the range of **clinical manifestations** of individual neuromuscular diseases; the power and limitations of **electrodiagnostic techniques** as they relate to neuromuscular disorders; the place of **genetic studies** in the diagnosis and prognostication of these diseases; and the scope and utility of **newer imaging procedures** in detecting and localizing the underlying pathologic process.
- Reviews **neuromuscular physiology** and the **pathology** of major diseases.
- Provides a **readable, well-illustrated synthesis of clinical and investigative techniques** in diagnosing neuromuscular diseases, with concise guidance on how to conduct **clinical, electrodiagnostic, and ultrasound evaluations** and the **findings in various disease states.**
- Covers a wide variety of electrodiagnostic and ultrasound procedures, including techniques for evaluating different individual nerves.
- Features **video clips of waveforms** and of **ultrasound images** to illustrate key concepts.
- An ideal resource for neuromuscular specialists, clinical neurologists, physiatrists, rehabilitation specialists, clinical neurophysiologists, and electromyographers, as well as trainees and those preparing for board certification in neurology, PM&R, neuromuscular medicine, clinical neurophysiology, and electrodiagnostic medicine.
- **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. Any additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

Succinct yet comprehensive, *Aminoff's Diagnosis of Neuromuscular Disorders, 4th Edition*, provides expert information and guidance on the clinical, electrodiagnostic, and imaging aspects of neuromuscular disorders. **Fully updated**, it reflects important advances in the field, including an improved understanding of the molecular and genetic basis of neuromuscular disease, an expanded use of next-generation genetic testing, refinements in electrodiagnosis, and the use of ultrasound imaging techniques to evaluate the peripheral nervous system. **In-depth discussions of disease states**, as well as the **evidence supporting the use of electrodiagnostic and imaging techniques**, moves this reference from simply answering the question “How?” to also answering “Why?”

Speciality Medicine Neurology Medicine

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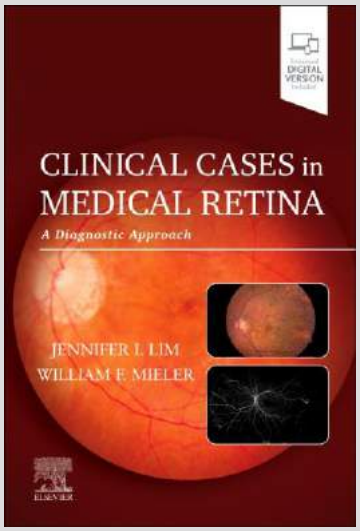

Clinical Cases in Medical Retina

A Diagnostic Approach

Edited by : **Jennifer I. Lim**, MD, Marion H Schenk Chair and Professor of Ophthalmology Director of Retina Service Department of Ophthalmology University of Illinois College of Medicine Chicago, IL and **William F. Mieler**, MD, Cless Family Professor and Vice-Chairman, Director Residency and Vitreoretinal Fellowship Training, Department of Ophthalmology & Visual Sciences, University of Illinois at Chicago, Chicago, IL, USA

ISBN: 9780128227206
PUB DATE: Jun 28, 2024
LIST PRICE: £93.99 / $115.99 / €109.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 484
AUDIENCE: Retina fellows and specialists; ophthalmology residents
BIC CODES: MJQ
THEMA CLASSIFICATION: THEMAMJQ

- **Increase your retina knowledge and skills with 70+ real-world clinical cases**

KEY FEATURES

- Presents **more than 70 clinical cases** depicting actual scenarios of patients presenting with a variety of retinal disorders.
- Walks you through history taking, questions to ask, differential diagnosis, testing, management, and follow-up care, all in a **concise, templated, and easy-to-read format**.
- Covers the **latest imaging modalities**, including OCT and OCTA, autofluorescence, fluorescein angiography, and ultrasound.
- Includes **diagnostic algorithms** that help you differentiate between disorders with common presentations.
- Provides expert guidance on **treatment options**, including prescribing medications, injections, and where appropriate, when to refer for surgery.
- Features **quick-reference boxes** throughout with clinical pearls, pitfalls, and key points.
- **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. Additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

Medical retina is a **complex subspecialty** with a steep learning curve, requiring vast and diverse knowledge in basic science, diagnostic imaging, medical treatment, and surgical techniques. *Clinical Cases in Medical Retina: A Diagnostic Approach* provides **highly visual, case-based guidance** on the challenging process of gathering patient information, ordering appropriate testing, and arriving at an accurate diagnosis and effective treatment plan. In one convenient volume, it exposes retina fellows and specialists, ophthalmology residents, and other eye care clinicians to **a wide variety of patient presentations and scenarios**, including rare conditions and special populations.

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Speciality Medicine Ophthalmology Surgery

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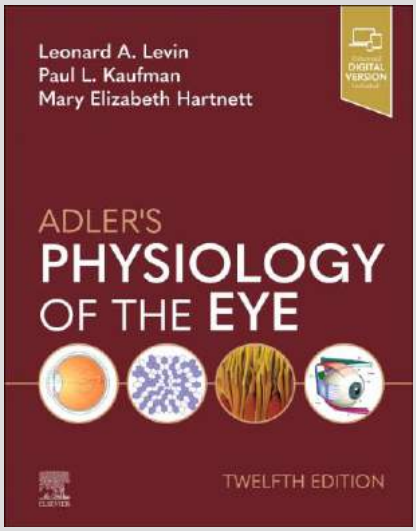

Adler's Physiology of the Eye, 12e

Edited by : **Leonard A Levin**, MD, PhD, FARVO, Distinguished James McGill Professor of Ophthalmology & Visual Sciences, Neurology & Neurosurgery, McGill University, Montreal, Quebec, Canada; **Paul L. Kaufman**, MD, FARVO, Professor of Ophthalmology & Visual Sciences, Ernst H. Barany Professor of Ocular Pharmacology, Department Chair Emeritus, Department of Ophthalmology & Visual Sciences, School of Medicine & Public Health, University of Wisconsin-Madison, Madison, Wisconsin, USA and **Mary Elizabeth Hartnett**, MD, FARVO, Michael F. Marmor, M.D., Professor of Retinal Science and Disease, Vitreoretinal Surgery and Diseases, Director of Pediatric Retina, Principal Investigator, Harnett Laboratory of Angiogenesis, Byers Eye Institute at Stanford University, Palo Alto, California, USA

ISBN: 9780323834063
PREVIOUS ISBN: 9780323057141
PUB DATE: Jun 01, 2024
LIST PRICE: £101.99 / $125.99 / €116.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 800
ILLUSTRATIONS: Approx. 1225 illustrations (650 in full color)
AUDIENCE: Ophthalmology residents; ophthalmologists; optometry students
BIC CODES: MJQ
THEMA CLASSIFICATION: THEMAMJQ

Master the basic science of the eye with Adler's user-friendly, easy-to-follow approach

KEY FEATURES

- Covers the full structure and function of the eye and its related anatomy and **makes the connection between physiology and clinical practice.**
- Includes **major updates throughout**, including new information on OCT/OCTA imaging, new drug delivery methods, ocular biomechanics, and evolving gene therapies.
- **Organizes content by function, rather than anatomy**, to help you make a stronger connection between physiological principles and clinical practice.
- Explains the **physiological principles** that underlie visual acuity, intraocular pressure, ocular circulation, the extraocular muscles, and much more.
- Features **approximately 1,000 illustrations throughout**, including medical artwork; schematics, charts, and graphs; clinical photographs; and more.
- **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. Any additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

Written and designed to **enhance your understanding of ocular function, structure, and anatomy**, *Adler's Physiology of the Eye* is a classic, best-selling text that makes critical information easier to learn and retain. The fully revised 12th Edition continues the successful *Adler's* approach that **connects basic science and clinical aspects** in a user-friendly, highly visual format—ideal for study, review, and exam preparation. It captures the **latest molecular, genetic, and biochemical discoveries** and offers you unparalleled knowledge and insight into the physiology of the eye and its structures.

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Speciality Medicine Ophthalmology Surgery

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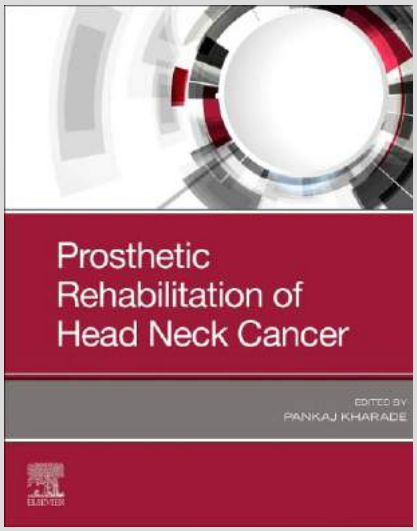

Prosthetic Rehabilitation of Head and Neck Cancer Patients

Edited by : **Pankaj Prakash Kharade**, MD, FDPS, FJPS, Assistant Professor, Department of Prosthodontics, Faculty of Medicine, Aligarh Muslim University, Aligarh, Uttar Pradesh, India

ISBN: 9780323823944
PUB DATE: Jun 07, 2024
LIST PRICE: £107.99 / $136.99 / €120.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 274
AUDIENCE: Otolaryngologists, Head and Neck Surgeons
BIC CODES: MJP
THEMA CLASSIFICATION: THEMAMJP

The latest multidisciplinary approaches to the treatment and rehabilitation of head and neck cancers

KEY FEATURES

- Discusses rehabilitation of various defects in the head neck region due to surgical resection of tumors with newly available technology.
- Covers interdisciplinary surgical management, including both prosthetic treatment and psychosocial management related to craniomaxillofacial rehabilitation, with a focus on improving patients' quality of life.
- Offers a multidisciplinary approach with valuable contributions from a variety of specialists with experience in head and neck cancer rehabilitation.

DESCRIPTION

The management of malignant tumors associated with the maxilla, tongue, floor of the mouth, mandible, and adjacent structures represents a difficult challenge for the surgical specialist and prosthodontist regarding both control of the primary disease and rehabilitation following surgical treatment. Prosthetic Rehabilitation of Head Neck Cancer Patients is an easy-to-read clinical guide covering the latest multidisciplinary approaches to the treatment of head and neck cancers — from effective surgical management to psychosocial aspects and improved quality of life.

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Speciality Medicine Otolaryngology Surgery

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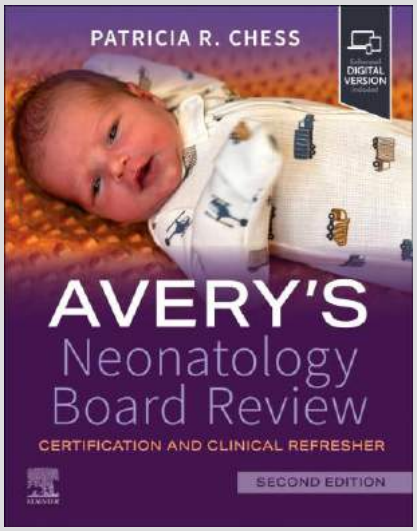

Avery's Neonatology Board Review, 2e

Certification and Clinical Refresher

Edited by : **Patricia R. Batchelor Chess**, M.D., M.S., Professor, Department of Pediatrics, University of Rochester Medical Center, School of Medicine and Dentistry, Medical Director ECMO (extracorporeal membrane oxygenation), Neonatal-Perinatal Medicine Fellowship Program Director, U of R, Director Fellowship Education, Department of Pediatrics, U of R, Chair of Pediatrics, Unity Hospital, Vice Chair of Education, Dept of Pediatrics, Golisano Children's Hospital, U of R, Chair National Organization of Neonatal-Perinatal Medicine Training Program D

ISBN: 9780443106385
PREVIOUS ISBN: 9780323549325
PUB DATE: Jun 03, 2024
LIST PRICE: £84.99 / $104.99 / €97.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 580
AUDIENCE: neonatology fellows, neonatology physicians, pediatric residents and physicians
BIC CODES: MJW
THEMA CLASSIFICATION: THEMAMKD

Prepare for success on the neonatology boards and in clinical practice

KEY FEATURES

The most up-to-date, thorough, and effective board review book for neonatology . . .

- Equips residents, fellows, and attending physicians with an **efficient, comprehensive system for study**, designed specifically to **optimize performance** on the board exam.
- Presents information in a **high-yield, outline format** highlighted by key points, graphs, tables, images, and algorithms.
- Includes **expanded content** on pulmonary mechanisms and on diversity and equity, reflecting the newly revised board exam core content outline.
- Contains **more than 450 board-style questions and answers**, both in print and interactively online, related to each chapter.
- Features **board-style vignettes** with full, discursive answers online.
- Written by **experts in the field** of Neonatal-Perinatal Medicine and supporting subspecialists, representing a wealth of trusted insight and guidance.
- **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. Additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

Ace your neonatology board exams and prepare for clinical practice with *Avery's Neonatology Board Review: Certification and Clinical Refresher, 2nd Edition*. This up-to-date review tool **follows the exam blueprint**, is based on the trusted content found in *Avery's Diseases of the Newborn*, and has been carefully tailored for effective exam review by renowned neonatologist and educator, Patricia Batchelor Chess, MD. **Concise, relevant information** is presented in a way that's easy to study and remember, giving you an important advantage on this challenging exam, as well as in the daily, fast-changing practice of neonatology.

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Speciality Medicine Peds

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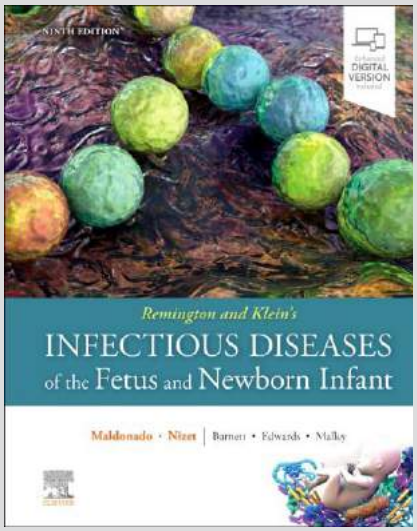

Remington and Klein's Infectious Diseases of the Fetus and Newborn Infant, 9e

Edited by : **Yvonne Maldonado**, MD, Senior Associate Dean, Faculty Development and Diversity Taube Professor of Global Health and Infectious Diseases Professor of Pediatrics (Infectious Diseases) and of Epidemiology and Population Health Stanford Medicine Children's Health Stanford, CA; **Victor Nizet**; **Jerome O. Klein**, MD, Professor of Pediatrics, Boston University School of Medicine; **Jack S Remington**, MD, Emeritus Professor of Medicine, Division of Infectious Diseases and Geographic Medicine, Stanford University School of Medicine.; **Richard Malley**, MD, Senior Physician in Pediatrics, Division of Infectious Diseases, Professor of Pediatrics, Harvard Medical School; **Elizabeth D. Barnett**, MD, Division Chief, Pediatric Infectious Diseases, Boston University School of Medicine

ISBN: 9780323795258
PREVIOUS ISBN: 9780323241472
PUB DATE: Apr 04, 2024
LIST PRICE: £212.99 / $262.99 / €248.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 1180
AUDIENCE: All clinicians interested in the care and well-being of the fetus and newborn infant: pediatric and infectious diseases residents and fellows, practicing pediatricians and ID specialists, ob/gyns, family medicine
BIC CODES: MJW
THEMA CLASSIFICATION: THEMAMKD

The leading reference on the diagnosis, prevention, and treatment of neonatal infectious diseases

KEY FEATURES

- Provides a **detailed summation of existing information on fetal and neonatal infections**, ideal for all clinicians who encounter infections for which they need additional background and guidance on the best approach.
- Helps you **form a definitive diagnosis and create optimal treatment plans** using evidence-based recommendations and expert guidance from world authorities.
- Contains **two new chapters on SARS-CoV-2 and Zika**, plus **thorough updates throughout** the volume that incorporate new knowledge and current practice in this fast-changing field.
- Reorganizes existing chapters to provide **more in-depth discussions** on bacterial sepsis, meningitis, pneumocystis, and less common fungal infections.
- Covers **all recent major advances in both biology and medicine** that have contributed greatly to our understanding of infections that affect the fetus and newborn.
- Gives special attention to the prevention and treatment of **diseases found in developing countries** as well as the latest findings about new antimicrobial agents, Gram-negative infections and their management, and recommendations for immunizations in pregnancy.

DESCRIPTION

A must-have reference for all clinicians who need **comprehensive, in-depth advice and recommendations** in this complex field, *Remington and Klein's Infectious Diseases of the Fetus and Newborn Infant, 9th Edition*, provides **expert coverage from the world's leading authorities** in immunology and infectious diseases. It offers the most up-to-date and complete guidance on infections found in utero, during delivery, and in the neonatal period in both premature and term infants—indispensable information for all clinicians who are involved in the care and well-being of these vulnerable patient populations. **Three new associate editors and many new contributing authors** bring new insight and a fresh perspective throughout the text.

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Speciality Medicine Peds

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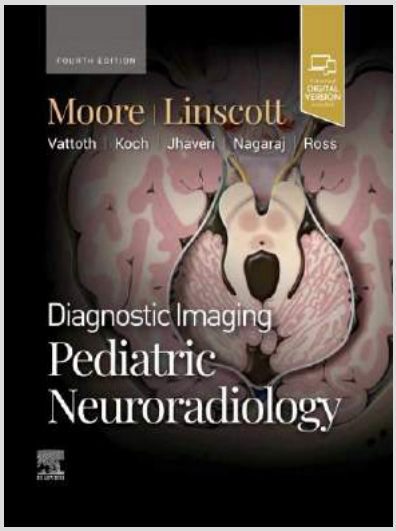

Diagnostic Imaging: Pediatric Neuroradiology, 4e

Kevin R. Moore, MD, Pediatric Radiologist and Neuroradiologist, Intermountain Pediatric Imaging, Primary Children's Hospital, Salt Lake City, Utah and **Luke L. Linscott**, MD, Pediatric Neuroradiologist, Vice Chair, Department of Medical Imaging, Primary Children's Hospital, Salt Lake City, Utah

ISBN: 9780443234927
PREVIOUS ISBN: 9780323680318
PUB DATE: Jun 27, 2024
LIST PRICE: £288.99 / $357.99 / €332.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 1028
ILLUSTRATIONS: Approx. 5833 illustrations (5833 in full color)
AUDIENCE: Practicing radiologists who work across multiple subspecialties, including pediatric neuroradiologists as well as physicians in training
BIC CODES: MJW
THEMA CLASSIFICATION: THEMAMKD

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Abundant annotated images and updated content keep you current in pediatric neuroradiology

A Volume in the *Diagnostic Imaging* Series

KEY FEATURES

- Provides a comprehensive, expert reference for **quickly accessible, detailed information about neoplastic and nonneoplastic disorders** affecting the brain, head, neck, and spine of children to help you make specific diagnoses and recommendations for further imaging or referral
- Contains **numerous new chapters and sweeping updates throughout,** covering advances in vessel wall imaging that provide more specific diagnoses of focal cerebral arteriopathy in children; newly identified pediatric infectious diseases, including human parechovirus; congenital brain malformations; MOGAD and NMOSD correlating to newly developed consensus standards; an up-to-date approach to pediatric demyelinating disorders; and more
- Includes **current tumor criteria** from the *WHO Classification of Tumours: Central Nervous System Tumours* (fifth edition), including advancements in molecular genomics and newly determined categories that identify tumor types/subtypes and facilitate differentiating subtypes
- Features **more than 5,500 images** (in print and online), including radiologic images, full-color medical illustrations, clinical and gross pathology photographs, and histologic images
- Clearly demonstrates procedural steps, complications, treatment alternatives, variant anatomy, and more—all **fully annotated** to highlight the most important diagnostic information

DESCRIPTION

Covering the entire spectrum of this fast-changing field, the fourth edition of *Diagnostic Imaging: Pediatric Neuroradiology* is an invaluable resource for general radiologists, pediatric neuroradiologists, neurologists and neurosurgeons, and trainees—anyone who requires an **easily accessible, highly visual reference** in this complex area of imaging. Drs. Kevin R. Moore, Luke L. Linscott, and a team of highly regarded experts provide up-to-date information on **nearly 280 diagnoses in short, detailed chapters** to help you make informed decisions at the point of care. The text is **lavishly illustrated, delineated, and referenced**, making it a useful learning tool for readers at all levels of experience as well as a handy reference for daily practice.

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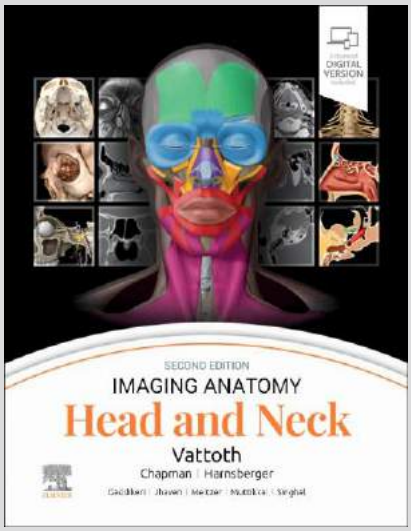

Imaging Anatomy: Head and Neck, 2e

Surjith Vattoth, MD, FRCR, Professor of Diagnostic Radiology & Nuclear Medicine, Division of Neuroradiology, Rush University Medical Center, Chicago, Illinois

ISBN: 9780443249648
PREVIOUS ISBN: 9780323568722
PUB DATE: Jun 12, 2024
LIST PRICE: £212.99 / $262.99 / €243.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 610
ILLUSTRATIONS: Approx. 1487 illustrations (1487 in full color)
AUDIENCE: Head and neck radiology specialists
BIC CODES: MMPH
THEMA CLASSIFICATION: THEMAMKSH

Superbly illustrated, comprehensive coverage of the head and neck from today's imaging experts

KEY FEATURES

- Features hundreds of detailed, full-color illustrations and more than 900 high-resolution, cross-sectional radiologic images that together illustrate the fine points of imaging anatomy for new and experienced head and neck imaging specialists
- Contains new chapters on external nose anatomy, the facial nerve in temporal bone, minor fissures and sutures around the temporal bone, and temporal bone anatomy on photon-counting detector (PCD) CT
- Provides updated, enlarged images and captions in areas such as facial muscles and the superficial musculoaponeurotic system, and frontal recess and related air cells
- Includes extensive new content on PCD CT; new details on relatively unknown anatomical foramina, such as the vomerovaginal canal and canaliculus innominatus; new content based on the International Frontal Sinus Anatomy Classification; and minute details on the course of nerves in the head and neck
- Includes a series of successive imaging slices in each standard plane of imaging (coronal, sagittal, and axial) to provide multiple views that further support learning
- Depicts common anatomic variants and covers the common pathological processes that manifest with alterations of normal anatomic landmarks

DESCRIPTION

This richly illustrated and superbly organized text/atlas is an excellent point-of-care resource for practitioners at all levels of experience and training. Written by global leaders in the field, Imaging Anatomy: Head and Neck, second edition, provides a thorough understanding of the detailed normal anatomy that underlies contemporary imaging. This must-have reference employs a templated, highly formatted design; concise, bulleted text; and state-of- the-art images throughout that identify the clinical entities in each anatomic area, offering a unique opportunity to master the fundamentals of normal anatomy and accurately and efficiently recognize pathologic conditions.

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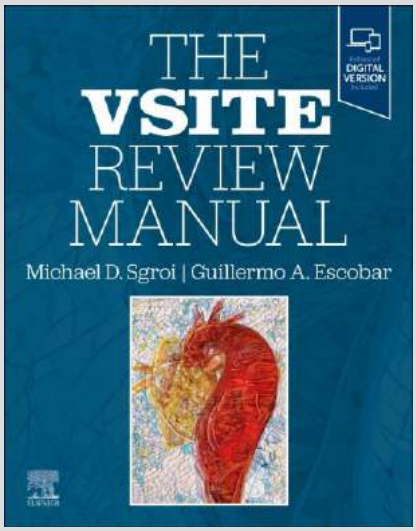

The VSITE Review Manual

Edited by : **Michael D. Sgroi**, MD, Assistant Clinical Professor of Vascular Surgery, Associate Program Director, Vascular Surgery Residency and Fellowship Program, Stanford University, Stanford, California and **Guillermo A. Escobar**, MD, Associate Professor of Surgery, Vascular Surgery Program Director, Emory University School of Medicine, Atlanta, Georgia

ISBN: 9780323875882
PUB DATE: Jun 19, 2024
LIST PRICE: £67.99 / $83.99 / €79.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 290
AUDIENCE: Vascular trainees, both in residency and fellowship. Each year more residencies are opening, increasing the volume of potential buyers.
BIC CODES: MNC
THEMA CLASSIFICATION: THEMAMN

Master the content you need to know for success on the VSITE

KEY FEATURES

- Offers a condensed, high-yield source of critical information for vascular surgery residents and fellows, as well as for practicing surgeons who are preparing for the recertification exam.
- Uses an easy-to-read outline and list format to help you find information quickly and retain what you read and review.
- Features quick-references tables, images, and self-assessment questions that enhance and highlight the need-to-know information in this unique review tool.
- Provides a strong knowledge foundation in vascular surgery, helping you increase your confidence as you prepare for the VSITE.
- 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. Any additional digital ancillary content may publish up to 6 weeks following the publication date.

DESCRIPTION

Spend more time studying the most important exam topics, and less time searching for them! The VSITE Review Manual is a succinct, high-yield resource designed to help you make the most of your preparation for this challenging exam. This streamlined, focused review tool makes it easy to find the essential information on each topic you need to master for success on the VSITE.

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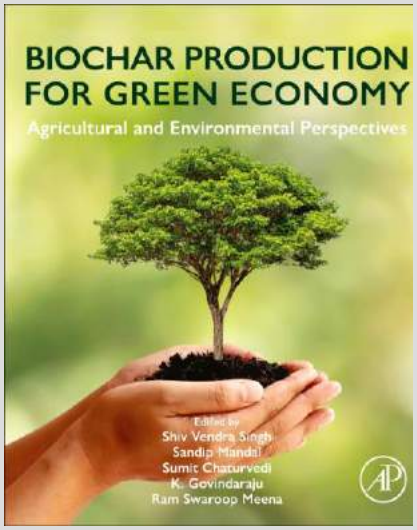

Biochar Production for Green Economy

Agricultural and Environmental Perspectives

Edited by : **Shiv Vendra Singh**, Assistant Professor, Graphic Era Hill University, India; **Ram Swaroop Meena**, PhD, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005, (UP), India; **Sandip Mandal**, Senior Scientist, ICAR-Central Institute of Agricultural Engineering, India; **Sumit Chaturvedi**, Associate Professor, G.B. Pant University of Agriculture and Technology, India and **Govindaraju K**, Scientist E/Associate Professor, Sathyabama Institute of Science and Technology, Chennai, India

ISBN: 9780443155062
PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 465
AUDIENCE: Researchers, and professors who are interested in learning of current insights of high-quality biochar synthesis, enrichment, modification, and their applications in agricultural production system, soil quality restoration, remediation of soil and water system and renewable energy production with special reference to alluvial soil and forest eco-systems. Advanced students in agriculture, soil science and environmental sciences
BIC CODES: RBGB, TV, RN, KNAC, TVK
THEMA CLASSIFICATION: THEMATVB; THEMARBGB; THEMATQ; THEMATV; THEMAKNA; THEMAKCM; THEMATVK

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Provides innovative techniques surrounding biochar production, surface modification, treatment, and uses in crop production, soil health improvement, bioremediation and biofuel production

KEY FEATURES

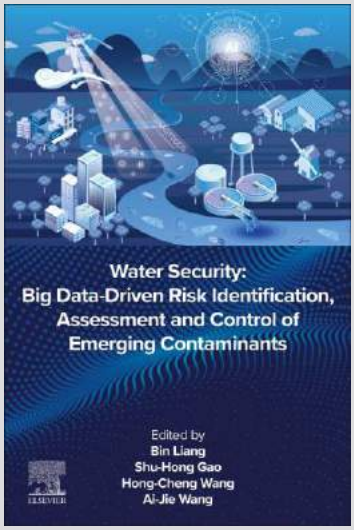
- Includes aspects of advancement in pyrolysis techniques to produce cost-effective, high quality pyrolysis products and their multipurpose applications
- Highlights biochar's role in boosting the circular bioeconomy, carbon footprint, GHGs mitigation, and environmental sustainability high-quality visual representation
- Compiles the trending multidisciplinary approach of nanotechnology, magnetic field, surface tailoring, and engineering for efficient and sustainable development goals

DESCRIPTION

Biochar Production for Green Economy: Agricultural and Environmental Perspectives addresses the advancements and developments for the efficient diversification of biochar toward achieving improved agricultural and environmental benefits. This comprehensive and cohesive volume is the first to address the potential multi-and transdisciplinary opportunities of effective biochar production and use.

Including the potential applicability of not only crop waste biochar but weeds, agroforestry, agroindustry, municipal waste, as well chapters explore surface modified, enriched or tailored biochar for soil amendment, GHGs mitigation, bioremediation of organic, inorganic, metals and other emerging pollutants, as well as soil remediation. It also covers the trending multidisciplinary approaches of nanotechnology, surface chemistry and thermal decomposition advancements being adopted for capacity enhancement and versatile applicability in the field of agriculture, environment science and green energy synthesis. Composition and characteristics of tailored biochar, their interactions, and transformation into the soil and water ecosystem are illustrated.

This book is a valuable resource for those pursuing biochar related areas as well as those seeking environmentally sustainable solutions to crop, soil or water issues.



Water Security: Big Data-Driven Risk Identification, Assessment and Control of Emerging Contaminants

Edited by : **Bin Liang**, Professor, Harbin Institute of Technology, School of Civil & Environmental Engineering, Shenzhen, P.R. China; **Shu-Hong Gao**, Assistant Professor, Harbin Institute of Technology, School of Civil & Environmental Engineering, Shenzhen, P.R. China and **Hongcheng Wang**

ISBN: 9780443141706
PUB DATE: Jun 01, 2024
LIST PRICE: £141.99 / $175.00 / €163.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 353
AUDIENCE: Researchers and students in the following fields: Environmental Science and Engineering, Intelligent Systems and Knowledge Engineering, Environmental Microbiology and Microbiome, Environmental Informatics and Bioinformatics, Environmental Health, Environmental Management, Environmental Epidemiology, Ecotoxicology, Environmental Chemistry, Environmental Ecology, Environmental Geochemistry, etc. Their main responsibilities are to guide undergraduate and postgraduate students to engage in related research, assist policy agencies to formulate relevant management standards, regulations, and laws, and to manage related businesses and administrative departments. Environmental management and protection, public health and other administrative and educational departments, scientific research institutions, and environment-related water companies, etc. Moreover, environmental policy decision makers, hydrologists, as well as managers and R&D personnel in environmental protection and water companies
BIC CODES: RN, TQSR, TQSW
THEMA CLASSIFICATION: THEMATQ; THEMARNH; THEMATQSR; THEMATQSW

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Resource for researchers and students on big data driven risk identification, assessment, and intelligent management of emerging chemical and biological contaminants

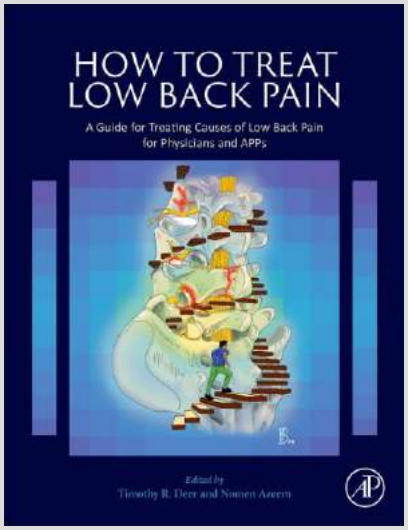
KEY FEATURES

- Covers the detection, high-throughput analyses, and environmental behavior of the typical emerging chemical and biological contaminants
- Focuses on chemical and biological big data driven aquatic ecological risk assessment models and techniques
- Highlights the intelligent management and control technologies and policies for emerging contaminants in water environments

DESCRIPTION

Water Security: Big Data-Driven Risk Identification, Assessment and Control of Emerging Contaminants contains the latest information on big data–driven risk detection and analysis, risk assessment and environmental health effect, intelligent risk control technologies, and global control strategy of emerging contaminants. First, this book highlights advances and challenges throughout the detection of emerging chemical contaminants (e.g., antimicrobials, microplastics) by sensors or mass spectrometry, as well as emerging biological contaminant (e.g., ARGs, pathogens) by a combination of next- and third-generation sequencing technologies in aquatic environment. Second, it discusses in depth the ecological risk assessment and environmental health effects of emerging contaminants. Lastly, it presents the most up-to-date intelligent risk management technologies.

This book shares instrumental global strategy and policy analysis on how to control emerging contaminants. Offering interdisciplinary and global perspectives from experts in environmental sciences and engineering, environmental microbiology and microbiome, environmental informatics and bioinformatics, intelligent systems, and knowledge engineering, this book provides an accessible and flexible resource for researchers and upper level students working in these fields.



How to Treat Low Back Pain

A Guide for Treating causes of Low Back Pain for Physicians and APPs

Edited by : **Timothy R. Deer**, President and CEO, The Spine and Nerve Centers of the Virginias, USA and **Nomen Azeem**, Founder and CEO, Florida Spine and Pain Specialists, FL, USA

ISBN: 9780443159626
PUB DATE: Oct 01, 2024
LIST PRICE: £134.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 372
AUDIENCE: Medical Residents/Fellows in the fields of Emergency Medicine, Pain Medicine, Orthopedics, Anesthesiology, Physical Medicine & Rehabilitation, Neurology, Family Medicine, also Advanced Practice Providers in Family Practice and other clinical settings treating low back pain, Spine Surgeons, Rehab physicians, Medical Students
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

A guide to typical interventional low back pain practice

KEY FEATURES

- Provides a step-by-step approach for each cause of back pain, including diagnosis, imaging, anatomy of the problem, abnormal anatomy, differential diagnosis, and treatment options
- Presents evidence-based treatment options, ranging from conversative treatments, physical medicine, surgery, and many minimally invasive techniques
- Summarizes the data for each problem, from disc to joint and ligament

DESCRIPTION

How to Treat Low Back Pain: A Guide for Treating Causes of Low Back Pain for Physicians and APPs focuses on current technology and cutting-edge treatment options, all validated by data. Each chapter presents a thorough review of patient selection, procedure technique, and potential adverse complications for each recommended treatment. Written by experts in the field for practitioners and clinicians treating low back pain, and with anatomic artwork and illustrations throughout, the book covers all aspects of lower back pain, the leading cause of disability in developed countries, with the number of people affected worldwide increasing annually.

In recent years, there has been a substantial increase in health care costs to treat low back pain, and most of these treatments simply provide symptomatic relief with few strategies that actually contribute to correcting the underlying cause.

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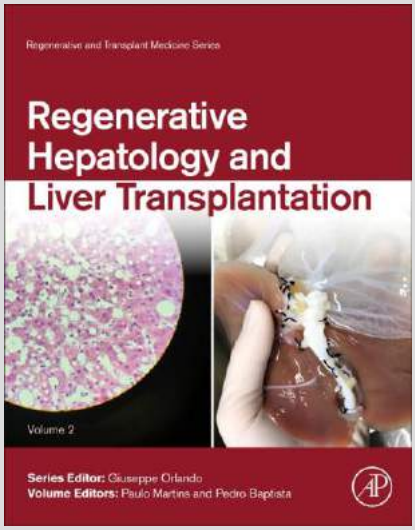

Regenerative Hepatology and Liver Transplantation, Vol 2

Edited by : **Paulo Martins**, Associate Professor of Surgery, University of Massachusetts, USA and **Pedro Baptista**, Assistant Professor, Department of Biomedical and Aerospace Engineering, University Carlos III of Madrid, Spain

ISBN: 9780128235249
PUB DATE: Sep 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 697
AUDIENCE: Transplant operators, researchers, regenerative medicine operators, tissue engineering operators, biotech operators, Academia, Industry and Regulatory agencies and operators. General surgery, transplant fellows in regenerative medicine
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

An essential reference that addresses all aspects of liver transplantation and regeneration

A Volume in the *Regenerative and Transplant Medicine* Series

KEY FEATURES

- Presents the latest volume in the *Regenerative and Transplant Medicine* series, focusing on the liver
- Covers the liver and diseases, transplantation, cell transplantation, liver preservation and machine perfusion
- Builds on previous works and demonstrates how regenerative and transplant medicine work together to provide an increased ability to improve health care outcomes for individuals

DESCRIPTION

Regenerative Hepatology and Liver Transplantation, Volume Two in the *Regenerative and Transplant Medicine* series, is an essential resource as no field in the biomedical sciences has seen more interest than organ transplantation with regard to regenerative medicine, primarily because of the urgent need to improve transplant outcomes and increase transplantation rates. The goal of this book is to bridge regenerative and transplant medicine by illustrating the state-of-the-art of clinical liver transplantation, as well as of the progress of regenerative medicine (RM) investigations aimed at the bioengineering, regeneration and repair of the liver.This volume will be well-recognized in the current global trend toward increasing organ donation by utilizing such cutting-edge technologies. Written by the world's experts in the field of liver disease, it is perfect for transplant operators, researchers, regenerative medicine operators, tissue engineering operators, biotech operators, and those in academia, industry and regulatory agencies working to advance the field.

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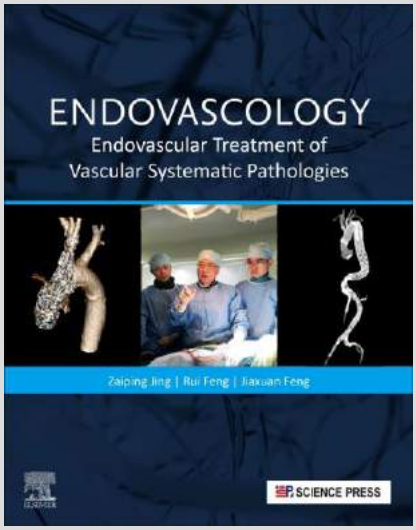

Endovascology

Endovascular Treatment of Vascular Systematic Pathologies

Zaiping Jing, Professor, Vascular Surgery Department, Changhai Hospital, China; **Rui Feng** and **Jiaxuan Feng**, Deputy Chief Physician and Associate Professor, Vascular Surgery, Changhai Hospital, China

ISBN: 9780323899277
PUB DATE: Jun 28, 2024
LIST PRICE: £115.00 / $150.00 / €131.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 567
AUDIENCE: Surgeons, including vascular surgeons and interventional cardiologists, Trainees in minimally invasive cardiovascular techniques, Vascular disease researchers, Medical students, Regulatory agencies
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Access the latest research, clinical outcomes, and research frontiers from one of the leading institutes in China on vascular diseases

KEY FEATURES

- Gives an international audience access to many years of research and practice in endovascular techniques, including clinical outcomes, from clinicians at the Vascular Surgery Department of Changhai Hospital, a pre-eminent institute in China
- Offers an exhaustive survey of vascular diseases including the history of their treatment, current practices, and potential future developments
- Presents the latest research, clinical results, and research frontiers from one of China's leading vascular surgery departments
- Looks to the future of new endovascular interventions and technologies, encouraging innovation in the treatment of vascular disease

DESCRIPTION

Vascular diseases have high incidence, disability and mortality rates. Endovascular treatment is an important option as an alternative to open surgery, with the proven ability to counter severe pathologies. China-based research into vascular diseases and endovascular surgery has been proceeding apace. Endovascology presents, for the first time, the latest research, clinical outcomes, and research frontiers from one of the leading institutes in China specializing in endovascular surgery — the Vascular Surgery Department of Changhai Hospital.Specifically, in this book, chapters cover each aspect of vascular disease: Vascular heart disease; Congenital heart disease; Arteriosclerotic heart disease; Thoracic aortic pathology; Thoracoabdominal aortic pathology; Infrarenal abdominal aortic pathology; Cerebral perfusion arteries; Upper limb vessels; Abdominal visceral arteries; Iliac artery; Lower limb artery; Varicose veins; Deep venous thrombosis of the lower limb; Pelvic congestion syndrome; Inferior vena cava and portal vein; Pulmonary artery; and Lymphatic diseases.*Endovascology: Endovascular Treatment of Vascular Systematic Pathologies* presents a global medical audience with an ambitious, systematic and exhaustive review of vascular diseases, and the state-of-the art in clinical research and practice in endovascology. It will be of use to surgeons, trainees in minimally invasive cardiovascular techniques, vascular disease researchers, and medical students alike.

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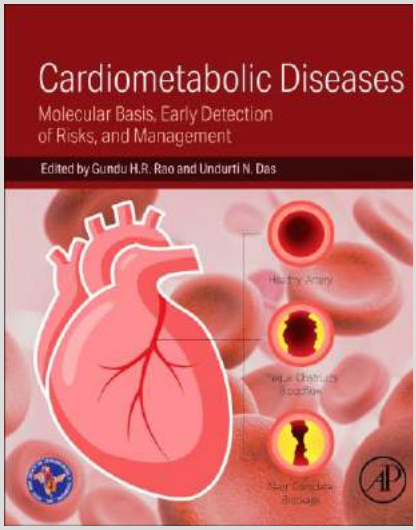

Cardiometabolic Diseases

Molecular Basis, Early Detection of Risks, and Management

Edited by : **Gundu H. R. Rao**, Emeritus Professor, Laboratory Medicine and Pathology, University of Minnesota, USA; **Undurti N. Das**, MD, DSc, FAMS, FICP, FRSC, Internal Medicine from Osmania Medical College, Hyderabad, India and Chairman and Research Director, UND Life Sciences LLC, USA

ISBN: 9780323954693
PUB DATE: Jun 28, 2024
LIST PRICE: £130.00 / $170.00 / €148.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 325
AUDIENCE: Researchers interested on the complexity of cardiometabolic diseases, cardiovascular fellows, and endocrinologists, Public health workers, medical students and pharma companies
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Provides a comprehensive overview of all aspects of metabolic risks and metabolic diseases, from cellular and molecular mechanisms

KEY FEATURES

- Covers all aspects of cardiometabolic diseases, from cellular and molecular mechanisms involved in the development of metabolic risks to clinical practice
- Provides established guidelines that facilitate effective management of the independent risk factors that promote vascular diseases
- Discusses the use of diagnostic tools to empower patients to self-monitor the progress or regress of modifiable risks

DESCRIPTION

Cardiometabolic Diseases: Molecular Basis, Early Detection of Risks, and Management provides detailed information on all aspects of metabolic dysfunctions and associated risks for cardiometabolic diseases, including a thoughtful discussion of cellular and molecular mechanisms involved in the progression of metabolic risks, approaches for the early detection, and robust management of metabolic risks. Written by a team of expert contributors, this book is useful reading for researchers and clinicians interested on recent advances in etiology of cardiometabolic diseases, the latest noninvasive approaches for diagnosis, risk assessment tools, therapeutic strategies, and also aspects of prevention of cardiometabolic diseases.

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Transpathology

Molecular Imaging-Based Pathology

Edited by : **Mei Tian**, President-elect of the World Molecular Imaging Society (WMIS), Director of Medical Imaging and Nuclear Medicine Program of Zhejiang University, the Vice President of Zhejiang University Medical Center, the Vice President of Hangzhou Riverside Hospital of Zhejiang University School of Medicine.

ISBN: 9780323952231
PUB DATE: Jun 15, 2024
LIST PRICE: £127.00 / $165.00 / €144.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 298
AUDIENCE: Professionals in the fields of pathology, molecular imaging, nuclear medicine, radiology, Medical students, clinical residents, postgraduate students who should aware of the importance of non-invasive diagnosis-based precision medicine and future medicine
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Helps readers understand the current development and future direction of transpathology, molecular imaging-based pathology

KEY FEATURES

- Introduces a new concept of molecular imaging-guided precise biopsy
- Links in vivo and ex vivo information at various scales by using multi-modality imaging technologies
- Integrates future technologies for the non-invasive cross-validation of underlying mechanisms

DESCRIPTION

Transpathology: Molecular Imaging-Based Pathology is a multidisciplinary reference on molecular imaging and pathology. The book is intended for professionals in the fields of molecular imaging, nuclear medicine, radiology, and pathology as well as students and clinical residents. The book describes the importance of non-invasive diagnosis-based precision medicine and presents a detailed description of current transpathological approaches in different aspects essential for the future development of precision medicine. It's molecular imaging approach to experimental research and clinical practice will drive the field forward and improve research outcomes.

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Digital Healthcare in Asia and Gulf Region for Healthy Aging and More Inclusive Societies

Shaping Digital Future

Edited by : **Patricia Ordonez de Pablos**, PhD., Professor, Faculty of Economics and Business, The University of Oviedo, Spain

ISBN: 9780443236372
PUB DATE: Jun 03, 2024
LIST PRICE: £134.00 / $165.00 / €160.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 294
AUDIENCE: Researchers, scientists, and academics in the field of information technologies, frontier research (epidemiology, immunology, virology and other relevant scientific disciplines) and medicine as well as policymakers. Also Master and PhD students. Research centers, universities, government (ministries of health, digital innovation, economy
BIC CODES: MBF
THEMA CLASSIFICATION: THEMAPSAX

Provides successes and failures in the field of IT and digital health during the pandemic, with a special focus on Asia and the Gulf region

A Volume in the *Information Technologies in Healthcare Industry* Series

KEY FEATURES

- Delivers a collection of relevant case studies and experiences on digital healthcare from Asia and the Gulf Region, with important advances in digital healthcare that are understudied but are very technologically advanced in this area
- Provides recommendations for policymakers in Asia, the Gulf Region, and around the world
- Investigates the interplay of several important research areas (e.g., digital healthcare, 5G, artificial intelligence (AI), Big Data, Blockchain) with an emphasis on healthy aging

DESCRIPTION

Digital Healthcare in Asia and Gulf Region for Healthy Aging and More Inclusive Societies: Shaping Digital Future provides insights to the recent innovations, tools, and techniques in the field of digital healthcare, with special geographic coverage of Asia and the Gulf Region. The social and economic recovery after the pandemic requires urgent solutions for citizens, companies, and economies around the world. From research centers, labs, hospitals and academia, researchers and academics are working collaboratively to explore new views and frameworks to develop solutions for emergent problems.

In 34 Chapters, this book delivers a collection of relevant innovative research on digital healthcare, with four mains goals: 1) cover two geographical regions (Asia and the Gulf Region) with important advances in digital healthcare but that are not covered enough in current publications; 2) study cases (success, failures) in the field of IT and digital health during the pandemic, and analyze the lessons from these cases; 3) analyze the latest advances in the field of digital healthcare (especially Artificial Intelligence, Big Data, Blockchain and 5G); and 4) discuss implications for main stakeholders (patients, doctors, IT experts, directors, and policy managers).

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Overcoming Cancers Resistant to HER-2 Antibodies, Vol 3

Edited by : **Benjamin Bonavida**, Professor, Department of Microbiology, Immunology and Molecular Genetics, David Geffen School of Medicine, University of California, Los Angeles, USA

ISBN: 9780128164082
PUB DATE: Jun 01, 2024
LIST PRICE: £115.00 / $150.00 / €131.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 7.50w x 9.25h
PAGES: c. 232
AUDIENCE: Cancer researchers, medical oncologists, clinicians, pharmacologists, translational investigators
BIC CODES: MJCL, MBNH, KNDH1
THEMA CLASSIFICATION: THEMAMJCL; THEMAMF; THEMATCB

General updated information on the resistance of various human cancers to anti-HER2 therapeutic antibodies

A Volume in the *Breaking Tolerance to Antibody-Mediated Immunotherapy* Series

KEY FEATURES

- Provides a general summary of various sensitizing agents that can work effectively when used in combination with anti-HER2 antibodies to reverse resistance
- Offers potential underlying mechanisms by which cancer cells are either inherently resistant or become unresponsive to antibody treatment
- Discusses how to develop new targeted agents to underlie resistance in order to expand research on this field

DESCRIPTION

Overcoming Cancers Resistant to HER-2 Antibodies provides general updated information on the resistance of various human cancers to anti-HER2 therapeutic antibodies. The book also discusses the description of various sensitizing agents that can reverse resistance when used in combination with anti-HER2 antibodies. There have been a lot of reports in which the treatment with anti-HER2 antibodies for various cancers has resulted in clinical responses; however, there have been also subsets of cancer patients who did not respond initially, and several responding patients developed resistance following treatments. Sections cover Lapatinib, Ganetespib, Paclitaxel, Celecoxib, Emantasine, Liposomal Doxorubicin, and Kinase Inhibitors.

This book is a valuable source for cancer researchers, oncologists, pharmacologists and different members of the biomedical field interested in fighting cancer resistance to HER-2 antibodies.

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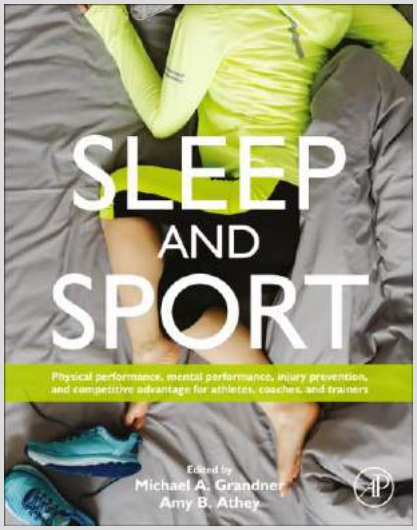

Sleep and Sport

Physical Performance, Mental Performance, Injury Prevention, and Competitive Advantage for Athletes, Coaches, and Trainers

Edited by : **Michael A. Grandner**, The University of Arizona, Banner-University Medical Center, USA. and **Amy B. Athey**, Executive Director, Student Wellness and Retention, University of Arizona's Student Success and Retention Innovation, USA

ISBN: 9780128229699
PUB DATE: Jun 01, 2024
LIST PRICE: £129.00 / $165.00 / €145.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 335
ILLUSTRATIONS: 350 illustrations (300 in full color)
AUDIENCE: Sleep medicine researchers, pulmonary medicine researchers, sleep medicine physicians, sports medicine physicians, sports science researchers, performance psychologists, exercise physiology, behavioral medicine, Athletics professionals interested in learning more about sleep, including athletics trainers, coaches, other professionals, and athletes themselves, Psychiatry, public health, kinesiology, physical therapy, occupational therapy
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Explores the important role that sleep and circadian rhythms play for athletes, in terms of training/recovery, mental health, physical performance, cognitive performance, physical health, and competitive advantage

KEY FEATURES

- Highlights the importance of sleep and its relations to various aspects of athletics
- Provide useful, actionable, evidence-based suggestions for promoting sleep health in athletes
- Contains accessible reviews that point to relevant literature in often-overlooked areas, serving as a helpful guide to all relevant information on this broad topic area

DESCRIPTION

The relationship between sleep and both mental and physical performance in athletes has become a key issue over the past several years. *Sleep and Athletes: Physical Performance, Mental Performance, Injury Prevention, and Competitive Advantage for Athletes, Coaches, and Trainers* aims to synthesize the growing scientific evidence in this area to help researchers, clinicians, and others interested in sport to understand the fundamentals of sleep health and how these factors relate to athletes. Serving as an important bridge between the sleep and athletics field, the book educates sleep professionals about how their field of expertise relates to various aspects of athletics, whilst educate sports professionals about the basics of sleep and how it relates to their field of expertise. This is accomplished by explaining some of the basics of sleep health; reviewing the literature on sleep disorders, treatments, risk factors for athletes; discussing ways that sleep health impacts physical and mental performance; and addressing key specific areas where these fields overlap. In all cases, this text will draw from the existing peer-reviewed literature, in order to provide evidence-based guidance that is objective and well-explained.

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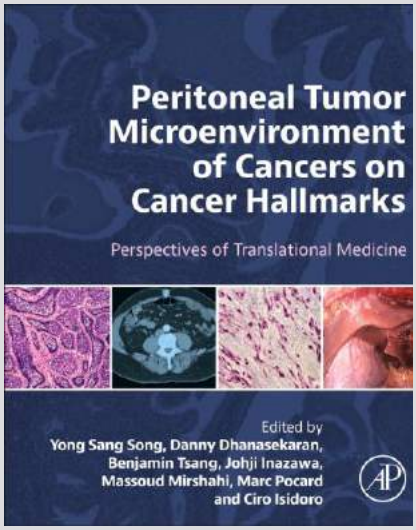

Peritoneal Tumor Microenvironment of Cancers on Cancer Hallmarks

Perspectives of Translational Medicine

Edited by : **Yong Sang Song**, Professor, Seoul National University, College of Medicine, Seoul, South Korea; **Danny N. Dhanasekaran**, Samuel Roberts Noble Foundation Endowed Chair in Cancer Research, Deputy Director for Basic Sciences, Director, SCC-COBRE & Center for Basic Cancer Research, Stephenson Cancer Center, University of Oklahoma Health Science Center, USA; **Benjamin K. Tsang**, Director, Reproductive Biology Unit, Professor, Department of Obstetrics and Gynaecology and Cellular & Molecular Medicine and the Interdisciplinary School of Health Sciences, University of Ottawa, Canada; **Johji Inazawa**, Director, Bioresource Research Center, and Professor, Department of Molecular Cytogenetics, Medical Research Institute, Tokyo Medical and Dental University, Japan

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TRIM: 7.50w x 9.25h
PAGES: c. 232
AUDIENCE: Cancer researchers, oncologists, medical scientists, clinicians, graduate students
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Presents recent findings on tumor microenvironment leading to diagnosis, prediction of prognosis, and individualized treatment of cancer

KEY FEATURES

- Discusses how to apply tumor microenvironment knowledge to diagnosis, prediction of prognosis, and individualized treatment of cancer
- Provides readers with up-to-date knowledge on translational medicine, focusing on bench-to-bedside approach for cancer treatment and diagnosis
- Presents collaborative research works from the perspectives of medical doctors, cancer researchers, basic biological scientists, and bioinformaticians to provide integrative insights on tumor microenvironment

DESCRIPTION

Peritoneal Tumor Microenvironment of Cancers on Cancer Hallmarks: Perspectives of Translational Medicine provides readers with cutting-edge knowledge on tumor microenvironment. By exploring multiple aspects on tumor microenvironment, it gives an integrative insight on cancer diseases ranging from diagnosis to prediction of prognosis and individualized treatment. The book discusses topics such as clinical significance of tumor microenvironment, tumorigenesis and cancer progression, histopathological features of cancer in peritoneum, immune cells in tumor, exosomal cell-to-cell interactions, and therapeutic approaches to target tumor microenvironment. In addition, it discusses tumor evolution during chemotherapy and metastasis and future perspectives on identification and validation of biomarkers using liquid biopsy. This book is a valuable resource for cancer researchers, oncologists, medical doctors, and several members of biomedical field who want to understand the complex microenvironment of peritoneal tumors.

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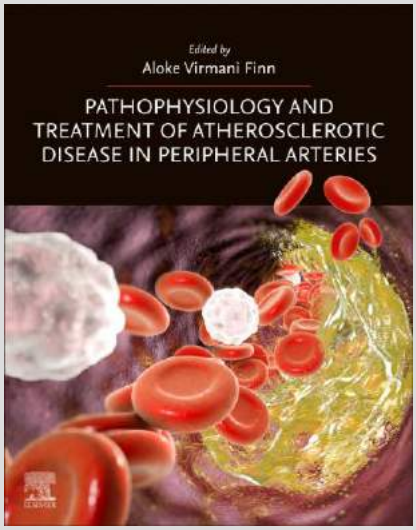

Pathophysiology and Treatment of Atherosclerotic Disease in Peripheral Arteries

Edited by : **Aloke Virmani Finn**, MD, Director and Chief Scientific Officer, CVPath

ISBN: 9780443135934
PUB DATE: Jun 01, 2024
LIST PRICE: £126.00 / $165.00 / €143.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 298
AUDIENCE: Researchers and physicians interested in the field of PAD Vascular Medicine specialists, Cardiologists, Vascular Surgeons, Interventional radiology and cardiology specialists, students, Industry who makes some of the devices discussed
BIC CODES: UFL, MBF
THEMA CLASSIFICATION: THEMAKJT; THEMAUFL

A review of the pathophysiology of lower extremity atherosclerosis for current and future medical and interventional treatments

KEY FEATURES

- Provides understanding for the pathophysiology of PAD from pathologic and molecular perspectives
- Reviews state-of-the art modalities for its detection as well as the data surrounding new medical and interventional treatment for PAD
- Elucidates the impact of new treatment modalities such as drug coated balloons and atherectomy devices such a lithotripsy

DESCRIPTION

Pathophysiology and Treatment of Atherosclerotic Disease in Peripheral Arteries is a thorough review of the disease written by experts studying its detection and treatment. These state-of-the-art chapters summarize emerging knowledge about this important area of medicine. The pathophysiology and treatment of peripheral artery (PAD) disease remains poorly understood even by practitioners. Often it is assumed that PAD should be treated in a similar fashion to coronary artery disease (CAD), when in fact recent data suggest a distinct pathophysiology with genetic risk having some but not complete overlap with CAD.

This is a novel reference of emerging data on the factors behind its development and progression, detection, and treatment suggest an emerging paradigm for this disease.

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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

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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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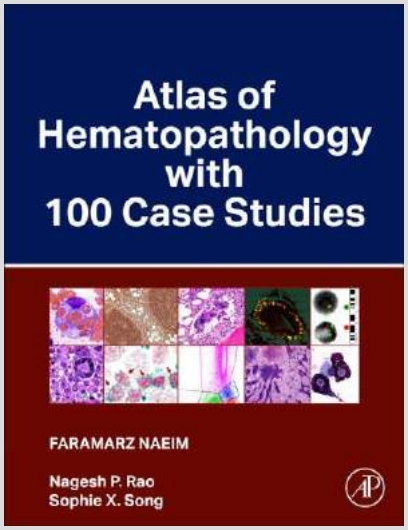

Atlas of Hematopathology with 100 Case Studies

Faramarz Naeim, MD, Professor Emeritus, Department of Pathology, David Geffen UCLA School of Medicine, Hematopathologist, Department of Pathology and Laboratory Medicine, VA Greater Los Angeles Healthcare System, Los Angeles, California, USA; **P. Nagesh Rao**, Professor, Pathology and Laboratory Medicine, and Pediatrics, Chief, UCLA Cytogenetics Center, David Geffen UCLA School of Medicine, CA, USA and **Sophie X. Song**, Professor, Director, Clinical Flow Cytometry & Bone Marrow Laboratories, Department of Pathology and Laboratory Medicine, David Geffen UCLA School of Medicine, CA, USA

ISBN: 9780443188381
PUB DATE: Jun 01, 2024
LIST PRICE: £195.00 / $250.00 / €220.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 11.00h
PAGES: c. 500
AUDIENCE: Pathologists, pathology residents and fellows, Hematologists and hematology/oncology fellows, A reference book for laboratory directors, and basic researchers in the field of hematology, cytogenetic and molecular pathology.
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

A reference rich in microscopic color images and text to help you visualize and better understand hematopathology disorders

KEY FEATURES

- Includes case studies that provide a brief clinical history, along with images with relevant questions and answers
- Provides user-friendly tables and graphs, along with correlations between microscopic findings and images of ancillary test results
- Features over 250 color photographs that demonstrate various pathologic aspects of the disease

DESCRIPTION

Atlas of Hematopathology with 100 Case Studies is a practical guide useful for pathologists and hematologists, residents and fellows, laboratory directors, researchers, and students in the field of hematology, cytogenetic, and molecular pathology. The book offers important information to practicing physicians and those in pathology and hematology training to improve their diagnostic skills. It covers the most important aspects of hematopathology, including classifications, clinical symptoms, hematopathologic features, diagnostic criteria, differential diagnosis, and the use and importance of ancillary testing, such as immunohistochemistry, flow cytometry, and cytogenetics.

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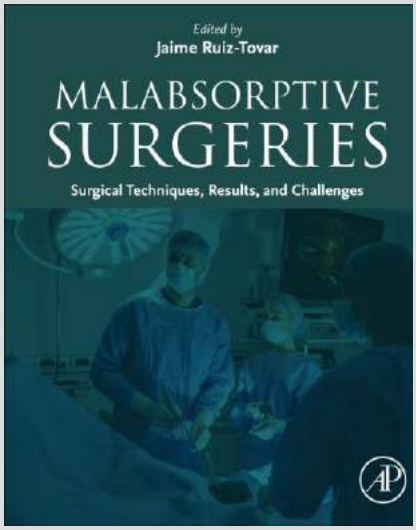

Malabsorptive Surgeries

Surgical Techniques, Results, and Challenges

Edited by : **Jaime Ruiz Tovar**, Senior Professor, Universidad Alfonso X, Madrid, Spain

ISBN: 9780443216725
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. 279
AUDIENCE: Translational Researchers in Obesity and Diabetes Mellitus, Bariatric Surgeons, and Endocrinologists, General Practioners, Cardiologists, and Pulmonologists involved in patient prep for bariatric surgery
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Provides step-by-step coverage of the surgical techniques, results, and complications in current malabsorptive surgery procedures

KEY FEATURES

- Introduces new malabsorptive techniques, including OAGB and SADIS, which have improved results and reduced the nutritional sequalae of more classic approaches like biliopancreatic diversion and duodenal switch
- Provides insights into basic and translational research focused on the mechanism of action of malabsorptive procedures that goes beyond the bypassing of intestinal loops, thus affecting the regulation of hormonal signals
- Presents step-by-step procedures with accompanying images to guide performance of specific procedures

DESCRIPTION

Malabsorptive Surgery: Surgical Techniques, Results, and Challenges describes the development of classic and new malabsorptive surgical techniques. Coverage includes the results obtained after the procedures, as well as postoperative complications - including early complications (associated with the difficulty of the operation) and late complications (associated with nutritional sequelae). This book is the perfect reference for basic and translational research focused on the mechanism of action of malabsorptive procedures, that goes beyond the bypassing of intestinal loops, affecting the regulation of hormonal signals. The content is also useful for bariatric surgeons and endocrinologists dealing with the bariatric options and results.

Despite the aims of bariatric surgery focusing on performing procedures associated with low postoperative complications rates (mostly restrictive procedures), there is increasing evidence showing mid- and long-term failure of restrictive and mixed procedures in terms of weight regain and recurrence of comorbidities. This has increased the need for revisional surgeries after failed primary procedures, and consequently, increased the popularity of malabsorptive techniques.

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γδT Cell Cancer Immunotherapy

Evidence-Based Perspectives for Clinical Translation

Edited by : **Marta Barisa**, University College London, Experimental Paediatric Oncology Research Group and Allogeneic Immunotherapy Research Group Zayed Centre for Research, Great Ormond Street Hospital, University College London Great Ormond Street Institute of Child Health, London, UK

ISBN: 9780443217661
PUB DATE: Jun 01, 2024
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DISCOUNT: Reference
FORMAT: Hardback
TRIM: 7.50w x 9.25h
PAGES: c. 266
AUDIENCE: Cancer researchers, medical oncologists, clinicians, pharmacologists, translational investigators, immunologists, immunotherapists, scientists and clinicals interested in allogeneic adoptive cell therapy, medical students, translational research students, academic institution libraries, commercial developers of γδ T cell immunotherapy
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

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Provides comprehensive insights into the current state of γδ T cell immunotherapy

A Volume in the *Breaking Tolerance to Anti-Cancer Cell-Mediated Immunotherapy* Series

KEY FEATURES

- Addresses the possible advantage of combining γδ T cell–based immunotherapy with conventional chemotherapy or other therapeutic approaches, such as antiangiogenic drugs
- Provides an up-to-date, well-rounded discussion of a translationally, commercially, and scientifically relevant field
- Enables users to familiarize themselves with an overview of the most important aspects of the field with ease or gain an up-to-date objective perspective on various aspects of the field
- Includes helpful illustrative diagrams covering the breadth of the field as carried out by leading experts

DESCRIPTION

γδ T Cell Cancer Immunotherapy: Evidence-Based Perspectives for Clinical Translation discusses the current pre-clinical and clinical γδ T cell landscape. The book not only focuses on the promises of what's to come, but also on the challenges faced by the field. Particular attention is given to summarizing recent advances on what is known about relevant areas of γδ T cell biology on summarizing the 'big picture' clinical situation, an up-to-date systematic clinical trial review covering autologous, allogeneic, engineered and non-engineered therapies, and perspectives on the types of cutting-edge gene-engineering that may be required to enhance the effect-size and durability of therapeutic efficacy. Content provides updated and comprehensive insights into the current state of γδ T cell immunotherapy, including discussions on the promise as well as challenges of the field that is of interest to existing translational γδ T cell specialists, the proliferating range of academic scientists and commercial scientists entering the field, as well as clinicians who may encounter γδ T cell immunotherapy in the clinic or are wishing to familiarize themselves with non-canonical lymphocyte immunotherapy.

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Fundamentals of Radiation Oncology, 4e

Physical, Biological, and Clinical Aspects

Edited by : **Hasan Murshed**, Radiation Oncologist, Hope Regional Cancer Center, Fl, USA

ISBN: 9780443222085
PREVIOUS ISBN: 9780128141281
PUB DATE: Jun 01, 2024
LIST PRICE: £121.00 / $150.00 / €142.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 539
AUDIENCE: Radiation oncology residents, practicing radiation oncologists, radiation dosimetrists, radiation physicists, Surgical oncologist, medical oncologist, oncology nurse
BIC CODES: MBNH, KNDH1
THEMA CLASSIFICATION: THEMAMF; THEMATCB

Provides comprehensive information regarding new applications of radiotherapy, while maintaining a strong backbone of basic radiation oncology, radiobiology, and physics

KEY FEATURES

- Comprehensively provides an overview of radiation oncology indications and techniques for busy practicing radiation oncologists
- Updated with new chapters on applications of radiotherapy, including big data and artificial intelligence in cancer care
- Includes color figures to visualize the technical diagrams, radiation treatment target volumes, and radiation treatment isodose lines

DESCRIPTION

Fundamentals of Radiation Oncology: Physical, Biological, and Clinical Aspects, Fourth Edition continues to provide current, concise, and a readily available source of clinical information for busy, practicing radiation oncologists. This book provides updated information regarding new applications of radiotherapy, while still maintaining a strong backbone of basic principles of radiation oncology, radiobiology, and physics. It creatively organizes and summarizes major clinical trials, frequently using helpful tables in each disease site. The edition is updated with content on immunotherapy, combined modality therapy for cancer treatments, the latest radiation therapy techniques for cancer treatments, and landmark clinical trials to support cancer treatment recommendations.

In four parts and 30 chapters, the book describes not only the basic science of radiation oncology, the techniques and modalities of radiation oncology , and the clinical science of radiation oncology, but also palliative radiation treatments to improve the quality of life of cancer patients. Figures have been upgraded to color to aid in visualization of technical diagrams, radiation treatment target volumes, and radiation treatment isodose lines.This book is a must-have for all radiation oncology residents, radiation oncologists, and all professionals engaged in the care of cancer patients.

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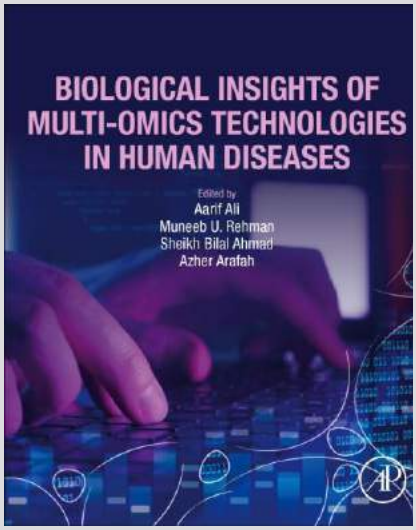

Biological Insights of Multi-Omics Technologies in Human Diseases

Edited by : **Aarif Ali**, Department of Clinical Biochemistry, School of Biological Sciences, University of Kashmir, India; **Muneeb U Rehman**, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia; **Sheikh Bilal Ahmad**, PhD, Division of Veterinary Biochemistry, Faculty of Veterinary Sciences, SKUAST-K, Shuhama, Alustang, Srinagar, India and **Azher Arafah**, Department of Clinical Pharmacy, College of Pharmacy, King Saud University, Riyadh, Saudi Arabia

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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 335
AUDIENCE: The primary audience will be basic, translational, clinical & interdisciplinary researchers, practicing pathologist/oncologists, industrial and pharmaceutical scientists working on drug discovery/development and biomarkers
BIC CODES: MBF
THEMA CLASSIFICATION: THEMAPSAX

Provides a comprehensive overview of novel technologies under omics including genomics, metabolomics, transcriptomics, and proteomics in various human diseases

KEY FEATURES

- Explains the in-depth role of multi-omics on drug discovery/metabolism, diseases, and highlights progress in both the research and clinical areas of computation, as well as relevant implementation experience and challenges
- Describes the practice of multi-omic technologies in the treatment of several diseases
- Includes practical application and machine learning approaches of multi-omics

DESCRIPTION

Biological Insights of Multi-Omics Technologies in Human Diseases provides detailed information about the basics of multi-omic technologies, including ethics, historical perspective, science, drug discovery, and development and metabolism. With a strong focus on the practical application of omics approaches in cancer, cardiovascular, neurology, respiratory, viral, gastroenterology, autoimmune diseases, PCOS and tuberculosis, this book also includes special topics related to COVID-19 and Machine learning approaches. In 13 chapters, this book provides comprehensive coverage of the challenges and opportunities facing the therapeutic implications of multi-omics from academic, regulatory, pharmaceutical, socio-ethical, and economic perspectives.

The chapters are designed in a well-defined chronology such that readers will intuitively understand the central idea. This book is an ideal resource for health professionals, scientists and researchers, nutritionists, health practitioners, students, and all those who wish to broaden their knowledge in the allied field.

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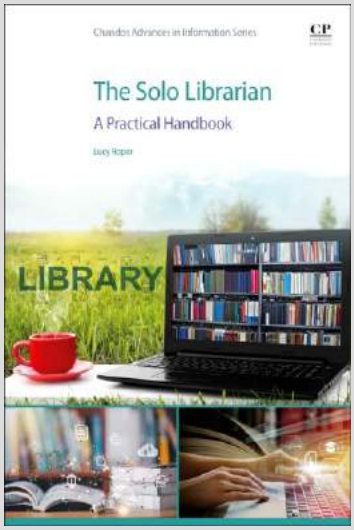

The Solo Librarian

A Practical Handbook

Lucy Roper, BSc (Hons), PG CHEM, MCLIP, AFHEA. ORCID: 0009-0008-3176-2266, BSc (Hons), PG CHEM, MCLIP, AFHEA. ORCID: 0009-0008-3176-2266

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LIST PRICE: £75.00 / $94.99 / €88.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 391
AUDIENCE: Solo Librarians, Librarians in small teams with limited help, Library Graduates, Subject Librarians, Trainee Librarians, Library Assistants, Library and Information Studies Students
BIC CODES: GL
THEMA CLASSIFICATION: THEMAGLC

Provides a one-stop-shop with accompanying templates for librarians and those working in information, knowledge and related disciplines

KEY FEATURES

· Becoming a solo librarian can be a daunting prospect. This book relays, as a solo librarian practitioner, the lessons the author has learnt, whilst creating and sharing guidance that assists others finding themselves in a similar role and/or a small team with limited help but with a mandate to connect to global trends and progress in the field of librarianship and information science.

· This Internationally applicable and practical handbook, however, provides a logical process of creating library provision and the services involved.

The solo librarian yearly planner and timeline of activities, supporting guidance and templates provided will be downloadable (via the eBook version) and can be adapted and utilised further to help aid the daily activities and processes often faced by library and information service(s) staff that include those working in information, knowledge, libraries and related disciplines in the UK and internationally.

DESCRIPTION

Actively diversifying the content to increase its relevance to an international audience, this practical handbook provides a one-stop-shop with accompanying time-saving templates that can be easily adapted to help aid the daily activities and processes often faced by those working in information, knowledge, libraries and related disciplines.

The Solo Librarian: A Practical Handbook provides an internationally applicable and practical handbook that shows a timeline of key activities that happen throughout, in this example, an academic year. Sections provide examples on Acquisitions, cataloguing, updating library guidance (before academic year start - September), Student and Staff Inductions (September/October), Quarterly Business Review to review updates and library usage (Oct – Dec), Library cover over student/staff holiday period (Dec), Quarterly Business Review (Jan – Mar), Quality standard(s) re-accreditation (April), Research methods/study skills webinars (April), Library cover over student holiday period (April), Quarterly Business Review (April –June), and much more.

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Library Career Management in the Digital Age

A New Tool for Development

Katarina Michnik, Librarian, University of Gothenburg, Olofstorp, Sweden

ISBN: 9780443215285
PUB DATE: Jun 01, 2024
LIST PRICE: £72.00 / $94.95 / €82.95
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 214
AUDIENCE: Academic library managers/academic library directors/academic library leaders, Early career academic librarians, Educators in higher education within Library and Information Science/library school faculties, Experienced/senior academic librarians, Students and graduate students in Library and Information Science, This book will be useful as course material for courses in Library and Information Science for both undergraduate and master level as well as for further competence development targeting early career and senior academic librarians.
BIC CODES: GL
THEMA CLASSIFICATION: THEMAGLC

Presents a new model, the Librarian Career Management Tool, that can be used to identify and structure possible opportunities and career development for academic librarians

A Volume in the *Chandos Advances in Information Series* Series

KEY FEATURES

- Helps academic library managers to identify and structure the opportunities and challenges that their employees face in the digital age
- Helpful for early career academic librarians to identify and structure their motivations and what they want to achieve as librarians
- Ideal for educators in higher education within LIS as a resource for use in teaching about the prerequisites for, and characteristics of, career development of academic librarians

DESCRIPTION

Library Career Management in the Digital Age, A New Tool for Development presents a new model, the Librarian Career Management Tool, that can be used to identify and structure possible opportunities and challenges to the career development of academic librarians in the digital age. Because of this heterogeneity in the field, there is a need for a theoretical and practical tool that distils variation down to fundamental principles which people can then work with. The tool discussed in the book collates all possible career paths into a taxonomy of influencing factors and natural relationships between these factors for the digital librarian context.

The advantage of modeling these distinct patterns is to enable informed and far-sighted decisions on the motivations for the next steps in an individual's career. In addition, it enables key trends in digital information management to be better understood.

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LIBRARY & INFORMATION STUDIES
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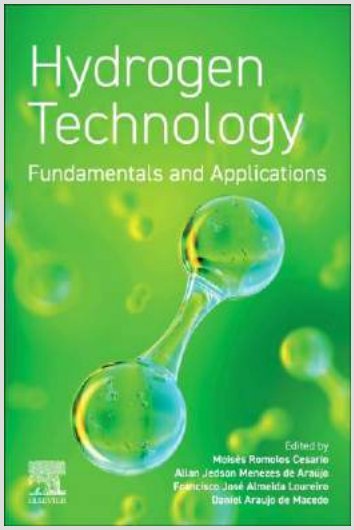

Hydrogen Technology

Fundamentals and Applications

Edited by : **Moisés Romolos Cesario**, Department of Materials Engineering, Federal University of Paraíba, Paraíba, Brazil; **Allan Jedson Menezes de Araújo**, Department of Mechanical Engineering, Center of Mechanical Technology and Automation (TEMA), University of Aveiro, Aveiro, Portugal; **Francisco José Almeida Loureiro**, Department of Mechanical Engineering, Center of Mechanical Technology and Automation (TEMA), University of Aveiro, Aveiro, Portugal and **Daniel Araujo de Macedo**, Department of Materials Engineering, Federal University of Paraíba, Paraíba, Brazil

ISBN: 9780443135477
PUB DATE: Jun 01, 2024
LIST PRICE: £175.00 / $225.00 / €200.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 335
AUDIENCE: Students and researchers in chemistry, chemical sciences, physics, and materials science who are interested in the hydrogen economy, technology for clean energy production and valorization of chemicals
BIC CODES: TDCB
THEMA CLASSIFICATION: THEMATDC

Explores the diverse aspects of hydrogen technology, covering materials, electro/catalytic reactions, and industrial processes

KEY FEATURES

- Explains the phenomena that govern electrocatalytic/catalytic reactions
- Covers the study of new materials design and industrial processes
- Includes process improvements for obtaining hydrogen via chemical and biological processes

DESCRIPTION

Hydrogen Technology: Fundamentals and Applications relates theoretical concepts to practical case studies in the field of hydrogen technology with an emphasis on materials and their applications. To implement hydrogen conversion production processes, it is crucial to understand the structural, microstructural, textural, thermal, catalytic, and electrochemical properties of materials. Covering nanomaterials, heterogeneous catalysis, greenhouse gas conversion, reforming reactions for hydrogen production, valorization of hydrogen energy, biomass valorization, the hydrogen economy, and its technical feasibility, this book addresses how bio/hydrogen technology can be used to solve environmental problems, including how to produce, convert, and store energy through electro/catalytic reactions and chemical valorization.

Providing an understanding of the different factors involved, such as the availability of raw material, location, viable process and production scale, and economic criteria, this book will especially be of interest to engineers, scientists, and students in the field of hydrogen technology.

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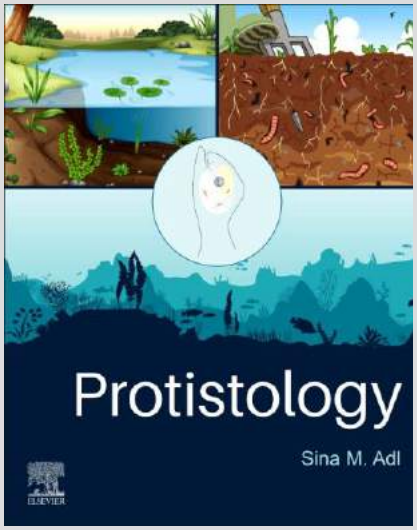

Protistology

Sina M. Adl, Professor, Department of Soil Sciences, College of Agriculture and Bioresources, University of Saskatchewan, Saskatchewan, Canada

ISBN: 9780323952996
PUB DATE: Jun 15, 2024
LIST PRICE: £115.00 / $150.00 / €131.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 344
AUDIENCE: Students and educators of microbial ecology, biodiversity and natural history, molecular phylogenies and bioinformatics, evolution, parasitology, and environmental sciences, Professionals in these sectors: pharmaceutical discovery, environmental remediation, pollution control, government environment and parks agencies, sustainable agriculture, plant pathology, animal and zoonotic diseases, algal biofuels, algal nutraceuticals and food supplements or additives, veterinary pathology, crop diseases, and medical microbiology and pathology clinicians
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Provides recent developments in understanding the diversity of cell biology, genomic processes, parasite-host interactions and the evolution of eukaryotes

KEY FEATURES

- Covers the entire breadth of protists, including numerous illustrations, photographs and figures
- Provides an accessible, modern classification of protists
- Presents comparative cell biology and evolutionary trends in the diversity of protists

DESCRIPTION

Protistology provides a comprehensive overview on recent developments in understanding the diversity of cell biology, genomic processes, parasite-host interactions, and the evolution of eukaryotes. The book is the first modern treatise on these organisms, walking readers through protistology's diversity and classification. This book is an ideal supplemental text for upper-level undergraduates and graduate students in microbial ecology, freshwater and marine biology, soil ecology, environmental sciences, or those looking to initiate a course in protistology.

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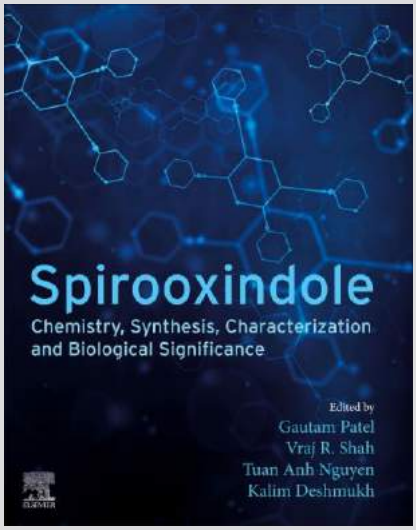

Spirooxindole

Chemistry, Synthesis, Characterization and Biological Significance

Edited by : **Gautam Patel**, Head and Associate Professor, Parul University, India; **Vraj R. Shah**, Department of Applied Chemistry, School of Science, ITM (SLS) Baroda University, India; **Tuan Anh Nguyen**, PhD, Senior Principal Research Scientist, Institute for Tropical Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam and **Kalim Deshmukh**, Senior Researcher, New Technologies - Research Centre, University of West Bohemia, Czech Republic

ISBN: 9780443223242
PUB DATE: Jun 15, 2024
LIST PRICE: £165.00 / $200.00 / €190.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 678
AUDIENCE: Graduate students and researchers working with Medicinal Chemistry, Organic Synthesis, Nanocatalysis etc.
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Covers every aspect of spirooxindole derivatives and their medical uses

KEY FEATURES

- Consolidates information on each aspect of this novel compound and its applications in various fields, covering the entire spectrum of up-to-date literature citations, current market, and patents
- Provides a comprehensive, in-depth description of spirooxindole derivatives as well as multipurpose scaffolds
- Highlights green synthesis and nanocatalysis
- Describes in-depth various medicinal applications
- Covers both synthesis and applications

DESCRIPTION

Spirooxindole: Chemistry, Synthesis, Characterization and Biological Significance examines the current state-of-the-art, recent progress, and new challenges associated with the development of spirooxindole derivatives for various medicinal applications. Owing to their exceptional properties, these compounds can be used in various fields, including chemical and pharma industries, and in clinical research. This book has chapters written by experts in several different areas. It serves as a useful reference book for scientists, industrial practitioners, graduate students, and other professionals in the field of hetrocyclic chemistry, medicinal chemistry, organic synthesis clinical research and chemical sciences.

The growing interest among the academics and industrial researchers in the field of organic chemistry and medicinal chemistry is the driving force for the presentation of this edited book.

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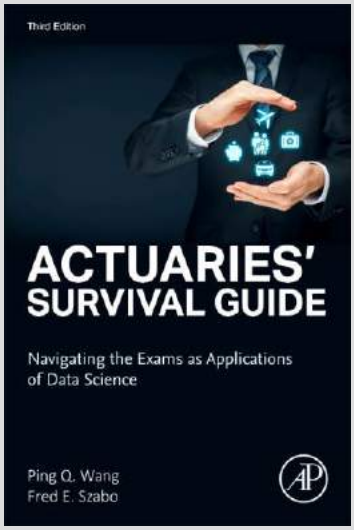

Actuaries' Survival Guide, 3e

Navigating the Exams as Applications of Data Science

Ping Wang, St John's University - Tobin College of Business, NY, USA and **Fred Szabo**, Department of Mathematics, Concordia University, Montreal, Quebec, Canada

ISBN: 9780443154973
PREVIOUS ISBN: 9780123869432
PUB DATE: Jun 11, 2024
LIST PRICE: £45.95 / $59.95 / €51.95
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 256
AUDIENCE: Advanced undergraduate and graduate courses, Researchers/Professionals - qualified/certified actuaries in insurance, pensions, health
BIC CODES: PBW, KFFN
THEMA CLASSIFICATION: THEMAPBW; THEMAKFFN

Real-world view on preparing for and entering a career in the Actuarial Sciences

KEY FEATURES

- Includes details on the Society of Actuaries' (SOA) and Casualty Actuarial Society (CAS) examinations, as well as sample questions and answers
- Presents an overview of career options and includes profiles of companies and agencies that employ actuaries
- Provides a link between theory and practice and helps readers understand the blend of qualitative and quantitative skills and knowledge required to succeed in actuarial exams
- Offers insights provided by real-life actuaries and actuarial students about the profession

DESCRIPTION

Actuaries' Survival Guide: Navigating the Exams as Applications of Data Science, Third Edition explains what actuaries are, what they do, and where they do it. The book describes exciting combinations of ideas, techniques, and skills involved in their day-to-day work. This edition has been updated to reflect the rise of social networking and the internet, the progress toward a global knowledge-based economy, and the global expansion of the actuarial field that has occurred since the prior edition.

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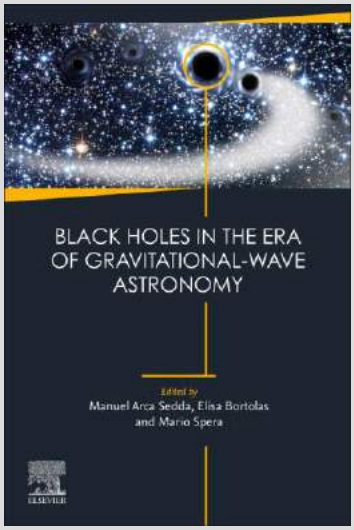

Black Holes in the Era of Gravitational-Wave Astronomy

Edited by : **Manuel Arca Sedda**, Assistant Professor at the Gran Sasso Science Institute, Italy.; **Elisa Bortolas**, Postdoctoral Researcher, University of Milano-Bicocca, Italy and **Mario Spera**, Assistant Professor, International School for Advanced Studies - SISSA, Italy

ISBN: 9780323956369
PUB DATE: Jun 01, 2024
LIST PRICE: £135.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 521
AUDIENCE: Postgraduates, PhD students, researchers, academics and professionals in the field of astrophysics, astronomy, physics, and space engineering
BIC CODES: PG
THEMA CLASSIFICATION: THEMAPG

A comprehensive view on the astrophysics of black holes of all sizes, from their origin to the most recent discoveries and future perspectives

KEY FEATURES

- Focuses on recent advances and future perspectives surrounding black holes, providing researchers with a clear view of cutting-edge research
- Offers readers a multidisciplinary, fresh view on black holes, discussing and reviewing the most recent advancements in theoretical, numerical and observational techniques put in place to detect black holes
- Provides a bridge among different black hole areas, fostering new collaborations among professionals working in different, but intrinsically interconnected fields

DESCRIPTION

Black Holes in the Era of Gravitational-Wave Astronomy provides a multidisciplinary, up-to-date view of the physics of black holes, along with an exhaustive overview of crucial open questions and recent advancements in the astrophysics of black holes in the wake of incredible advancements made in the last decade. It includes discussions on improvements in theoretical modeling and observational perspectives for black holes of all sizes, along with associated challenges. The book's structure and themes will enable an entwined understanding of black hole physics at all scales, thus avoiding the compartmentalized view that is typical of more specialized manuscripts and reviews.

This book is a complete reference for scientists interested in a multidirectional approach to the study of black holes. It provides substantial discussions about the interplay of different types of black holes and gives professionals a heterogeneous and comprehensive overview of the astrophysics of black holes of all masses.

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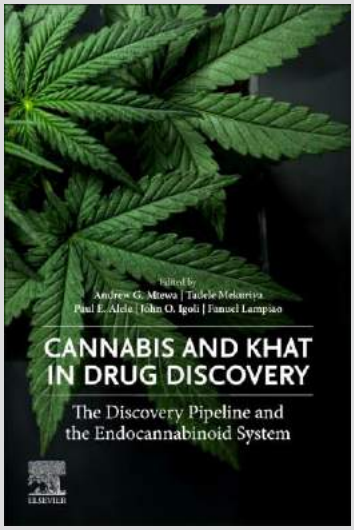

Cannabis and Khat in Drug Discovery

The Discovery Pipeline and the Endocannabinoid System

Edited by : **Andrew G. Mtewa**, PhD, MSc, B.Ed, Medicinal Chemist, Chemistry Section, Department of Applied Studies, Malawi Institute of Technology, Malawi University of Science and Technology, Malawi; **Tadele Mekuriya**, PhD fellow, MSc, B.Sc, Clinical Pharmacologist, Department of Pharmacy, Ambo University, Ethiopia; **Paul E. Alele**, PhD, MBChB, Physician and Pharmacologist, Department of Pharmacology, Mbarara University of Science and Technology, Uganda; **John O. Igoli**, PhD, Natural Products Research Group, Department of Chemistry, University of Agriculture, Makurdi, Nigeria and **Fanuel Lampiao**, PhD, MSc, Dean of Postgraduate Studies and Research / Professor of Reproductive Physiology

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PUB DATE: Jun 01, 2024
LIST PRICE: £165.00 / $200.00 / €190.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 604
AUDIENCE: Students, faculty and researchers in drug discovery, chemical control and regulatory agencies, Psychologists, pharmacists, pharmacologists, toxicologists and pharmaceutical industries, Policy makers, medical professionals
BIC CODES: PNN, TCB, MMG
THEMA CLASSIFICATION: THEMATCB; THEMAMKG; THEMAPNN

Presents the science behind the use of cannabis and khat in drug discovery, design and development

KEY FEATURES

- Covers the medicinal chemistry, pharmacology and biological chemistry of cannabis, khat, their constituent compounds and metabolites
- Presents both the adverse and the beneficial entities to health and drug discovery
- Includes detailed methods and protocol information to allow easy replication and application

DESCRIPTION

Cannabis and Khat in Drug Discovery: The Discovery Pipeline and the Endocannabinoid System provides comprehensive coverage of two important psychoactive plants: Khat and Cannabis. Initial research has found that compounds and derivatives from Cannabis and Khat are found to have promising properties that can be used for the discovery, design and development of potential drug leads against various diseases. This book extensively discusses the drug discovery and allied sciences of these compounds in the drug discovery pipeline, including basic research and computer aided modeling in ligand-drug interactions and their interactions with the endocannabinoid system. Categorized into sections including, chemical analyses and bioassays, medicinal chemistry, chemical biology and pharmacology, clinical applications, and policy and regulations, this book covers the methods and protocols involved and will be of interest to students, researchers, policymakers and all those involved in drug discovery research.

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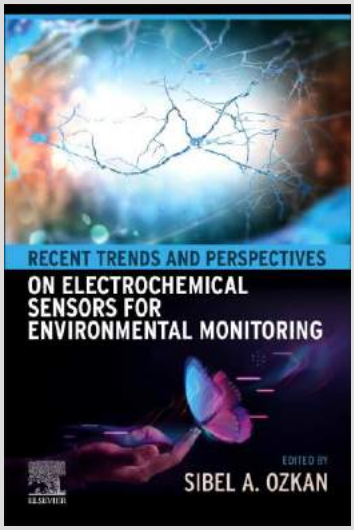

Recent Trends and Perspectives on Electrochemical Sensors for Environmental Monitoring

Edited by : **Sibel A. Ozkan**, Ankara University, Turkey

ISBN: 9780443133886
PUB DATE: Jun 01, 2024
LIST PRICE: £170.00 / $220.00 / €195.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 558
AUDIENCE: Scientists and PhD students working in the analytical chemistry field and focusing on the development of electrochemical sensors and biosensors, Private companies producing electrochemical sensors for the detection of different environmentally important analytes
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Comprehensively explores current trends and progress on electrochemical sensors for environmental monitoring

KEY FEATURES

- Demonstrates how to make a sensitive analysis of environmental pollutants
- Documents state-of-the-art techniques, recent examples, and emphasizes fabrication strategies
- Presents the principles, methods, and equipment needed for various analytes detection and environmental monitoring using electrochemical techniques

DESCRIPTION

Recent Trends and Perspectives on Electrochemical Sensors for Environmental Monitoring presents current trends and progress on electrochemical sensors for environmental monitoring. The book comprehensively discusses various strategies to design electrochemical sensors for the analysis of contaminants of emerging concern in environmental samples and offers a thorough perspective on the most prominent methods, materials, and procedures available in the literature on electrochemical sensors for environmental monitoring.

This book will be a helpful resource for the development of new sensor technologies and advanced onsite applications that can be used in routine analysis.

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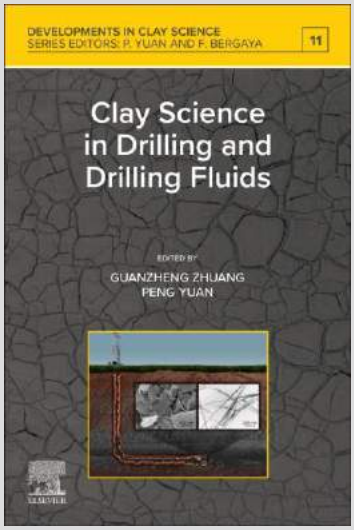

Clay Science in Drilling and Drilling Fluids, Vol 11

Edited by : **Guanzheng Zhuang**, Institute of Resources Utilization and Rare Earth Development Guangdong Academy of Sciences China and **Peng Yuan**, CAS Key Laboratory of Mineralogy and Metallogeny, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou, China

ISBN: 9780443155987
PUB DATE: Jun 01, 2024
LIST PRICE: £134.00 / $167.99 / €155.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 325
AUDIENCE: Undergraduate and graduate students, researchers, engineers and professionals from the fields of drilling engineering, drilling fluids, oil and gas exploitation, industrial use of clay minerals, and clay-based or clay-related materials
BIC CODES: RBGK, PN
THEMA CLASSIFICATION: THEMAPN; THEMARBG

Presents the science and technology of clay minerals in drilling and drilling fluids, with the goal of bridging the gap between clay science and petroleum exploitation

A Volume in the *Developments in Clay Science* Series

KEY FEATURES

- Covers the fundamentals of clay minerals, drilling, and drilling operations
- Discusses applications of the research and science to real world problems
- Introduces available commercial clay products and recommends their use for specific situations

DESCRIPTION

Clay Science in Drilling and Drilling Fluids starts from the fundamentals of clay science and drilling and then comprehensively presents the advances of clay science related to drilling, drilling fluids, and clay products. The topics combine to present the whole picture of fundamental research and industrial applications of clays and clay minerals in drilling operations, which is of general interest to researchers and engineers working in related fields. This book covers the different levels of clay science in drilling and drilling fluids, i.e., from fundamentals to the latest research results, applications, and commercial products.

Oil and gas are the primary sources of energy in human society and the foundation of the petrochemical industry. However, extracting these resources present a number of drilling challenges, including high temperature and high pressure (HTHP), offshore drilling, high angle drilling, and even horizontal drilling, among others. As a result, it is crucial to develop advanced drilling and drilling fluid technologies that speak to these challenges.

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Biochemical and Molecular Pharmacology in Drug Discovery

Edited by : **William Chi Shing Cho**, Queen Elizabeth Hospital, Hong Kong, China; **Chukwuebuka Egbuna**, Chartered Chemist and Academic Researcher, Nigeria and **Mithun Rudrapal**, Rasiklal M. Dhariwal Institute of Pharmaceutical Education and Research, India

ISBN: 9780443160134
PUB DATE: Jun 01, 2024
LIST PRICE: £175.00 / $225.00 / €200.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 465
AUDIENCE: Medicinal chemists, pharmaceuticals, biotechnologists, working in both academia and industry, postgraduate students in related fields, Scientists working in Government Research Agencies, industrial scientists
BIC CODES: MMG, KNDP, PSD
THEMA CLASSIFICATION: THEMAMKG; THEMAKND; THEMAPSD

Provides comprehensive and in-depth information on biochemical and molecular aspects involved in drug discovery research

A Volume in the *Drug Discovery Update* Series

KEY FEATURES

- Highlights the fundamentals of biochemical and molecular aspects, with reference to drug discovery research
- Depicts modern drug discovery approaches such as reverse pharmacology, drug repositioning, and CADD in the context of current research updates
- Summarizes recent developments in the molecular pharmacology of novel drugs/ therapeutic molecules

DESCRIPTION

Biochemical and Molecular Pharmacology in Drug Discovery comprises fundamental biochemical and molecular aspects of drug discovery and basic understanding of modern drug discovery approaches, along with certain key topics related to molecular pharmacology of drugs and therapeutics. The book explains the phenomena of drug-target interactions, considering different biochemical systems and cellular strategies. With the advent of technologies, current advances, and research trends move toward molecular and/or target-based drug design and discovery. Through this book, readers will gain skills and knowledge with a thorough understanding of the subject of biochemical and molecular pharmacology in a comprehensive and systematic manner.

Molecular pharmacology has gained significant momentum among researchers, scientists, and academicians because of its increasing interest in drug discovery research across the globe. Molecular pharmacology involves a fundamental understanding of drug actions at the molecular level with the help of several tools and techniques of biochemical and molecular biology.

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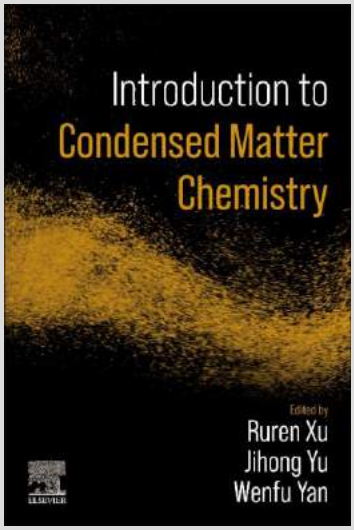

Introduction to Condensed Matter Chemistry

Edited by : **Jihong Yu**, Jilin University, China.; **Ruren Xu**, Jilin University, China. and **Wenfu Yan**, Jilin University, China.

ISBN: 9780443161407
PUB DATE: Jun 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 working with Condensed Matter Chemistry, inorganic chemists, Material science researchers
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Offers a general view of chemistry from the perspective of condensed matter chemistry, emphasizing the need to study chemical reactions

KEY FEATURES

- Helps to establish the new field of Condensed Matter Chemistry
- Highlights the molecular engineering of functional condensed matter
- Focuses on both liquid and solid state chemistry

DESCRIPTION

Introduction to Condensed Matter Chemistry offers a general view of chemistry from the perspective of condensed matter chemistry, analyzing and contrasting chemical reactions in a more realistic setting than traditional thinking. Readers will also find discussions on the goals and major scientific questions in condensed matter chemistry and the molecular engineering of functional condensed matter. Processes and products of chemical reactions should not be determined solely by the structure and composition of these basic species but also by the complex and possibly multilevel structured physical and chemical environment, together referred to as their condensed state.

Relevant matters in condensed state should be the main bodies of chemical reactions, which is applicable not only to solids and liquids but also to gas molecules as reactions among gas molecules can take place only in the presence of catalysts in specific condensed states or after their state transition under extreme reaction conditions. This book provides new insights on the liquid state chemistry, definitions, aspects, and interactions, summarizing fundamentals of main chemical reactions from a new perspective.

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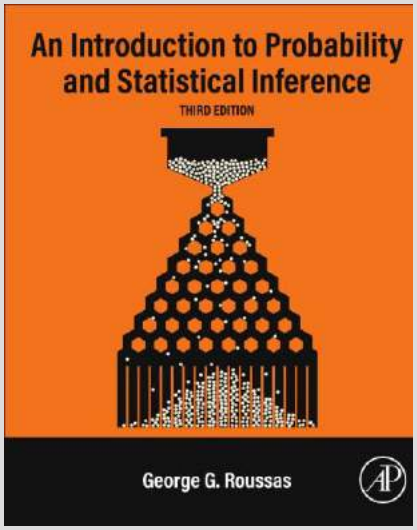

An Introduction to Probability and Statistical Inference, 3e

George G. Roussas, University of California, Davis, USA

ISBN: 9780443187209
PREVIOUS ISBN: 9780128001141
PUB DATE: Jun 01, 2024
LIST PRICE: £115.00 / $150.00 / €130.00
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 558
AUDIENCE: Advanced students taking courses on Probability & Statistical Inference Researchers and academics across math, engineering, physical and life sciences, who require advanced coverage on the subject
BIC CODES: PBT, PBWL
THEMA CLASSIFICATION: THEMAPBT; THEMAPBWL

Valuable resource for advanced students and users to encourage critical thinking and application of key methods

KEY FEATURES

- Offers a relatively rigorous, yet accessible, mathematical discussion of probability theory and statistical inference important to students in a broad variety of disciplines
- Includes relevant proofs and exercises with useful hints to their solutions
- Provides brief answers to even-numbered exercises at the back of the book and detailed solutions to all exercises available to qualified instructors in the Solutions Manual

DESCRIPTION

An Introduction to Probability and Statistical Inference, Third Edition guides the reader through probability models and statistical methods to develop critical-thinking skills. Written by award-winning author George Roussas, this valuable text introduces a thinking process to help users obtain the best solution to a posed question or situation and provides a plethora of examples and exercises to illustrate applying statistical methods to different situations.

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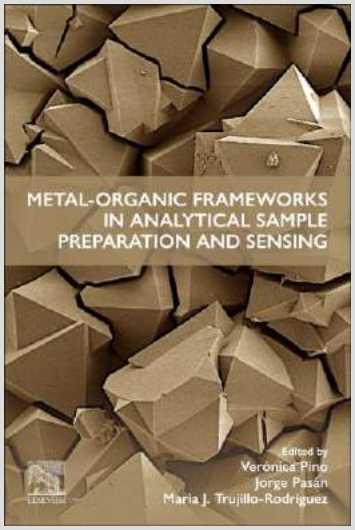

Metal-Organic Frameworks in Analytical Sample Preparation and Sensing

Edited by : **Verónica Pino**, Professor, University of La laguna and PI of Laboratory of Materials for Chemical Analysis (MAT4LL), Spain; **Jorge Pasán**, Distinguished Researcher, University of La laguna, Spain and **Maria José Trujillo Rodríguez**, Junior Researcher, University of La laguna and member of Laboratory of Materials for Chemical Analysis (MAT4LL), Spain

ISBN: 9780443189715
PUB DATE: Jun 01, 2024
LIST PRICE: £165.00 / $200.00 / €190.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 279
AUDIENCE: Academics but also Analytical Scientists and Laboratory Technicians primary related to the food, environmental, and bioanalysis sectors.
BIC CODES: PNF
THEMA CLASSIFICATION: THEMAPNF

Integration of metal-organic frameworks in analytical sample preparation and sensing

KEY FEATURES

- Provides analytical scientists with a unified reference guide for the use of metal-organic frameworks in miniaturized-extraction methods and sensing.
- Covers aspects related to the development, characterization, conditioning and handling of metal-organic frameworks. Issues of scale-up will be covered too.
- Addresses the proper metal-organic framework for a particular analytical miniaturized method.

DESCRIPTION

Metal-organic Frameworks in Analytical Sample Preparation and Sensing presents all the areas of applications of metal-organic frameworks in analytical sample preparation. Metal-organic frameworks are crystalline coordination polymers with robust and stable crystal structures, high synthetic tunability, and interesting properties for their use in analytical applications, including their detailed use as sorbents in miniaturized-extraction procedures and as components in sensors.

This book also provides important information about the synthesis and characterization of these materials, with useful tips written by experts on the subject with respect to their conditioning, handling, and recycling. Their outstanding properties, adsorptive capabilities, and structural diversity are also highlighted. This will help experts in the field to select the proper metal-organic framework for a particular analytical application.

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CHEMISTRY Analytical Chemistry
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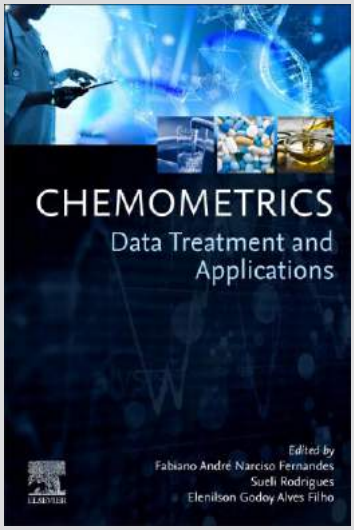

Chemometrics

Data Treatment and Applications

Edited by : **Fabiano André Narciso Fernandes**, Professor, Department of Chemical Engineering, Federal University of Ceará (UFC), Brazil; **Sueli Rodrigues**, Professor, Department of Food Engineering, Federal University of Ceará (UFC), Brazil and **Elenilson Godoy Alves Filho**, Professor, Department of Food Engineering (DEAL), Federal University of Ceara (UFC), Brazil

ISBN: 9780443214936
PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 437
AUDIENCE: Analytic chemists as practitioners in analytical laboratories and other industries, academics and graduate, masters and postdoc students chiefly working in analytical chemistry who want to improve the practical aspects of their research activities, those working in industrial sectors including chemical engineering, pharmaceutics, biotechnology, mechanical industry, food engineering and chemistry, and materials science
BIC CODES: MMG, PNN, PNF, PNFS, PHK, TDCT
THEMA CLASSIFICATION: THEMAPNN; THEMAMKG; THEMAPNF; THEMAPNFS; THEMAPHK; THEMATDCT

Presents practical information on the methodology required to apply chemometrics to real-world data obtained by various types of analytical instruments

KEY FEATURES

- Presents topical and important chapters for the most-used analytical instruments
- Focuses on practical issues in the implementation of chemometrics
- Examines advances in the application of chemometrics in several fields
- Includes frank perspectives on what works well for the data of a certain analytical instrument given the multiple choices of mathematical models and protocols that can be applied
- Covered protocols are heavily illustrated with case studies showing their potential use and the advances in chemometrics

DESCRIPTION

Chemometrics: Data Treatment and Applications demonstrates best practices for treating real-world analytical instrument data and how to apply chemometrics to this data. Rather than focusing on the mathematical theory involved in chemometrics, the book is meant for the industrial chemist, academics, and advanced students that want to use chemometrics in practice. Case studies on several applications are presented. Unlike existing literature, this book focuses on best practices, practical realities, and challenges when treating data, rather than on the mathematical theory. It also provides basic information on chemometrics and the best practices used to treat data from different analytical instruments.

The book is written primarily for analytic chemists as practitioners in analytical laboratories and other industries. It will also be useful to academics and graduate, masters and postdoc students chiefly working in analytical chemistry who want to improve the practical aspects of their research activities.

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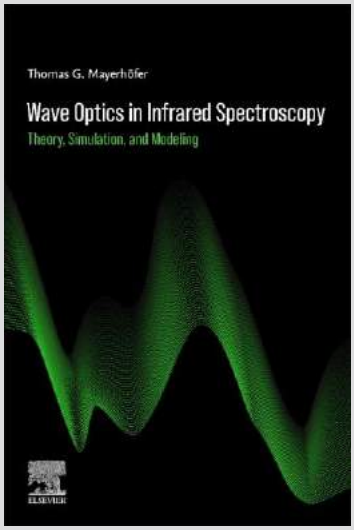

Wave Optics in Infrared Spectroscopy

Theory, Simulation, and Modeling

Thomas G. Mayerhöfer, Senior Researcher, Leibniz Institute of Photonic Technology, Germany

ISBN: 9780443220319
PUB DATE: Jun 01, 2024
LIST PRICE: £165.00 / $200.00 / €190.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 432
AUDIENCE: Chemists, physicists, astronomers, and chemical/optical engineers who work in the field of Infrared Spectroscopy. The book is written as a tool to reunite the fragmented field of infrared spectroscopy. Chemistry and physics graduate and postdoc students with an interest in optical spectroscopy; the book is heavily developed and evolved from a lecture series by the author for chemistry, physics, and photonics master students. Analytical/molecular infrared spectroscopists can supplement their knowledge to understand seemingly surprising artefacts in spectra quantitatively and understand how basic theory must be modified to explain results of modern analytical approaches. Physicists with focus on remote sensing on solar and extrasolar surfaces or on understanding exotic properties of matter by infrared spectroscopy learn how to explain their results quantitatively. People with a photonics background learning how concepts used in analytical and molecular infrared spectroscopy relate to higher level theory, i.e., wave optics and dispersion theory, with which they are more familiar with
BIC CODES: TTBL, PNFS, PNR, PH
THEMA CLASSIFICATION: THEMAPNFS; THEMATTBL; THEMAPNR; THEMAPH

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Provides a comprehensive explanation of the theories of wave optics in infrared spectroscopy, including dispersion theory

KEY FEATURES

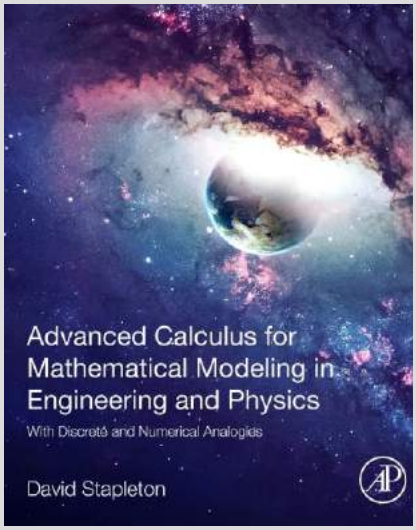
- Assists the reader (including those with less physical science backgrounds) in using more of the extensive benefits that infrared spectroscopy can provide by making them better aware and informed about the higher-level theory
- Built on wave optics and dispersion theory versus the Bouguer-Beer-Lambert law of conventional infrared spectroscopy literature
- Explains the limits of lower level of theory
- Provides a thorough introduction to more sophisticated topics, with a smooth transition from lower to higher level theory

DESCRIPTION

Wave Optics in Infrared Spectroscopy starts where conventional books about infrared spectroscopy end. Whereas the latter are based on the Bouguer-Beer-Lambert law, the cornerstones of this book are wave optics and dispersion theory.

This gap between both levels of theory is bridged to allow a seamless transition from one to the other. Based on these foundations, the reader is able to choose which level of theory is adequate for the particular problem at hand. Advanced topics like 2D correlation analysis, chemometrics and strong coupling are introduced and viewed from a wave optics perspective. Spectral mixing rules are also considered to better understand spectra of heterogeneous samples. Finally, optical anisotropy is examined to allow a better understanding of spectral features due to orientation and orientational averaging. This discussion is based on a 4 x 4 matrix formalism, which is used not only to simulate and analyze complex materials, but also to understand vibrational circular dichroism from a (semi-) classical point of view.

Wave Optics in Infrared Spectroscopy is written as a tool to reunite the fragmented field of infrared spectroscopy. It will appeal to chemists, physicists, and chemical/optical engineers.



Advanced Calculus for Mathematical Modeling in Engineering and Physics

With Discrete and Numerical Analogies

David Stapleton, Professor, Department of Mathematics & Statistics University of Central Oklahoma Edmond, Oklahoma, USA

ISBN: 9780443222894
PUB DATE: Jun 01, 2024
LIST PRICE: £96.95 / $130.00 / €114.00
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 792
AUDIENCE: Advanced undergraduate and graduate students, taking courses in Advanced Calculus, Professionals / researchers / academics who require an introduction or refresher to the subject, especially with applications in applied math, physics, computer science, engineering, chemistry, and biology
BIC CODES: PBW
THEMA CLASSIFICATION: THEMAPBW

Bridges the gap between advanced calculus theory and applications through its state space/functional analysis approach

KEY FEATURES

- Adopts a state space/functional analysis approach to advanced calculus-based models to provide a better understanding of the development of models and the behaviors of their solutions
- Uniquely includes discrete analogies to calculus-based models, as well as the derivation of many advanced calculus models of physics and engineering– instead of only seeking solutions to the models
- Offers online teaching support for qualified instructors (for selected solutions) and study materials for students (MATLAB/Octave scripts)

DESCRIPTION

Advanced Calculus for Mathematical Modeling in Engineering and Physics: With Discrete and Numerical Analogies introduces the principles and methods of advanced calculus for mathematical modeling through a balance of theory and application using a state space approach with elementary functional analysis. This framework facilitates a deeper understanding of the nature of mathematical models, and of the behavior of their solutions. The work provides a variety of advanced calculus models for mathematical, physical science, and engineering audiences, with discussions on how calculus-based models and their discrete analogies are generated. This valuable textbook offers scientific computations driven by Octave/MATLAB script.

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Making IT Sustainable

Techniques and Applications

Mikhail Gloukhovtsev, Associate Director, Kyndryl, New York, NY, USA

ISBN: 9780443135972
PUB DATE: Jun 01, 2024
LIST PRICE: £134.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 292
AUDIENCE: Graduate students, researchers, and professionals in the fields of computer engineering, embedded systems, and solutions architecture, IT directors and managers responsible for IT sustainability programs, Graduate students, researchers and professionals in environmental studies, studying IT sustainability, are also potential buyers of the book.
BIC CODES: TJFD1, TVF, RN, UY, UYF
THEMA CLASSIFICATION: THEMATJFD; THEMATVF; THEMATQ; THEMATJF; THEMAUY; THEMAUYF

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Presents recent advancements in IT sustainability initiatives involving hardware, software, internet infrastructure, and data center design

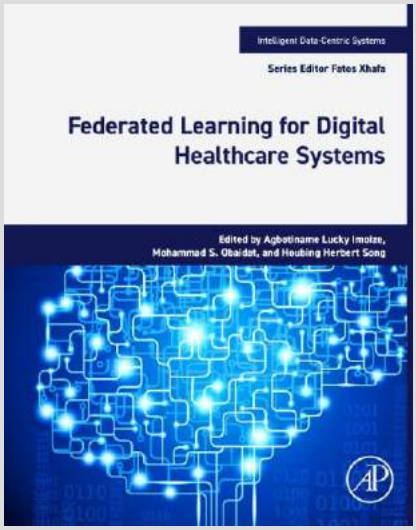
KEY FEATURES

- Presents various initiatives to address IT sustainability, looking at approaches for improving energy efficiency in IT such as Adiabatic Reversible Computing, use of direct current, and dematerialization
- Focuses on the design of sustainable IT systems and aims to be solution oriented
- Reviews innovations in software development that contribute to GHG emission reductions such as Rust programming language
- Investigates innovations in data center technologies, green software, adiabatic reversible computing, and cloud computing

DESCRIPTION

Implementing sustainability solutions in Information Technology (IT) or broader – in Information Communications Technology (ICT) - is a challenge but it is essential. The goal of **Making IT Sustainable: Techniques and Applications** is to show how it has been done, strategies, various solutions, tool sets, and best practices. Various IT areas are investigated – from data center technologies and operations to cloud computing, to green software, to cryptocurrency, to the transformative AI role in making IT sustainable, to quantum and adiabatic computing. The adoption of sustainable IT practices reduces the environmental footprint of IT by advocating for the utilization of renewable energy sources, electronic waste reduction, the design of energy-efficient IT devices, innovative cooling technologies, and circular economy.

Sustainable IT is a complex and challenging field. As a result, there are many questions and uncertainties about how to implement sustainable practices across various scenarios. **Making IT Sustainable: Techniques and Applications** asks several insightful questions: How can environmentally sustainable data centers be built? How do we compare the carbon footprint of data centers versus public cloud, and cloud-focused IT sustainability standards? How can quantum computing be made environmentally friendly? How to make cryptocurrency mining sustainable? Are the economic costs of sustainable IT prohibitively higher than society is willing to bear? Transformative role of AI in making IT sustainable is reviewed.



Federated Learning for Digital Healthcare Systems

Edited by : **Agbotiname Lucky Imoize**, PhD, Department of Electrical and Electronics Engineering, Faculty of Engineering, University of Lagos, Lagos, Nigeria; **Mohammad S Obaidat**, PhD, University of Jordan, Aman, Jordan; **Houbing H. Song**, PhD, University of Maryland, Baltimore County (UMBC), Baltimore, USA and **Fatos Xhafa**, PhD, Full Professor of Computer Science, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain

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LIST PRICE: £138.00 / $180.00 / €160.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 279
AUDIENCE: Graduate students, researchers, and professionals from academia and industry, working in the fields of computer science, federated learning and digital healthcare
BIC CODES: UMB, UYQ, UYQE, PBD
THEMA CLASSIFICATION: THEMAUMB; THEMAPBD; THEMAUYQ; THEMAUYQE; THEMAKJ; THEMAUFL

Explores the potential of federated learning in emerging digital healthcare systems

A Volume in the *Intelligent Data-Centric Systems* Series

KEY FEATURES

- Provides insights into real-world scenarios of the design, development, deployment, application, management, and benefits of federated learning in emerging digital healthcare systems
- Highlights the need to design efficient federated learning-based algorithms to tackle the proliferating security and patient privacy issues in digital healthcare systems
- Reviews the latest research, along with practical solutions and applications developed by global experts from academia and industry

DESCRIPTION

Federated Learning for Digital Healthcare Systems critically examines the key factors that contribute to the problem of applying machine learning in healthcare systems and investigates how federated learning can be employed to address the problem. The book discusses, examines, and compares the applications of federated learning solutions in emerging digital healthcare systems, providing a critical look in terms of the required resources, computational complexity, and system performance.

In the first section, chapters examine how to address critical security and privacy concerns and how to revamp existing machine learning models. In subsequent chapters, the book's authors review recent advances to tackle emerging efficient and lightweight algorithms and protocols to reduce computational overheads and communication costs in wireless healthcare systems. Consideration is also given to government and economic regulations as well as legal considerations when federated learning is applied to digital healthcare systems.

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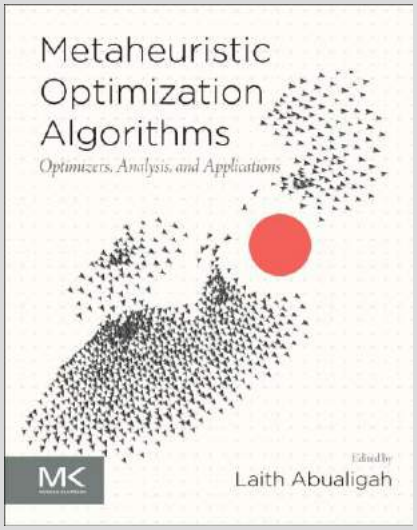

Metaheuristic Optimization Algorithms

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. 232
AUDIENCE: 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

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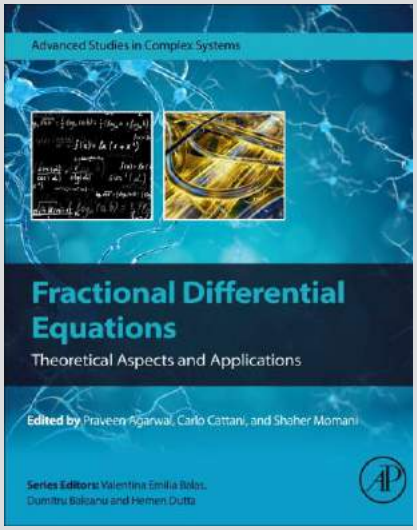
Presents the foundations and mathematics of Metaheuristic Optimization Algorithms through a wide range of real-world applications

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.



Fractional Differential Equations

Theoretical Aspects and Applications

Edited by : **Praveen Agarwal**, Full Professor, Anand International College of Engineering, Jaipur India; Nonlinear DynamicsResearch Center (NDRC), Ajman University, Ajman, UAE; Peoples Friendship University of Russia (RUDN University), Russian Federation; **Carlo Cattani**, Professor (habil. full professor) of Mathematical Physics and Applied Mathematics at the Engineering School (DEIM) of Tuscia University (VT), Italy and **Shaher Momani**, Dean, College of Humanities and Sciences, Ajman University, United Arab Emirates and Distinguished Professor of Mathematics, University of Jordan, Jordan

ISBN: 9780443154232
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LIST PRICE: £130.00 / $170.00 / €148.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 214
AUDIENCE: Mathematicians, researchers in computational modelling and computational biology, computer scientists, engineers, as well as researchers in biomedical engineering, control engineering, mechatronics, and robotics
BIC CODES: PBW
THEMA CLASSIFICATION: THEMAPBW

Presents mathematical and computational models using Fractional Differential Equations applied to scientific research topics

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

KEY FEATURES

- Provides the most recent and up-to-date developments in the theory and scientific applications Fractional Differential Equations
- Includes transportable computer source codes for readers in MATLAB, with code descriptions as it relates to the mathematical modelling and applications
- Provides readers with a comprehensive foundational reference for this key topic in computational modeling, which is a mathematical underpinning for most areas of scientific and engineering research

DESCRIPTION

Fractional Differential Equations: Theoretical Aspects and Applications presents the latest mathematical and conceptual developments in the field of Fractional Calculus and explores the scope of applications in research science and computational modeling. The book delves into these methods and applied computational modelling techniques, including analysis of equations involving fractional derivatives, fractional derivatives and the wave equation, analysis of FDE on groups, direct and inverse problems, functional inequalities, and computational methods for FDEs in physics and engineering. Other modeling techniques and applications explored include general fractional derivatives involving the special functions in analysis and fractional derivatives with respect to other functions. Fractional Calculus, the field of mathematics dealing with operators of differentiation and integration of arbitrary real or even complex order, extends many of the modelling capabilities of conventional calculus and integer-order differential equations and finds its application in various scientific areas, such as physics, mechanics, engineering, economics, finance, biology, and chemistry, among others.

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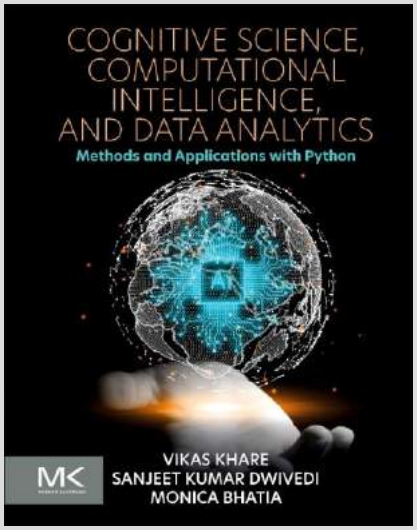

Cognitive Science, Computational Intelligence, and Data Analytics

Methods and Applications with Python

Vikas Khare, PhD, Associate Professor, School of Technology, Management and Engineering NMIMS, Indore, India, Certified Energy Manager, Bureau of Energy Efficiency India; **Sanjeet Kumar Dwivedi**, Scrum Master and Senior R&D Engineer, Danfoss Power Electronics, Adjunct Professor, Curtin University, Australia and **Monica Bhatia**, MD, Associate Professor, Pediatrics, Columbia University Irving Medical Center, New York, NY

ISBN: 9780443160783
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LIST PRICE: £91.95 / $120.00 / €104.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 186
AUDIENCE: Computer Science researchers, data science researchers, and data analysis researchers in academia and industry, Graduate students and senior undergraduate students in Computer Science, data science, and data analysis
BIC CODES: UB
THEMA CLASSIFICATION: THEMAUNC

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Presents a methodical and thorough explanation of data analytics in the context of cognitive science and computational intelligence

KEY FEATURES

- Demystifies the theory of data analytics using a step-by-step approach
- Covers the intersection of cognitive science, computational intelligence, and data analytics by providing examples and case studies with applied algorithms, mathematics, and Python programming code
- Introduces foundational data analytics techniques such as CRISP-DM, SEMMA, and Object Detection Models in the context of computational intelligence methods and tools
- Covers key concepts of multivariate and cognitive data analytics such as factor analytics, principal component analytics, linear regression analysis, logistic regression analysis, and value chain applications

DESCRIPTION

Cognitive Science, Computational Intelligence, and Data Analytics: Methods and Applications with Python introduces readers to the foundational concepts of data analysis, cognitive science, and computational intelligence, including AI and Machine Learning. The book's focus is on fundamental ideas, procedures, and computational intelligence tools that can be applied to a wide range of data analysis approaches, with applications that include mathematical programming, evolutionary simulation, machine learning, and logic-based models. It offers readers the fundamental and practical aspects of cognitive science and data analysis, exploring data analytics in terms of description, evolution, and applicability in real-life problems.

The authors cover the history and evolution of cognitive analytics, methodological concerns in philosophy, syntax and semantics, understanding of generative linguistics, theory of memory and processing theory, structured and unstructured data, qualitative and quantitative data, measurement of variables, nominal, ordinals, intervals, and ratio scale data. The content in this book is tailored to the reader's needs in terms of both type and fundamentals, including coverage of multivariate analysis, CRISP methodology and SEMMA methodology. Each chapter provides practical, hands-on learning with real-world applications, including case studies and Python programs related to the key concepts being presented.

Computational Intelligence Techniques for Sustainable Supply Chain Management

Edited by : **Sanjoy Kumar Paul**, Associate Professor, UTS Business School, University of Technology Sydney, Sydney, Australia and **Sandeep Kautish**, Professor and Director, Apex Institute of Technology (AIT - CSE), Chandigarh University, Punjab, India

ISBN: 9780443184642
PUB DATE: Jun 01, 2024
LIST PRICE: £134.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 325
AUDIENCE: Academicians and industry researchers and practitioners, supply chain and logistics practitioners, professionals in logistics, transportation, and distribution, production and inventory management Professionals
BIC CODES: TB, UYQ, UFL, UYQE
THEMA CLASSIFICATION: THEMAUYQ; THEMAKJ; THEMAUFL; THEMAKJT; THEMAUYQE

Explores the state-of-the-art in using computational intelligence for solving supply chain sustainability issues and logistic problems

A Volume in the *Uncertainty, Computational Techniques, and Decision Intelligence* Series

KEY FEATURES

- Serves as a reference on computational intelligence–enabled sustainable supply chains for graduate students in computer/data science, industrial engineering, industrial ecology, and business
- Explores key topics in sustainable supply chain informatics, that is, heuristics, metaheuristics, robotics, simulation, machine learning, big data analytics and artificial intelligence
- Provides a foundation for industry leaders and professionals to understand recent and cutting-edge methodologies and technologies in the domain of sustainable supply chain powered by computational intelligence techniques

DESCRIPTION

Computational Intelligence Techniques for Sustainable Supply Chain Management presents state-of-the-art computational intelligence techniques and applications for supply chain sustainability issues and logistic problems, filling the gap between general textbooks on sustainable supply chain management and more specialized literature dealing with methods for computational intelligence techniques. This book focuses on addressing problems in advanced topics in the sustainable supply chain and will appeal to practitioners, managers, researchers, students, and professionals interested in sustainable logistics, procurement, manufacturing, inventory and production management, scheduling, transportation, and supply chain network design.

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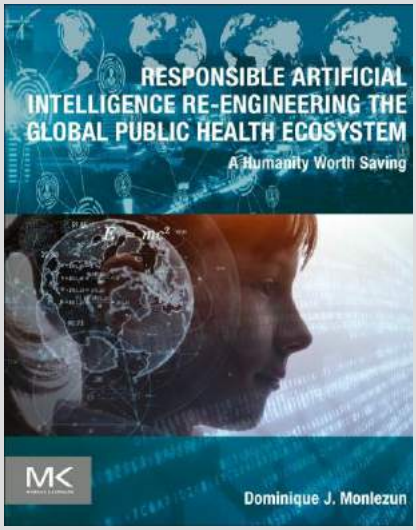

Responsible Artificial Intelligence Re-engineering the Global Public Health Ecosystem

A Humanity Worth Saving

Dominique J Monlezun, Anderson Cancer Center, Houston, TX, USA

ISBN: 9780443215971
PUB DATE: Jun 01, 2024
LIST PRICE: £115.00 / $150.00 / €130.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 232
AUDIENCE: Computer Scientists and researchers in Artificial Intelligence and Machine Learning, as well as practitioners in public health, medicine, health policy, public policy, political science, economics, and ethics. 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 and healthcare administration problems will be a target audience. Upper-level undergrad and graduate students in Computer Science, AI, ML, public health, medicine, health policy, public policy, political science, economics, and ethics
BIC CODES: UYQ, UYQE, MBN, VFD
THEMA CLASSIFICATION: THEMAUYQ; THEMAUYQE; THEMAVFD; THEMAMBN

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Provides a comprehensive analysis of how AI can revolutionize post-colonial global public health to solve our growing existential crises

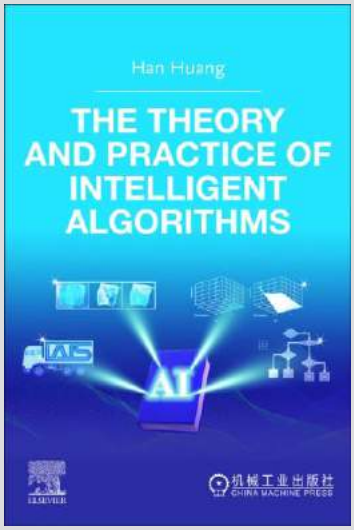
KEY FEATURES

- Details the first comprehensive ecosystem analysis of global public health revolutionized by AI.
- Uses concrete examples to explain the dominant players and trends determining health's future, including through data architecture, financing, political economics, demographics, security, and multicultural ethics.
- Provides a successful full-spectrum formula for governments, institutions, companies, and communities to scale equitable health globally while respecting local identities and values.

DESCRIPTION

Responsible Artificial Intelligence Re-engineering the Global Public Health Ecosystem: A Humanity Worth Saving is the first comprehensive book showing how trustworthy AI can revolutionize decolonized global public health. It explains how it works as an ecosystem and how it can be fixed to equitably empower us all to solve the defining crises of our era, from poverty to pandemics, climate to conflicts, debt to divisions. It is written from the first-hand perspective of the world's first triple doctorate trained physician-data scientist and ethicist who has cared for more than 10,000 patients and authored 5 AI textbooks and more than 400 scientific and ethics papers. This essential resource integrates science, political economics, and ethics to unite our unique cultures, belief systems, institutions, and governments. In doing so, it is meant to give humanity a fighting chance against shared existential threats through cooperation and managed strategic competition for integral sustainable development.

Taking seriously diverse voices, perspectives, and insights from the Global North and the Global South, this book uses concrete examples backed up by clear explanations to elucidate the current failures, emerging successes, and societal trends of global public health. It shows how a small number of powerful governments and corporations—amid digitalization, deglobalization, and demographic shifts—dominate global health, and how we can re-engineer a better future for it both societally and technologically.



The Theory and Practice of Intelligent Algorithms

Han Huang, Professor & Doctoral supervisor, School of Software Engineering, South China University of Technology, Beijing, China

ISBN: 9780443217586
PUB DATE: Jun 01, 2024
LIST PRICE: £91.95 / $120.00 / €104.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 232
AUDIENCE: Those who are interested in research on intelligent algorithms can learn about the computation time analysis of intelligent algorithms using experimental statistics. They can also use this method to conduct computation time analysis of other algorithms. Besides, this book introduces the latest application achievements in multiple fields, including computer vision, logistics scheduling, software testing, and multi-objective optimization. It can help readers understand the research results of the above five research directions and obtain real experimental data as well as practical codes. As a supplementary text for graduate and undergraduate students who majored in courses related to intelligent algorithms
BIC CODES: UYQV, UM, PBD, UY
THEMA CLASSIFICATION: THEMAUYQV; THEMAUYQP; THEMAUM; THEMAUY; THEMAPBD

Presents the latest achievements of the computation time analysis theory and practical applications of intelligent algorithms

KEY FEATURES

- Integrates the theoretical analysis results of intelligent algorithms, which is convenient for the majority of researchers to deeply understand the theoretical analysis results of intelligent algorithms and further supplement and improve the theoretical research of intelligent algorithms
- Opens up readers' understanding of the theoretical level of intelligent algorithms and spreads the inherent charm of intelligent algorithms
- Integrates the diverse knowledge of society and provides a more comprehensive and scientific knowledge of intelligent algorithm theory

DESCRIPTION

The Theory and Practice of Intelligent Algorithms discusses the latest achievements of the computation time analysis theory and practical applications of intelligent algorithms. In five chapters, the book covers (1) New methods of intelligent algorithm computation time analysis; (2)Application of intelligent algorithms in computer vision; (3) Application of intelligent algorithms in logistics scheduling; (4) Application of intelligent algorithms in software testing; and (5) Application of intelligent algorithm in multi-objective optimization.

The content of each chapter is supported by papers published in top journals. The book's authors introduce the work of each part, which mainly includes a brief introduction (mainly for readers to understand) and academic discussion (rigorous theoretical and experimental support), in a vivid and interesting way through excellent pictures and literary compositions. To help readers learn and make progress together, each part of this book provides relevant literature, code, experimental data, and so on.

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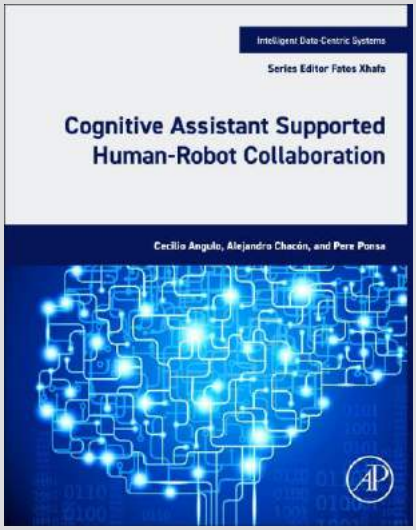

Cognitive Assistant Supported Human-Robot Collaboration

Cecilio Angulo, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain; **Alejandro Chacón**, Universidad de las Fuerzas Armadas – ESPE, Quito, Ecuador and **Pere Ponsa**, Barcelona East School of Engineering - EEBE, Barcelona, Spain

ISBN: 9780443221354
PUB DATE: Jun 01, 2024
LIST PRICE: £146.00 / $180.00 / €170.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 279
AUDIENCE: Researchers and graduate students working in the field of computer science, specifically focusing on cognitive assistants, IoT, human-robot interaction, collaborative robotics, and data-centric systems
BIC CODES: UYQM, UYZ, UYQE, UYQ
THEMA CLASSIFICATION: THEMAUYQ; THEMAUYZ; THEMAUYQE

Provides a comprehensive resource on the development of cognitive assistants working in human-robot teams in an AIoT domain

A Volume in the *Intelligent Data-Centric Systems* Series

KEY FEATURES

- Introduces fundamental concepts of cognitive assistants and human-robot collaboration
- Investigates the optimization capabilities of human-cyber physical systems
- Discusses planning and implementation of cognitive assistant projects
- Explores concepts and design elements of human collaborative workspaces

DESCRIPTION

Cognitive Assistant Supported Human-Robot Collaboration covers the design and development of cognitive assistants in the smart factory era, its application domains, challenges, and current state-of-the-art in assistance systems with collaborative robotics and IoT technologies, standards, platforms, and solutions. This book also provides a sociotechnical view of collaborative work in human-robot teams, investigating specific methods and techniques to analyze assistance systems. This provides readers with a comprehensive overview of how cognitive assistants function and work in human-robot teams.

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Health on the Move 3: the Reviews, Vol 13

Edited by : **Jenny Mindell** and **Stephen Watkins**

ISBN: 9780443221804
PUB DATE: Jun 01, 2024
LIST PRICE: £125.00 / $200.00 / €143.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 279
AUDIENCE: Policy-makers, practitioners, researchers, and students working in transport planning, public health, or spatial planning in any country. In particular: health professionals interested in transport and climate change, transport professionals interested in climate change and health, anyone interested in transport policy.
BIC CODES: LNKT
THEMA CLASSIFICATION: THEMALNKT

Discover the 3 As and the 7 Cs of transport and health

KEY FEATURES

- Provides high quality, fully peer-reviewed, literature reviews on topics in Transport and Health
- Includes self-contained chapters for readers with specific interests
- Links transport and public health disciplines by providing up-to-date evidence on a range of topics and potential interventions

DESCRIPTION

Health on the Move 3: the Reviews, Volume 13 covers this important field of interdisciplinary study. As part of the Transport and Health Science Group's process of updating Health on the Move 2 it has commissioned a number of in-depth reviews of various aspects of the field. This new release includes chapters such as T&H, inequalities, social exclusion, etc., What are the impacts of disability on travel?, What interventions increase active travel?, Impact of active commuting to school on children's health: an overview of systematic reviews, How important is travel mode in determining injury and fatality rates related to travel?, and more.

Other chapters in this new release include What are the impacts of area-wide 20mph [30kph] speed limits?, What policies are effective in reducing congestion?, What are the economic and social impacts of public transport and how do these relate to health?, Health outcomes of public transport: a systematic review, Transport and Loneliness, Costs of transport and mental health and wellbeing, and What contribution does each of the factors affecting gender differences in travel patterns make?

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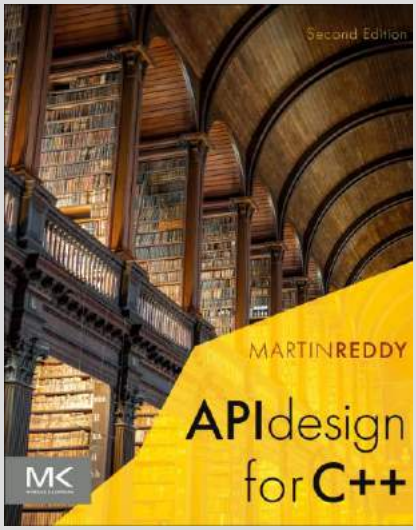

API Design for C++, 2e

Martin Reddy, Fellow of the IEEE, a Fellow of the AAIA, and a Distinguished Member of the ACM.

ISBN: 9780443222191
PREVIOUS ISBN: 9780123850034
PUB DATE: Jun 01, 2024
LIST PRICE: £72.95 / $89.95 / €84.95
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 511
AUDIENCE: Computer Science researchers, software engineers, programmers, and software researchers in academia and industry, including software engineers developing C++ code to be used by other developers, whether via APIs, libraries, device drivers, or other reusable components, Graduate students and senior undergraduate students in Computer Science and software engineering.
BIC CODES: PBD, UY, UMX, UMZ, UM
THEMA CLASSIFICATION: THEMAUY; THEMAPBD; THEMAUMX; THEMAUM; THEMAUG

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Covers practical techniques for C++ API design that produce robust code for the long-term

"Martin Reddy draws from his experience on large scale, collaborative software projects to present patterns and practices that provide real value to individual developers as well as organizations. API Design for C++ explores often overlooked issues, both technical and non-technical, contributing to successful design decisions that product high quality, robust, and long-lived APIs." **--Eric Gregory, Software Architect, Pixar Animation Studios**

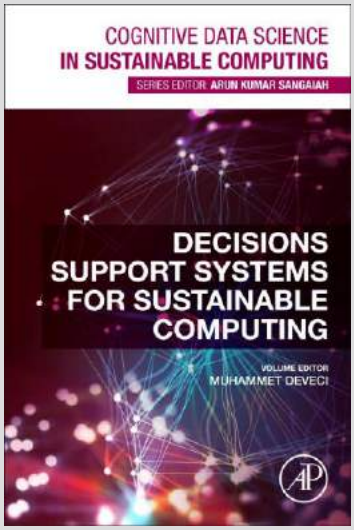
KEY FEATURES

- Teaches the strategies of C++ API development, including design, versioning, documentation, testing, scripting, and extensibility
- Includes extensive code examples that illustrate each concept, with fully functional examples and working source code for experimentation available online
- Covers various API styles and patterns, with a focus on practical and efficient designs for large-scale, long-term projects
- Includes updated URLs and ensures all code examples continue to work with modern compilers and supporting tools

DESCRIPTION

API Design for C++, Second Edition provides a comprehensive discussion of Application Programming Interface (API) development, from initial design through implementation, testing, documentation, release, versioning, maintenance, and deprecation. It is the only book that teaches the strategies of C++ API development, including interface design, versioning, scripting, and plug-in extensibility. Drawing from the author's experience on large scale, collaborative software projects, the text offers practical techniques of API design that produce robust code for the long-term. It presents patterns and practices that provide real value to individual developers as well as organizations.

The Second Edition includes all new material fully updated for the latest versions of C++, including a new chapter on concurrency and multithreading, as well as a new chapter discussing how Objective C++ and C++ code can co-exist and how a C++ API can be accessed from Swift programs. In addition, it explores often overlooked issues, both technical and non-technical, contributing to successful design decisions that produce high quality, robust, and long-lived APIs.



Decision Support Systems for Sustainable Computing

Edited by : **Muhammet Deveci**, Department of Industrial Engineering, National Defense University, Istanbul, Turkey

ISBN: 9780443235979
PUB DATE: Jun 01, 2024
LIST PRICE: £146.00 / $180.00 / €170.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 280
AUDIENCE: Researchers, graduate students, and professionals working in the fields of computational modelling, applied mathematics, and process engineering
BIC CODES: UB, UYM
THEMA CLASSIFICATION: THEMAKJ; THEMAUFL; THEMAUNC; THEMAUNA; THEMAUYZM

Presents advances in decision support systems for digital technology implementations advancing sustainable development

A Volume in the *Cognitive Data Science in Sustainable Computing* Series

KEY FEATURES

- Provides a broad overview of emerging trends and technologies in decision support systems applications
- Investigates recent trends and core concepts in digital technology transformation as applied to the circular economy and sustainable development
- Analyzes the application of decision support systems models across a range of case studies and processes which rely on multi-criteria decision-making and have been designed specifically to improve overall sustainability

DESCRIPTION

Decision Support Systems for Sustainable Computing investigates recent technological advances in decision support systems models designed to solve real world applications. The book provides a broad overview of digital technology transformation as applied to the circular economy, which is seeking to drive improvements in scientific research, communication, logistics, automation, production, and the improved sustainability of these processes and products. The book explores applications of decision support for sustainable development across supply chain management, business intelligence, agriculture, aviation, communications, and finance.

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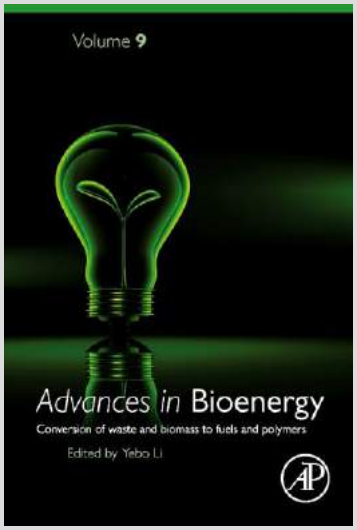

Advances in Bioenergy, Vol 9

Conversion of waste and biomass to fuels and polymers

Yebo Li, professor in the Department of Food, Agricultural and Biological Engineering, The Ohio State University (OSU).

ISBN: 9780443295348
PUB DATE: Jun 01, 2024
LIST PRICE: £135.00 / $217.00 / €155.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 248
AUDIENCE: Researchers, students, industry and governmental regulators, and policy makers in the field of bioenergy
BIC CODES: THX
THEMA CLASSIFICATION: THEMATHV

Edited by some of the best scientists in the field, this series presents the latest updates in the field of bioenergy

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Advances in Bioenergy* series

DESCRIPTION

Advances in Bioenergy, Volume Nine highlights new advances in the field with this new volume presenting interesting chapters on a variety of topics, including Rethinking Anaerobic Digestion for Bioenergy and Biopolymers Production: Challenges and Opportunities, Current technologies and applications of CO2 utilization into bio-products, Synthesis of Polyhydroxyalkanoates (PHA) from renewable resources, Thermochemical processing of algal biomass for biofuel production, Sustainable polycarbonate production from CO2, Social and Environmental Impact Assessment and Renewable Energy Production in MSW Landfills, Advances in water gas shift reaction for hydrogen production from biomass, and Production and application of lignin-based carbon fibers.

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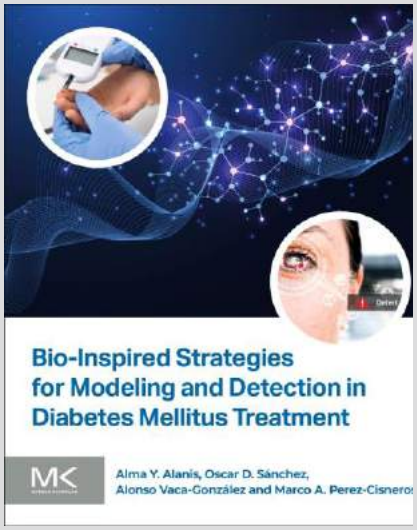

Bio-Inspired Strategies for Modeling and Detection in Diabetes Mellitus Treatment

Alma Y Alanis, Dean of Technologies for Cyber-Human Interaction Division (CUCEI), Universidad de Guadalajara, Mexico; **Oscar D Sánchez**, Researcher, CUCEI, Universidad de Guadalajara, Mexico; **Alonso Vaca Gonzalez**, Physician, CUCEI, Universidad de Guadalajara, Mexico and **Marco Perez Cisneros**, Rector, University Centre of Exact Sciences and Engineering, Universidad de Guadalajara, Mexico

ISBN: 9780443223419
PUB DATE: May 03, 2024
LIST PRICE: £146.00 / $180.00 / €170.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 134
AUDIENCE: Researchers in computational modelling, applied mathematicians, and computer scientists working with researchers and developers in engineering, biomedical, and other applied sciences, research clinicians, biomedical engineers, and biomedical researchers with an interest in developing applied computational modelling for diabetes mellitus, researchers, developers, and graduate students in computer science, mathematics, and biomedical engineering interested in artificial neural networks and metaheuristic algorithms for mathematical modelling and treatment of diabetes mellitus
BIC CODES: PBW, UFL, MBF, TGB
THEMA CLASSIFICATION: THEMAPBW; THEMAKJT; THEMAUFL; THEMATGB

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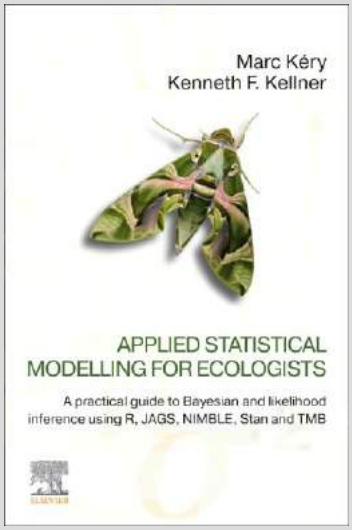
Presents bio-inspired modeling techniques to generate control algorithms for the treatment of diabetes mellitus

KEY FEATURES

- Addresses the online identification of diabetes mellitus using a high-order recurrent neural network trained online by an extended Kalman filter.
- Covers parametric identification of compartmental models used to describe diabetes mellitus.
- Provides modeling of data obtained by continuous glucose-monitoring sensors for the prediction of risk scenarios such as hyperglycaemia and hypoglycaemia.

DESCRIPTION

Bio-Inspired Strategies for Modeling and Detection in Diabetes Mellitus Treatment focuses on bioinspired techniques such as modeling to generate control algorithms for the treatment of diabetes mellitus. The book addresses the identification of diabetes mellitus using a high-order recurrent neural network trained by an extended Kalman filter. The authors also describe the use of metaheuristic algorithms for the parametric identification of compartmental models of diabetes mellitus widely used in research works such as the Sorensen model and the Dallaman model. In addition, the book addresses the modeling of time series for the prediction of risk scenarios such as hyperglycaemia and hypoglycaemia using deep neural networks. The detection of diabetes mellitus in the early stages or when current diagnostic techniques cannot detect glucose intolerance or prediabetes is proposed, carried out by means of deep neural networks present in the literature. Readers will find leading-edge research in diabetes identification based on discrete high-order neural networks trained with an extended Kalman filter; parametric identification of compartmental models used to describe diabetes mellitus; modeling of data obtained by continuous glucose-monitoring sensors for the prediction of risk scenarios such as hyperglycaemia and hypoglycaemia; and screening for glucose intolerance using glucose-tolerance test data and deep neural networks. Application of the proposed approaches is illustrated via simulation and real-time implementations for modeling, prediction, and classification.



Applied Statistical Modelling for Ecologists

A Practical Guide to Bayesian and Likelihood Inference Using R, JAGS, NIMBLE, Stan and TMB

Marc Kéry, Senior Scientist, Swiss Ornithological Institute, Basel, Switzerland and **Kenneth F. Kellner**, Assistant Research Professor, Michigan State University, MI, USA

ISBN: 9780443137150
PUB DATE: Jun 01, 2024
LIST PRICE: £68.95 / $89.95 / €77.95
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 484
AUDIENCE: Environmental science researchers, Ecologists, Biologists, and Wildlife Managers as well as upper-level graduate and graduate ecology, biology, biogeography, conservation biology, fisheries and wildlife management students
BIC CODES: RNC, PBT, RN
THEMA CLASSIFICATION: THEMAPSAF; THEMAPBT; THEMATQ

Provides applied statistical modeling in almost any subject matter for any scientist needing to learn statistical modeling

KEY FEATURES

- Provides a comprehensive, applied introduction to some of the most exciting, cutting-edge model fitting software packages: JAGS, Nimble, Stan, and TMB
- Covers all the basics of the modern applied statistical modeling that have become a key part of any natural science, including linear, generalized linear, mixed and also hierarchical models
- Provides applied introduction to the two dominant methods of parametric statistical modeling: maximum likelihood and Bayesian inference
- Adopts what could be called a "Rosetta stone approach," wherein understanding of one software, and of its associated language, will be greatly enhanced by seeing the analogous code in one of the other engines

DESCRIPTION

Applied Statistical Modelling for Ecologists: A Practical Guide to Bayesian and Likelihood Inference Using R, JAGS/Nimble, Stan and TMB provides an important guide and comparison of powerful new software packages that are now widely used in research publications, including JAGS, Stan, Nimble, and TMB. It provides a gentle introduction to the most exciting specialist software that is often used to conduct cutting-edge research, along with Bayesian statistics and frequentist statistics with its maximum likelihood estimation method. In addition, this book is simple and accessible, allowing researchers to carry out and understand statistical modeling.

Through examples, the book covers the underlying statistical models widely used by scientists across many disciplines. Thus, this book will be useful for anyone who needs to quickly become proficient in statistical modeling, and in the model-fitting engines covered.

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EARTH & ENVIRONMENT Ecology
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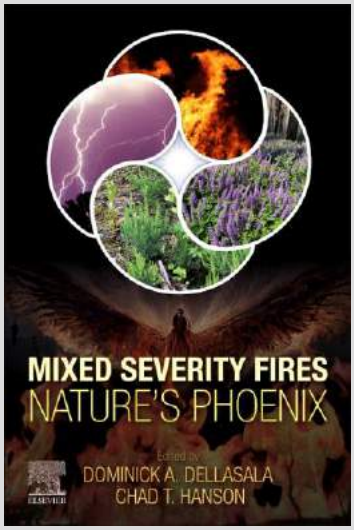

Mixed Severity Fires, 2e

Nature's Phoenix

Dominick A. DellaSala, Chief Scientist, Wild Heritage, a project of the Earth Island Institute and **Chad Hanson**, Research Ecologist and Director, John Muir Project of Earth Island Institute, Big Bear City, California, USA

ISBN: 9780443137907
PREVIOUS ISBN: 9780128027493
PUB DATE: Jun 01, 2024
LIST PRICE: £95.95 / $125.00 / €109.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 430
AUDIENCE: Ecologists, Environmentalists, Wildfire Ecology Researchers, Land Managers, Foresters, Forest Managers, Environmental Campaigners, Policymakers, Students
BIC CODES: RNCB, RNKH, RNC, RN
THEMA CLASSIFICATION: THEMARNK; THEMARNCB; THEMAPSAF; THEMATQ

Comprehensive reference for wildfire ecology that explores the ecological importance of mixed- and high-severity fires

KEY FEATURES

- Comprehensive and complete reference on wildfire ecology that includes the latest science and citations
- Debunks debates on wildfire management that can be used by conservation groups and decision-makers to shift egregious wildfire policies
- Contains a broad synthesis of the ecology of mixed- and high-severity fires, covering such topics as vegetation, birds, mammals, insects, aquatics, and management actions

DESCRIPTION

Mixed Severity Fires: Nature's Phoenix, Second Edition focuses on wildfire as a keystone ecological process that has shaped plant and animal communities for over 400 million years. The book describes the renewal process that follows wildfires in forests and chaparral ecosystems as nature's phoenix by drawing from examples of wildfire effects. In addition, the book describes management and policies that have contributed to wildfire problems, including climate change and land-use practices incompatible with nature's phoenix and what must happen to get to coexistence with wildfires that are not going away no matter how much we try to suppress or alter fire behavior.

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EARTH & ENVIRONMENT Ecology
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Evolution and Trends of Sustainable Approaches

Latest Development and Innovations in Science and Technology Applications

Edited by : **Daniel Alejandro Rossit**, Engineering Department, Universidad Nacional del Sur, Argentina. and **Chaudhery Mustansar Hussain**, PhD, New Jersey Institute of Technology, Newark, NJ, USA

ISBN: 9780443216510
PUB DATE: Jun 01, 2024
LIST PRICE: £115.00 / $150.00 / €130.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 511
AUDIENCE: Postgraduate and undergraduate students, researchers, professors interested in sustainability science and engineering, Industry practitioners and professionals
BIC CODES: TQ, TVF, RN
THEMA CLASSIFICATION: THEMATQ; THEMATVF

Covers trends of sustainable approaches in engineering and industrial applications surrounding the global sustainability paradigm

KEY FEATURES

- Explores innovative strategies and advanced trends of sustainable approaches, engineering, and industrial applications
- Analyzes sustainability assessments and their role in planning and project processes
- Reviews state-of-the-art sustainable technologies
- Evaluates approaches for organizations to achieve both sustainability assessment and sustainable solutions

DESCRIPTION

Evolution and Trends of Sustainable Approaches: Latest Development and Innovations in Science and Technology Applications provides different trends and approaches within the sustainability framework to assess their impact and offer possible solutions to problems facing the global sustainability paradigm. This book evaluates sustainability assessment approaches which support different levels of both decision-making and policy processes, thereby improving the management of natural and human systems. This book explores sustainable firm solutions, the upward trend of sustainability, and its variants.

At the same time, different existing approaches are analyzed. These sustainable assessment approaches can be applied to products, services and technologies as well as business models, such as the Product-Service-System (PSS), Circular Economy (CE), Industrial Symbiosis (IS), and Supply Chain (SC). Finally, the book explores Sustainability Indicators (SIs), which are widely used to measure and communicate progress towards sustainable development, along with Life Cycle Sustainability Assessment (LCSA), balancing the three dimensions of sustainability (environmental, social and economic).

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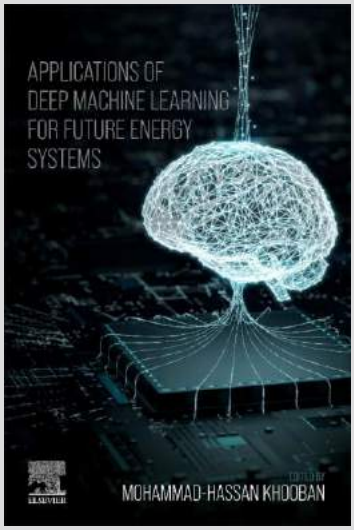

Applications of Deep Machine Learning in Future Energy Systems

Edited by : **Mohammad-Hassan Khooban**, Department of Engineering - Cyper-Physical Systems, Aarhus University, Aarhus N, Denmark

ISBN: 9780443214325
PUB DATE: Jul 01, 2024
LIST PRICE: £142.00 / $185.00 / €165.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 232
AUDIENCE: Researchers, research laboratories, practitioners, and Ph.D. students in power systems and electronics
BIC CODES: THRM
THEMA CLASSIFICATION: THEMATHR; THEMATHY

Pushes the limits of machine learning to provide practical innovations for modern energy systems' modeling, management, and control

KEY FEATURES

- Clarifies the current state and future trends of energy system machine learning and the pitfalls facing our transitioning systems
- Provides guidance on 3rd-generation AI tools for meeting the challenges of modeling and control in modern energy systems
- Includes case studies and practical examples of potential applications to inspire and inform researchers and industry developers

DESCRIPTION

Applications of Deep Machine Learning in Future Energy Systems pushes the limits of current Artificial Intelligence techniques to present deep machine learning suitable for the complexity of sustainable energy systems. The first two chapters take the reader through the latest trends in power engineering and system design and operation before laying out current AI approaches and limitations. Later chapters provide in-depth accounts of specific challenges and the use of innovative third-generation machine learning, including neuromorphic computing, to resolve issues from security to power supply.

An essential tool for the management, control, and modelling of future energy systems, this book maps a practical path towards AI capable of supporting sustainable energy.

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Handbook on Thermal Hydraulics in Water-Cooled Nuclear Reactors

Volume 1: Foundations and Principles

Edited by : **Francesco D'Auria**, Professor, University of Pisa, Italy; Founder and Head, University's San Piero a Grado Nuclear Research Group and **Yassin A. Hassan**, Professor and Department Head, Texas A&M University, USA

ISBN: 9780323856065
PUB DATE: Jun 01, 2024
LIST PRICE: £170.00 / $220.00 / €195.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 558
AUDIENCE: Graduate and undergraduate students of nuclear or thermal engineering, researchers in nuclear thermal-hydraulics and reactor technology, engineers working in simulation and modeling of nuclear reactors, engineers and technicians in thermal hydraulics, NPP operators, code developers, safety engineers and investigators, nuclear designers and vendors, Students and researchers in chemical and mechanical engineering
BIC CODES: THK, KNBN, KNXC
THEMA CLASSIFICATION: THEMATHK; THEMAKNB; THEMAKNX

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A handbook presenting the procedures and applications of thermal hydraulics in water cooled nuclear reactors

A Volume in the *Woodhead Publishing Series in Energy* Series

KEY FEATURES

- Presents a comprehensive analysis on the connection between nuclear power and thermal hydraulics
- Includes end-of-chapter questions, quizzes and exercises to confirm understanding and provides solutions in an appendix
- Covers applicable nuclear reactor safety considerations and design technology throughout

DESCRIPTION

Handbook on Thermal Hydraulics of Water-Cooled Nuclear Reactors, Volume 1, Foundations and Principles includes all new chapters which delve deeper into the topic, adding context and practical examples to help readers apply learnings to their own setting. Topics covered include experimental thermal-hydraulics and instrumentation, numerics, scaling and containment in thermal-hydraulics, as well as a title dedicated to good practices in verification and validation. This book will be a valuable reference for graduate and undergraduate students of nuclear or thermal engineering, as well as researchers in nuclear thermal-hydraulics and reactor technology, engineers working in simulation and modeling of nuclear reactors, and more.

In addition, nuclear operators, code developers and safety engineers will also benefit from the practical guidance provided.

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Handbook on Thermal Hydraulics in Water-Cooled Nuclear Reactors

Volume 3: Procedures and Applications

Edited by : **Francesco D'Auria**, Professor, University of Pisa, Italy; Founder and Head, University's San Piero a Grado Nuclear Research Group and **Yassin A. Hassan**, Professor and Department Head, Texas A&M University, USA

ISBN: 9780323856089
PUB DATE: Jun 01, 2024
LIST PRICE: £170.00 / $220.00 / €195.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 558
AUDIENCE: Graduate and undergraduate students of nuclear or thermal engineering, researchers in nuclear thermal-hydraulics and reactor technology, engineers working in simulation and modeling of nuclear reactors, engineers and technicians in thermal hydraulics, NPP operators, code developers, safety engineers and investigators, nuclear designers and vendors, Students and researchers in chemical and mechanical engineering
BIC CODES: KNBN, THK
THEMA CLASSIFICATION: THEMAKNB; THEMATHK

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A handbook presenting the procedures and applications of thermal hydraulics in water cooled nuclear reactors

A Volume in the *Woodhead Publishing Series in Energy* Series

KEY FEATURES

- Presents a comprehensive analysis on the connection between nuclear power and thermal hydraulics
- Includes end-of-chapter questions, quizzes and exercises to confirm understanding and provides solutions in an appendix
- Covers applicable nuclear reactor safety considerations and design technology throughout

DESCRIPTION

Handbook on Thermal Hydraulics of Water-Cooled Nuclear Reactors, Volume 3, Procedures and Applications includes all new chapters which delve deeper into the topic, adding context and practical examples to help readers apply learnings to their own setting. Topics covered include experimental thermal-hydraulics and instrumentation, numerics, scaling and containment in thermal-hydraulics, as well as a title dedicated to good practices in verification and validation. This book will be a valuable reference for graduate and undergraduate students of nuclear or thermal engineering, as well as researchers in nuclear thermal-hydraulics and reactor technology, engineers working in simulation and modeling of nuclear reactors, and more.

In addition, nuclear operators, code developers and safety engineers will also benefit from the practical guidance provided.

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Handbook on Thermal Hydraulics in Water-Cooled Nuclear Reactors

Volume 2: Modelling

Edited by : **Francesco D'Auria**, Professor, University of Pisa, Italy; Founder and Head, University's San Piero a Grado Nuclear Research Group and **Yassin A. Hassan**, Professor and Department Head, Texas A&M University, USA

ISBN: 9780323856102
PUB DATE: Jun 01, 2024
LIST PRICE: £170.00 / $220.00 / €195.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 558
AUDIENCE: Graduate and undergraduate students of nuclear or thermal engineering, researchers in nuclear thermal-hydraulics and reactor technology, engineers working in simulation and modeling of nuclear reactors, engineers and technicians in thermal hydraulics, NPP operators, code developers, safety engineers and investigators, nuclear designers and vendors, Students and researchers in chemical and mechanical engineering
BIC CODES: THK, KNXC, KNBN
THEMA CLASSIFICATION: THEMAKNX; THEMATHK; THEMAKNB

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A handbook presenting the procedures and applications of thermal hydraulics in water cooled nuclear reactors

A Volume in the *Woodhead Publishing Series in Energy* Series

KEY FEATURES

- Presents a comprehensive analysis on the connection between nuclear power and thermal hydraulics
- Includes end-of-chapter questions, quizzes and exercises to confirm understanding and provides solutions in an appendix
- Covers applicable nuclear reactor safety considerations and design technology throughout

DESCRIPTION

Handbook on Thermal Hydraulics of Water-Cooled Nuclear Reactors, Volume 2, Modelling includes all new chapters which delve deeper into the topic, adding context and practical examples to help readers apply learnings to their own setting. Topics covered include experimental thermal-hydraulics and instrumentation, numerics, scaling and containment in thermal-hydraulics, as well as a title dedicated to good practices in verification and validation. This book will be a valuable reference for graduate and undergraduate students of nuclear or thermal engineering, as well as researchers in nuclear thermal-hydraulics and reactor technology, engineers working in simulation and modeling of nuclear reactors, and more.

In addition, nuclear operators, code developers and safety engineers will also benefit from the practical guidance provided.

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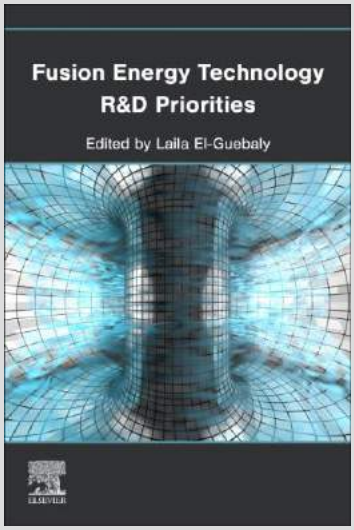

Fusion Energy Technology R&D Priorities

Laila El-Guebaly, Distinguished Research Professor Emerita, University of Wisconsin-Madison, USA

ISBN: 9780443136290
PUB DATE: Jun 01, 2024
LIST PRICE: £126.00 / $165.00 / €143.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 232
AUDIENCE: Advanced researchers and engineers interested in nuclear energy and fusion technology.
BIC CODES: PHN, THK, THX
THEMA CLASSIFICATION: THEMAPHN; THEMATHK; THEMATHV

A compilation of the latest advances in nuclear fusion technology R&D

KEY FEATURES

- Presents the latest advances and developments in fusion science and technology
- Outlines the R&D priorities and critical issues that are foundational to the further development of fusion energy technologies
- Identifies technical fusion challenges and considers future perspectives
- Reviews the present-day status of essential R&D programs that support fusion for energy

DESCRIPTION

Fusion Technology R&D Priorities examines the landscape of fusion technology. With a strong focus on technological advances, the book considers technical challenges and priorities to further the development of fusion research. Beginning with an introduction to fusion technology research and development, the book then presents an overview of basic magnetic fusion concepts and worldwide pathways to fusion energy. Subsequent chapters take a deep dive into fusion materials R&D, capabilities of potential neutron sources for materials testing, plasma facing components, and plasma diagnostics/heating/control. Breeding blanket and tritium system, vacuum vessels and shielding system are highlighted before concluding with safety features and environmental/social issues.

Presenting the most advanced developments in nuclear fusion R&D, this is an essential read for researchers and engineers interested in nuclear energy and fusion technology.

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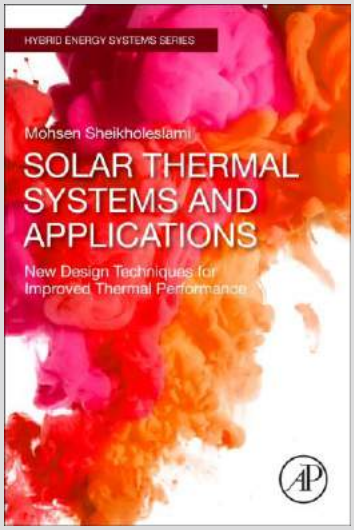

Solar Thermal Systems and Applications

New Design Techniques for Improved Thermal Performance

Mohsen Sheikholeslami, Babol Noshirvani University of Technology, Babol, Iran

ISBN: 9780443158384
PUB DATE: Jun 01, 2024
LIST PRICE: £178.99 / $220.00 / €204.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 434
AUDIENCE: Academic: Researchers, scientists, and advanced students in solar energy, thermal engineering, hybrid energy systems, renewable energy, mechanical engineering, nanotechnology, and materials science Industry: Engineers, R&D professionals, and other industry personnel with an interest in solar thermal energy (STE), solar energy, hybrid energy systems, or renewable energy.
BIC CODES: THRM, TH, THX
THEMA CLASSIFICATION: THEMATHR; THEMATHY; THEMATH; THEMATHV

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A detailed guide to the state-of-the-art in solar thermal energy technology, with the latest techniques and applications

A Volume in the *Hybrid Energy Systems* Series

KEY FEATURES

- Introduces solar thermal energy (STE) and details the current state and future opportunities
- Reviews and analyzes the latest advances in solar thermal energy technology, design, methods, and applications
- Covers, in detail, the role of phase change materials and nanomaterials in STE systems

DESCRIPTION

Solar Thermal Systems and Applications: New Design Techniques for Improved Thermal Performance brings together the latest advances for the improved performance, efficiency, and integration of solar thermal energy (STE) technology.

This book begins by introducing solar energy and solar thermal energy as a viable option in terms of green energy for industrial, commercial, and residential applications, as well as its role and potential within hybrid energy systems. This is followed by detailed chapters that focus on key innovations in solar thermal energy systems, covering novel approaches and techniques in areas such as flat plate solar collectors, modified evacuated tube solar collectors, solar parabolic trough collectors, linear Fresnel reflectors, photovoltaic thermal systems (PVT), phase change materials (PCMs), nanotechnology, combined PVT-PCM systems, solar thermal systems and Trombe wall design, solar still units, and solar dish systems. Throughout this book, the coverage is supported by experimental and numerical modeling methods, and techniques are discussed and assessed with a view to improved electrical and thermal efficiency and performance.

Solar Thermal Systems and Applications is a valuable resource for researchers and advanced students in solar energy, thermal engineering, hybrid energy systems, renewable energy, mechanical engineering, nanotechnology, and materials science. This is also of interest to engineers, R&D professionals, scientists, and policy makers with an interest in solar thermal energy in an industrial, residential, or commercial setting.

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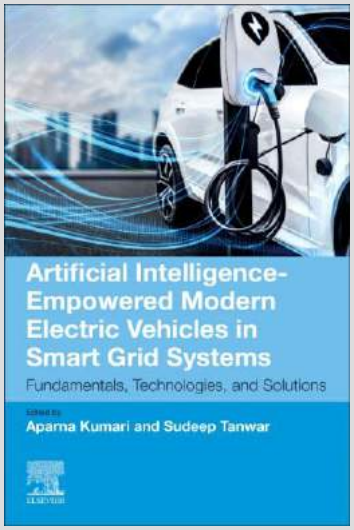

Artificial Intelligence-Empowered Modern Electric Vehicles in Smart Grid Systems

Fundamentals, Technologies, and Solutions

Edited by : **Aparna Kumari**, Assistant Professor, Dept. of Computer Science and Engineering, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India and **Sudeep Tanwar**, Professor, Computer Science and Engineering Department, Institute of Technology, Nirma University, Ahmedabad, Gujarat, India

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TRIM: 6.00w x 9.00h
PAGES: c. 279
AUDIENCE: Professionals, scientists, EV technologists, developers, designers and researchers in EV technologies, security, information technology, with a focus on EV charging, communication between EVs, Congestion management, Renewable energy sources, security, and privacy. Academics in these fields.
BIC CODES: THRM
THEMA CLASSIFICATION: THEMATHR; THEMATHY

Provides fundamental knowledge and practical strategies in AI opportunities for graduate students, researchers, and engineers in energy system design

KEY FEATURES

- Supports fundamental understanding of artificial intelligence and its opportunities for energy system specialists
- Collects the real-world experiences of global experts
- Enables practical implementation of artificial intelligence strategies that support renewable energy integration across energy systems, markets, and grids

DESCRIPTION

Artificial Intelligence-Empowered Modern Electric Vehicles in Smart Grid Systems: Fundamentals, Technologies, and Solutions is an essential reference for energy researchers, graduate students, and engineers who aim to understand the opportunities offered by artificial intelligence for the integration of electric vehicles into smart grids. The book covers foundational knowledge, including the essentials of artificial intelligence and its applications for electric vehicles in a clear and holistic manner. Next, it breaks down two essential areas of application in more detail: energy management (from to energy harvesting to demand response and complex forecasting), and market strategies (including peer-to-peer, vehicle-to-vehicle, and vehicle-to-everything trading, plus cybersecurity implications).

A final part provides detailed case studies and close consideration of challenges, including code and data sets for replication of techniques. Providing a clear pathway from fundamentals to practical implementation, this book provides multidisciplinary guidance for implementing this cutting-edge technology in the energy systems of the future.

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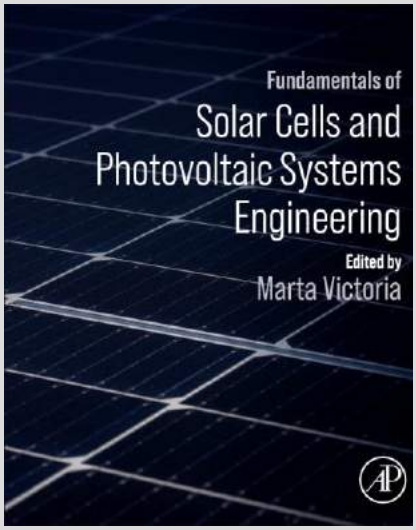

Fundamentals of Solar Cells and Photovoltaic Systems Engineering

Edited by : **Marta Victoria**, Ph.D., Department of Mechanical and Production Engineering, Aarhus University, Denmark

ISBN: 9780323961059
PUB DATE: Sep 01, 2024
LIST PRICE: £76.95 / $99.95 / €86.95
DISCOUNT: Textbook
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 372
AUDIENCE: Upper level undergraduate and first year graduate students primarily in mechanical and electrical engineering programs – US enrollment is 2,000 students per year (source: Navstem) with average course enrollment of 25 students
BIC CODES: THR, TGB, THX
THEMA CLASSIFICATION: THEMATHR; THEMATGB; THEMATHV

Covers everything you need to know to understand solar photovoltaic technology, from the solar cell to the power plant

KEY FEATURES

- Consists of 15 chapters, including basic theory, along with problems to solve and a solutions manual
- Provides a basic understanding of topics such as semiconductor fundamentals, the pn junction, and the working principle of solar cells for students without previous experience
- Covers the design and operation principles of rooftop installations and large-scale solar power plants
- Presents the IV curve and efficiency attained by solar cells, photovoltaic modules, and systems, how they are impacted by solar radiation and temperature, and how they can be measured

DESCRIPTION

Fundamentals of Solar Cells and Photovoltaic Systems Engineering presents all the major topics relevant to understanding photovoltaic technology, including the working principles of solar cells, modeling and measuring solar radiation, manufacturing processes for solar cells and photovoltaic modules, the design and operation of rooftop installations and large-scale power plants, the economics of such systems, and the role of photovoltaic solar energy in the ongoing energy transition. This book is intended for use as a textbook on photovoltaic solar energy for upper-level undergraduate/graduate engineering students.

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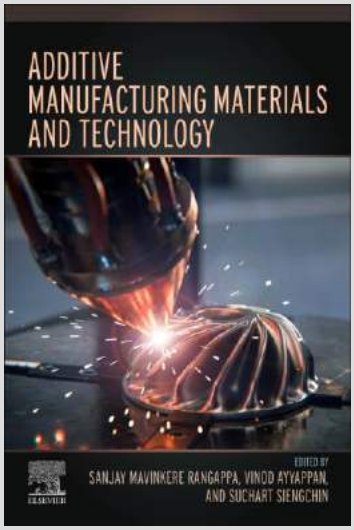

Additive Manufacturing Materials and Technology

Edited by : **Sanjay Mavinkere Rangappa**, Senior Research Scientist, Natural Composites Research Group Lab, King Mongkut's University of Technology North Bangkok, Thailand; **Vinod Ayyappan**, Research fellow, Department of Materials and Production Engineering (MPE), King Mongkut's University of Technology North Bangkok. The Sirindhorn International Thai – German Graduate School of Engineering (TGGS), North Bangkok, Thailand and **Suchart Siengchin**, President, Department of Materials and Production Engineering (MPE), The Sirindhorn International Thai – German Graduate School of Engineering (TGGS), King Mongkut's University of Technology North Bangkok, Thailand

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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 558
AUDIENCE: Researchers, engineers, and technologists working in additive manufacturing in a range of applications including medicine, defense, aerospace, civil, and mechanical engineering, Graduate and postgraduate students
BIC CODES: PHH
THEMA CLASSIFICATION: THEMAPHH

Provides a cutting-edge overview of current additive manufacturing materials and technologies, their applications, and what the future holds

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

KEY FEATURES

- Presents a comprehensive overview of recent advances in additive manufacturing technology and materials research and development
- Outlines the processing methods, functionalization, mechanics, and applications of additive manufactured materials and technology
- Summarizes lifecycles and performance parameters of 3D printed materials
- Focuses on the types of shape memory materials and smart materials used in 3D printing in industrial applications and their applications

DESCRIPTION

Additive Manufacturing Materials and Technology discusses recent developments and future possibilities in additive manufacturing. The book focuses on advanced technologies and materials, with chapters centered on shape memory materials, alloys and metals, polymers, ceramics, thermosets, biomaterials, and composites. Fiber-reinforced materials are covered as well, as are the lifecycle and performance criteria of 3D printed materials. Other chapters look at the various applications of these materials and processing techniques, covering their use in the aerospace and automotive sectors, construction, bioengineering, and the pharmaceutical industry.

Various additive manufacturing techniques such as electron beam melting, selective laser melting, laser sintered, fused deposition, and more are also studied.

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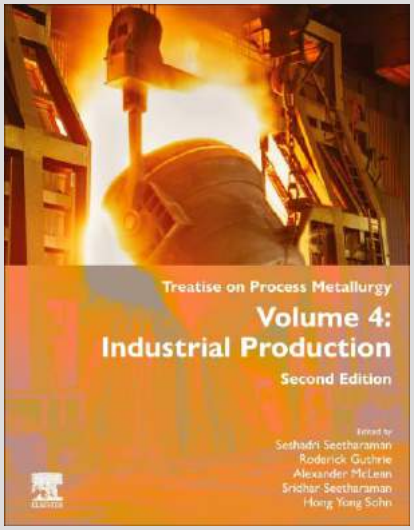

Treatise on Process Metallurgy, 2e

Volume 4: Industrial Plant Design and Process Modeling

Edited by : **Roderick Guthrie**, Department of Mining and Materials Engineering, McGill Metals Processing Centre, Quebec, Canada; **Alexander McLean**, Department of Materials Science and Engineering, University of Toronto, Toronto, Ontario, Canada; **Sridhar Seetharaman**, Colorado School of Mines, CO, USA; **H. Y. Sohn**, Distinguished Professor, Metallurgical Engineering; Adjunct Professor, Chemical Engineering, University of Utah, USA and **Seshadri Seetharaman**, Professor Emeritus, Royal Institute of Technology, Stockholm, Sweden

ISBN: 9780323854801
PUB DATE: Jun 03, 2024
LIST PRICE: £285.00 / $350.00 / €335.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 863
ILLUSTRATIONS: 450 illustrations (100 in full color)
AUDIENCE: For teaching and research faculty, upper level undergraduate students, graduate students, and post-doctoral research associates in metallurgy and materials science and technology and related areas of study (physics, chemistry and biomedical science) as well as researchers and staff members of government and industrial research laboratories, Particularly useful for more experienced research workers who require an overview of fields comparatively new to them, or with which they wish to renew contact after a gap of some years
BIC CODES: TGM, TDM
THEMA CLASSIFICATION: THEMATGM; THEMATDPM

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Provides an in-depth single resource for users who need to know the latest state of research in the area of process metallurgy

KEY FEATURES

- Provides the entire breadth of process metallurgy in a single work
- Includes in-depth knowledge in all key areas of process metallurgy
- Approaches the topic from an interdisciplinary perspective, providing broad range coverage on topics

DESCRIPTION

Treatise on Process Metallurgy: Volume Four, Industrial Production provides academics with the fundamentals of the manufacturing of metallic materials, from raw materials into finished parts or products. In these fully updated volumes, coverage is expanded into four volumes, including Process Fundamentals, encompassing process fundamentals, structure and properties of matter; thermodynamic aspects of process metallurgy, and rate phenomena in process metallurgy; Processing Phenomena, encompassing interfacial phenomena in high temperature metallurgy, metallurgical process phenomena, and metallurgical process technology; Metallurgical Processes, encompassing mineral processing, aqueous processing, electrochemical material and energy processes, and iron and steel technology, non-ferrous process principles and production technologies, and more.

The work distills the combined academic experience from the principal editor and the multidisciplinary four-member editorial board.

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Advances in Artificial Intelligence

Biomedical Engineering Applications in Signals and Imaging

Edited by : **Kunal Pal**, Professor in the Department of Biotechnology and Medical Engineering, National Institute of Technology Rourkela, Odisha, India.; **Bala Chakravarthy Neelapu**, Assistant Professor, Department of Biotechnology and Medical Engineering, National Institute of Technology Rourkela, India and **J. Sivaraman**, Assistant Professor and Principal Investigator of Bio-signals and Medical Instrumentation Laboratory, Department of Biotechnology and Medical Engineering, National Institute of Technology Rourkela, India

ISBN: 9780443190735
PUB DATE: Jun 03, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 558
AUDIENCE: Researchers, experts, masters and PhD students in the fields of biomedical engineering, computer science and engineering, electronics engineering. Scientists and researchers working in the field of biosignal processing, biomedical Image Processing, Artificial Intelligence in biomedical applications
BIC CODES: MQW, UYQ
THEMA CLASSIFICATION: THEMATCB; THEMAMQW; THEMAUYQ

Provides recent advancements in applications of AI to various domains in medicine

KEY FEATURES

- Covers the recent advancements of artificial intelligence in healthcare, including case studies on how this technology can be used
- Provides an understanding of the design of experiments to validate the developed algorithms
- Presents an understanding of the versatile application of artificial intelligence in bio-signal and bio-image processing techniques

DESCRIPTION

Artificial intelligence in healthcare has become one of the best assisting techniques for clinicians in proper diagnosis and surgery. In biomedical applications, artificial intelligence algorithms are explored for bio-signals, such as electrocardiogram (ECG/EKG), electrooculogram (EOG), electromyogram (EMG), electroencephalogram (EEG), blood pressure, heart rate, and nerve conduction, and for bio-imaging modalities, such as computed tomography (CT), cone-beam computed tomography (CBCT), and MRI (magnetic resonance imaging). Advancements in artificial intelligence and big data have increased the development of innovative medical devices in healthcare applications. Advances in Artificial Intelligence: Biomedical Engineering Applications in Signals and Imaging provides an overview of artificial intelligence in biomedical applications, including both bio-signals and bio-imaging modalities. The chapters contain a mathematical formulation of algorithms and their applications in the biomedical eld, including case studies. Biomedical engineers, advanced students, and researchers can use this book to apply their knowledge in artificial intelligence-based processes to biological signals, implement mathematical models and advanced algorithms, and develop AI-based medical devices.

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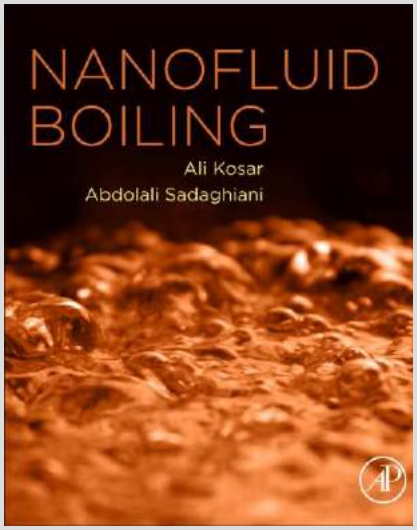

Nanofluid Boiling

Ali Sadaghiani, Micro-Nano Scale Heat Transfer and Microfluidics Research Group, Nanotechnology Research and Application Center (SUNUM), Orhanli, Tuzla, 34956, Istanbul, Turkey; **Arzu Ozbey**; **Mehrdad Karinzadehkhouei** and **Ali Koşar**, Microthermal and Microfluidic Systems Laboratory, Center of Excellence for Functional Surfaces and Interfaces for Nano Diagnostics, FENS1014 Sabanci University, Orhanli, Tuzla Istanbul, Turkey

ISBN: 9780128169230
PUB DATE: Jun 01, 2024
LIST PRICE: £129.00 / $165.00 / €145.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 283
AUDIENCE: Thermal fluid and heat transfer engineers working in industries such as refrigeration, power generation, heat exchangers and power electronics cooling looking for new techniques and technologies for performance enhancement, graduate level students and researchers in thermal engineering working on boiling heat transfer and applications of nanofluids
BIC CODES: PHH, RGC
THEMA CLASSIFICATION: THEMAPHH; THEMARGC

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Guides thermal fluid and heat transfer engineers in the research, design and development of systems involving nanofluids

KEY FEATURES

- Gives insights into nanofluid boiling heat transfer mechanisms
- Offers state-of-the-art techniques for overcoming challenges and difficulties in the applications of nanofluids
- Presents the most updated information about nanofluid boiling heat transfer, mechanisms of heat transfer, and critical heat flux enhancements
- Focuses on parametric effects, such as nanofluid properties (size, concentration, nanoparticle type), preparation methods on heat transfer and critical heat flux mechanisms, bubble dynamics, flow patterns and pressure drop

DESCRIPTION

Nanofluid Boiling presents valuable insights into boiling heat transfer mechanisms, offering state-of-the-art techniques for overcoming obstacles against nanofluid applications. In addition, the book points out emerging industrial applications and guides researchers and engineers in their research and design efforts. In addition, recommendations on future research directions and the design of systems involving nanofluids are presented at the end of each chapter. The book's authors comprehensively cover mechanisms, parametric effects and enhancement techniques in the boiling of nanofluids, providing updated, detailed information about recent developments and findings.

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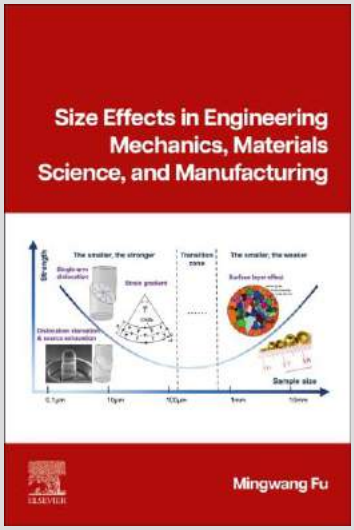

Size Effects in Engineering Mechanics, Materials Science, and Manufacturing

Mingwang Fu, The Hong Kong Polytechnic University, Hong Kong

ISBN: 9780128218129
PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 294
AUDIENCE: Engineers in mechanics and manufacturing, micro-manufacturers, materials scientists, precision engineering
BIC CODES: TGM, TGB
THEMA CLASSIFICATION: THEMATGM; THEMATGB

Presents a state-of-the-art introduction on size effects in mechanics, manufacturing and material sciences, from fundamental science to practical applications

KEY FEATURES

- Describes the physical aspects of size effects and provides the underlying theories and principles to explain the mechanisms behind them
- Presents the practical applications of size effects in material sciences and micro-manufacturing and outlines the influence of process performance, process outcome, properties, and quality of fabricated parts and components
- Provides guidelines to understand size effects in multi-scaled manufacturing process design and product development

DESCRIPTION

Size Effects in Engineering Mechanics and Manufacturing provides a detailed evaluation of size effects in mechanics, manufacturing and material sciences and their effects on related physical behaviors and phenomena. Sections address the physical aspects of size effects, including tension, compression, and bending deformation in mechanics, fatigue and damage behaviors, the mechanisms behind these effects, modeling techniques for determining the behavior and phenomena of size effects, practical applications of size effects in material sciences and micro-manufacturing, how size effects influence the process performance, process outcome, properties and quality of fabricated parts and components, and future size effects.This book provides not only a reference volume on size effects but also valuable applications for engineers, scientists, academics and research students involved in materials processing, manufacturing, materials science and engineering, engineering mechanics, mechanical engineering and the management of enterprises using materials processing technologies in the mass-production of related products.

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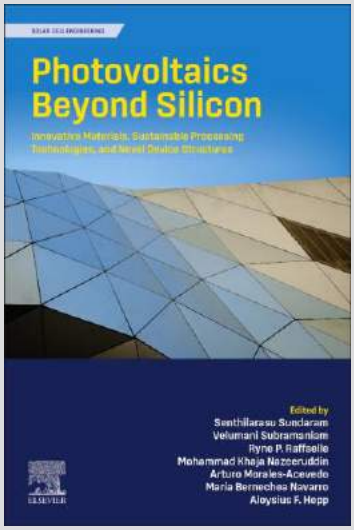

Photovoltaics Beyond Silicon

Innovative Materials, Sustainable Processing Technologies, and Novel Device Structures

Edited by : **Senthilarasu Sundaram**, Associate Professor, School of Computing, Engineering and Digital Technologies, Teesside University, Middlesbrough, UK; **Velumani Subramaniam**, Professor, Mexican Government Research Center, CINVESTAV, Mexico City and Visiting Research Fellow, Texas A&M University, College Station, TX, USA; **Ryne P. Raffaelle**, Vice President for Research and Associate Provost for Research, Rochester Institute of Technology, Rochester, NY, USA; **Mohammad Khaja Nazeeruddin**, Full Professor of Chemistry, EPFL Valais Wallis, Sion, Switzerland; **Arturo Morales-Acevedo**, Full Professor of Electrical Engineering, CINVESTAV – IPN, Mexico City, Mexico; **María Bernechea Navarro**, Senior Researcher, ARAID Foundation, Instituto de Nanociencia y Materiales de Aragón (INMA), CSIC-Universidad de Zaragoza, Spain

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TRIM: 6.00w x 9.00h
PAGES: c. 511
AUDIENCE: Materials Scientists and Engineers in R&D and academia working in the field of energy conversion, materials processing, as well as environmental considerations, Undergraduate and Postgraduate courses related to Material Science applications
BIC CODES: THX, TJ, TGM
THEMA CLASSIFICATION: THEMATGM; THEMATJF; THEMATHV

Addresses the latest innovations in materials, processing and devices to produce electricity via advanced, sustainable photovoltaics technologies

A Volume in the *Solar Cell Engineering* Series

KEY FEATURES

- Presents a comprehensive overview and detailed discussion of solar energy technology options for sustainable energy conversion
- Provides an understanding of the environmental challenges to be overcome and discusses the importance of efficient materials utilization for clean energy
- Looks at how to design materials processing and optimize device fabrication, including metrics such as power-to-weight ratio, effectiveness at EOL compared to BOL, life-cycle analysis

DESCRIPTION

Photovoltaics Beyond Silicon: Innovative Materials, Sustainable Processing Technologies, and Novel Device Structures presents the latest innovations in materials, processing and devices to produce electricity via advanced, sustainable photovoltaics technologies. The book provides an overview of the novel materials and device architectures that have been developed to optimize energy conversion efficiencies and minimize environmental impacts. Advances in technologies for harnessing solar energy are extensively discussed, with topics including materials processing, device fabrication, sustainability of materials and manufacturing, and the current state-of-the-art. Contributions from leading international experts discuss the applications, challenges and future prospects of research in this increasingly vital field, providing a valuable resource for students and researchers working in this area.

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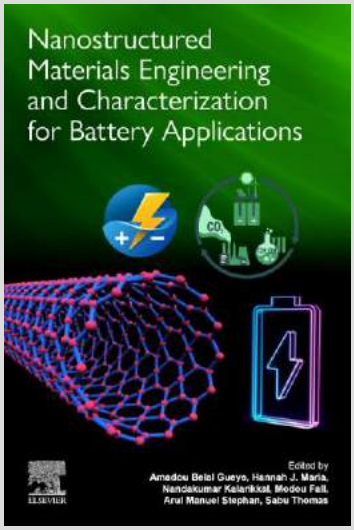

Nanostructured Materials Engineering and Characterization for Battery Applications

Edited by : **Amadou Belal Gueye**, Research Scholar, School of Chemical Sciences, Mahatma Gandhi University, Kottayam, India; **Hanna J. Maria**, Senior Researcher, International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, India; **Nandakumar Kalarikkal**, Director, International and Inter University Centre for Nanoscience and Nanotechnology, and Director and Chair, School of Pure and Applied Physics, Mahatma Gandhi University, Kottayam, Kerala, India; **Modou Fall**, Secretary General of the Senegalese Committee for Chemistry, Full Professor in the Department of Chemistry, Sciences and technologies Faculty, Cheikh Anta DIOP University of Dakar, Senegal; **Arul Manuel Stephan**, Senior Principal Scientist of Central Electrochemical Research Institute (CSIR- CECRI), Karaikudi, India and **Sabu Thomas**

ISBN: 9780323913041
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LIST PRICE: £215.00 / $275.00 / €240.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 619
AUDIENCE: Materials scientists, engineers in academia and R&D, mechanical and chemical engineers
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

An in-depth study of the current state of energy storage technology

KEY FEATURES

- Presents practical consideration for battery usage such as LCA, recycling and green batteries
- Covers battery characterization techniques including electrochemical methods, microscopy, spectroscopy and X-ray methods
- Explores battery models and computational materials design theories

DESCRIPTION

Nanostructured Materials Engineering and Characterization for Battery Applications is designed to help solve fundamental and applied problems in the field of energy storage. Broken up into four separate sections, the book begins with a discussion of the fundamental electrochemical concepts in the field of energy storage. Other sections look at battery materials engineering such as cathodes, electrolytes, separators and anodes and review various battery characterization methods and their applications. The book concludes with a review of the practical considerations and applications of batteries.This will be a valuable reference source for university professors, researchers, undergraduate and postgraduate students, as well as scientists working primarily in the field of materials science, applied chemistry, applied physics and nanotechnology.

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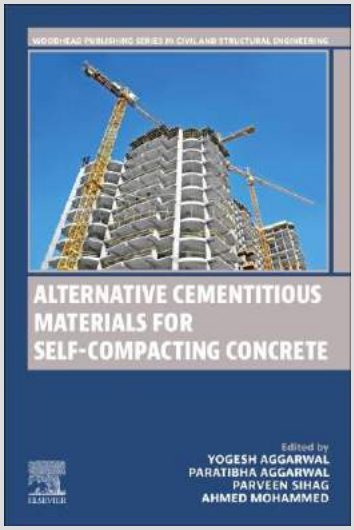

Alternative Cementitious Materials for Self-Compacting Concrete

Edited by : **Yogesh Aggarwal**, Civil Engineering Department, National Institute of Technology, Haryana, India; **Paratibha Aggarwal**, Civil Engineering Department, National Institute of Technology, Haryana, India; **Parveen Sihag**, Civil Engineering Department, Shoolini University, Solan, India and **Ahmed Mohammed**, Civil Engineering Department, University of Sulaimani, Kurdistan, Iraq

ISBN: 9780323951395
PUB DATE: Jun 01, 2024
LIST PRICE: £175.00 / $230.00 / €200.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 363
AUDIENCE: Materials scientists, civil and structural engineers working in construction materials and self-compacting concrete, cement production industry, environmental scientists, and non-hazard waste industries, Masters and post-doctorate students in construction materials and civil engineering.
BIC CODES: TGM, TN
THEMA CLASSIFICATION: THEMATGM; THEMATN

Provides comprehensive information on the use of waste materials and by-products in self-compacting concrete

A Volume in the *Woodhead Publishing Series in Civil and Structural Engineering* Series

KEY FEATURES

- Includes detailed information on modeling and computational techniques for estimating SCC properties
- Provides comprehensive information on the use of waste materials and by-products in self-compacting concrete
- Covers comprehensive information on the different properties of SCC

DESCRIPTION

Alternative Cementitious Materials for Self-Compacting Concrete provides a detailed review on the various properties of self-compacting concrete (SCC) and how they are affected by the use, of by-products and waste materials in concrete production. The book provides a fair comparison on the application and use of various types of materials in SCC. In addition, it includes the latest data and detailed information on modeling and soft computing techniques for the estimation of various properties of SCC as well as detailed investigations on microstructural characterization.

This book will be a valuable reference resource for materials scientists, and civil and structural engineers working in construction materials and self-compacting concrete, as well as for those working in the cement production and non-hazard waste industries.

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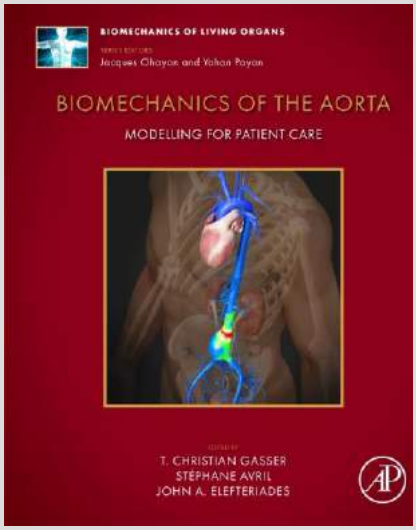

Biomechanics of the Aorta

Modelling for Patient Care

Edited by : **T. Christian Gasser**, Professor, KTH Solid Mechanics, Stockholm, Sweden; **Stéphane Avril**, Full Professor, Institut Mines Telecom affiliated, Mines Saint-Etienne, France; **John A. Elefteriades**, MD, William W.L. Glenn Professor of Surgery and Director, Aortic Institute at Yale-New Haven, Yale University School of Medicine, New Haven Connecticut, USA

ISBN: 9780323954846
PUB DATE: Jun 01, 2024
LIST PRICE: £165.00 / $200.00 / €190.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 7.50w x 9.25h
PAGES: c. 418
AUDIENCE: Graduate students, post-docs, and professionals in biomedical and biomechanical engineering; as well as biomedical and clinical researchers; all who need to: -understand fundamental properties of the aorta, -conduct experimental procedures, -perform animal experiments, -design and test clinical devices, and -develop biomechanical finite element computations of the aorta
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

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A comprehensive overview of the state-of-the-art in aortic modeling, along with a holistic understanding of the biomechanical problem at hand

A Volume in the *Biomechanics of Living Organs* Series

KEY FEATURES

- Represents a comprehensive means for those involved in the aortic research and the related developments in the industry
- Introduces the most recent imaging technologies to characterize factors, such as aortic geometry, mechanical properties of the aortic tissue, and the local cellular activity in the vessel wall
- Synthesizes advances in vascular biomechanics, medical imaging and computational finite element fluid and solid models to increase understanding of aorta function

DESCRIPTION

Biomechanics of the Aorta: Modelling for Patient Care is a holistic analysis of the aorta towards its biomechanical description. The book addresses topics such as physiology, clinical imaging, tissue and blood flow modeling, along with knowledge that is needed in diagnostics, aortic rupture prediction, assist surgical planning, and more. It encompasses a wide range of topics from the basic sciences (Vascular biology, Continuum mechanics, Image analysis) to clinical applications, as well as describing and presenting computational studies and experimental benches to mimic, understand and propose the best treatment of aortic pathologies.

The book begins with an introduction to the fundamental aspects of the anatomy, biology and physiopathology of the aorta and proceeds to present the main computational fluid dynamic studies and biomechanical and mechanobiological models developed over the last decade. With approaches, methodologies and findings from contributors all over the world, this new volume in the Biomechanics of Living Organs series will increase understanding of aortic function as well as improve the design of medical devices and clinical interventions, including surgical procedures.

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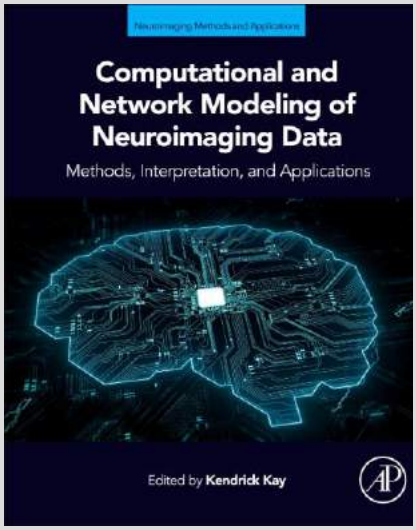

Computational and Network Modeling of Neuroimaging Data

Edited by : **Kendrick Kay**, Assistant Professor , Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, USA

ISBN: 9780443134807
PUB DATE: Jun 01, 2024
LIST PRICE: £95.95 / $125.00 / €109.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 256
AUDIENCE: Biomedical engineers, computer scientists, physicists, mathematicians, psychologists, neuroscientists and computational neuroscientists
BIC CODES: MQW, MMP, PD, PSAN, MJN
THEMA CLASSIFICATION: THEMATCB; THEMAMQW; THEMAMKS; THEMAMKJ; THEMAPDM; THEMAPSAN

Gives a foundation for computational and network modeling of neuroimaging data

A Volume in the *Neuroimaging Methods and Applications* Series

KEY FEATURES

- Provides an authoritative and comprehensive overview of major modeling approaches to neuroimaging data
- Written by experts, the book's chapters use a common structure to introduce, motivate, and describe a specific modeling approach used in neuroimaging
- Gives insights into the similarities and differences across different modeling approaches
- Analyses details of outstanding research challenges in the field

DESCRIPTION

Computational and Network Modeling of Neuroimaging Data provides an authoritative and comprehensive overview of the many diverse modeling approaches that have been fruitfully applied to neuroimaging data. As neuroimaging is witnessing a massive increase in the quality and quantity of data being acquired, this book gives an accessible foundation to the field of computational neuroimaging, suitable for graduate students, academic researchers, and industry practitioners who are interested in adopting or applying model-based approaches in neuroimaging.

It is widely recognized that effective interpretation and extraction of information from complex data requires quantitative modeling. However, modeling the brain comes in many diverse forms, with different research communities tackling different brain systems, different spatial and temporal scales, and different aspects of brain structure and function. This book takes a critical step towards synthesizing and integrating across different modeling approaches.

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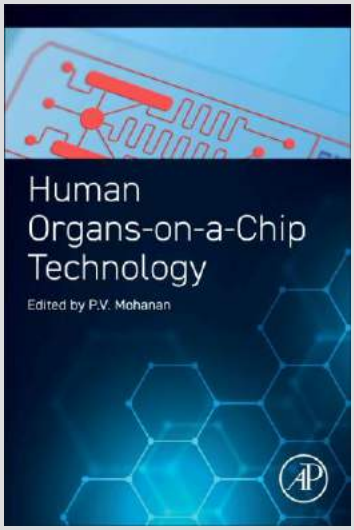

Human Organs-on-a-Chip Technology

Edited by : **P.V. Mohanan**, PhD, Scientist-G and Head, Toxicology Division, Biomedical Technology Wing, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Govt. of India, India

ISBN: 9780443137822
PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 465
AUDIENCE: Graduate students, researcher, and professionals in biomedical engineering
BIC CODES: MQW
THEMA CLASSIFICATION: THEMATCB; THEMAMQW

Presents advanced research and methodologies in organ-on-a-chip and human organs-on-a-chip technologies

KEY FEATURES

- Explores organs-on-a-chip technology, from the basics, to advanced developments and existing challenges and recent research trends and applications
- Reviews every aspect of microfluidic devices, including biological evaluation and targeted delivery
- Includes the latest information on regulatory updates

DESCRIPTION

Human Organs-on-a-Chip Technology focuses on technology advancement from “organ-on-a-chip”, “multi organs-on-a-chip”, and the newest stage of “human organs-on-a-chip." Chapters investigate the design, simulation studies, device development, and application of microfluidic systems. In addition, they offer expert perspectives on the development of an alternative test system in the biological evaluation of drugs, cosmetics, chemicals, medical devices, and many others. Lastly, the book addresses issues related to the development of microfluidic devices and alternative test systems in biological and biomedical research.

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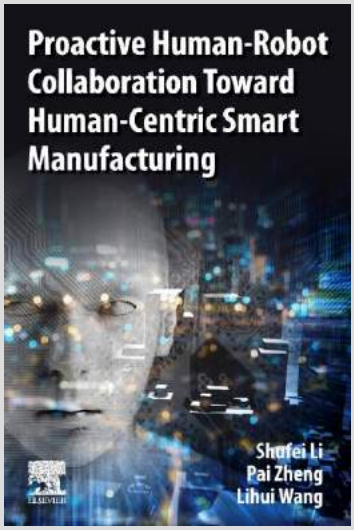

Proactive Human-Robot Collaboration Toward Human-Centric Smart Manufacturing

Shufei Li, PhD candidate, Dept. of Industrial and Systems Engineering, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong SAR; **Pai Zheng**, Assistant Professor and Wong Tit Shing Endowed Young Scholar, Dept. of Industrial and Systems Engineering, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong SAR and **Lihui Wang**, Chair Professor, Unit of Sustainable Production Systems, KTH Royal Institute of Technology, Stockholm, Sweden

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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 279
AUDIENCE: Post-doc researchers, academics, and graduate students in advanced or highly specialized qualification programs related to smart manufacturing, collaborative robotics, cognitive computing, human-robot interfaces, intelligent automation, artificial intelligence, autonomous systems engineering, and mechanical engineering. The volume can also be leveraged for a 3rd or 4th year undergraduate elective course.
BIC CODES: TDP, TBC, UYQ, UYQV, UYZ, KND, KJT, TJFM1, KN, TJFM, TH
THEMA CLASSIFICATION: THEMATD; THEMAUYQ; THEMATBC; THEMAUYQV; THEMAUYQP; THEMAKJT; THEMAKN; THEMATJFM; THEMAUYZ; THEMATJFM1; THEMAKND

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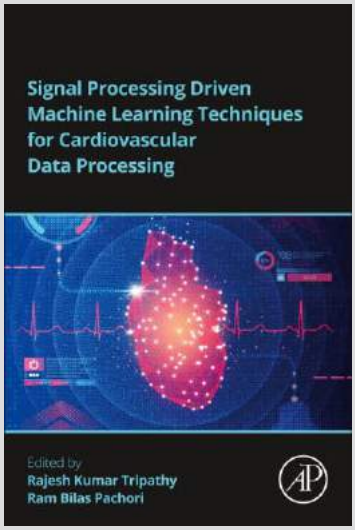
A comprehensive reference guide that will help readers better understand why proactive human–robot collaboration is needed and how it can be applied in real-life smart manufacturing scenarios.

KEY FEATURES

- Offers pioneering information on an industry 5.0 topic that has attracted much research interest in recent years
- Takes advantage of a structured and comprehensive approach to seamlessly combine theory, latest technological developments, and their practical applications
- Includes actionable methods, while conceptualizing future implications for smart manufacturing

DESCRIPTION

Proactive Human–Robot Collaboration Toward Human-Centric Smart Manufacturing is driven by an appreciation of manufacturing scenarios where human and robotic agents can understand each other's actions and conduct mutual-cognitive, predictable, and self-organizing teamwork. Modern factories' smart manufacturing transformation and the evolution of relationships between humans and robots in manufacturing tasks set the scene for a discussion on the technical fundamentals of state-of-the-art proactive human–robot collaboration; these are further elaborated into the three main steps (i.e., mutual-cognitive and empathic coworking; predictable spatio-temporal collaboration; self-organizing multiagent teamwork) to achieve an advanced form of symbiotic HRC with high-level, dynamic-reasoning teamwork skills. The authors then present a deployment roadmap and several case studies, providing step-by-step guidance for real-world application of these ground-breaking methods which crucially contribute to the maturing of human-centric, sustainable, and resilient production systems. The volume proves to be an invaluable resource that supports understanding and learning for users ranging from upper undergraduate/graduate students and academic researchers to engineering professionals in a variety of industry contexts.



Signal Processing Driven Machine Learning Techniques for Cardiovascular Data Processing

Edited by : **Rajesh Kumar Tripathy**, Assistant Professor, EEE department, Birla Institute of Technology and Science (BITS) Pilani, Hyderabad, Telangana, India and **Ram Bilas Pachori**, Professor, EE department, Indian Institute of Technology Indore, Madhya Pradesh, India

ISBN: 9780443141416
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. 372
AUDIENCE: Graduate students and researchers in Biomedical Engineering, Neural Engineering, and Computer Science
BIC CODES: UYQN, MQW, UYQM, UYQ
THEMA CLASSIFICATION: THEMAUYQN; THEMATCB; THEMAMQW; THEMAUYQ

Covers advanced applications of machine learning coupled with signal processing techniques for the analysis and classification of various cardiovascular signals

KEY FEATURES

- Provides details regarding the application of various signal processing and machine learning-based methods for cardiovascular signal analysis
- Covers methodologies as well as experimental results and studies
- Helps readers understand the use of different cardiac signals such as ECG, PCG, and PPG for the automated detection of heart ailments and other related biomedical applications

DESCRIPTION

Signal Processing Driven Machine Learning Techniques for Cardiovascular Data Processing features recent advances in machine learning coupled with new signal processing-based methods for cardiovascular data analysis. Topics in this book include machine learning methods such as supervised learning, unsupervised learning, semi-supervised learning, and meta-learning combined with different signal processing techniques such as multivariate data analysis, time-frequency analysis, multiscale analysis, and feature extraction techniques for the detection of cardiovascular diseases, heart valve disorders, hypertension, and activity monitoring using ECG, PPG, and PCG signals.

In addition, this book also includes the applications of digital signal processing (time-frequency analysis, multiscale decomposition, feature extraction, non-linear analysis, and transform domain methods), machine learning and deep learning (convolutional neural network (CNN), recurrent neural network (RNN), transformer and attention-based models, etc.) techniques for the analysis of cardiac signals. The interpretable machine learning and deep learning models combined with signal processing for cardiovascular data analysis are also covered.

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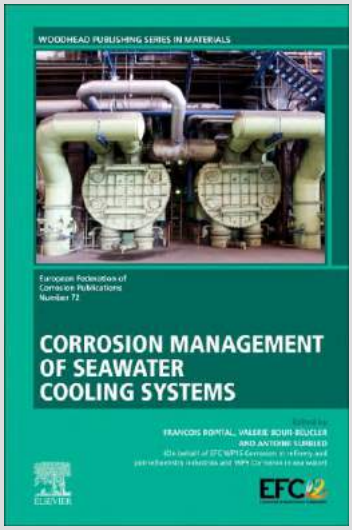

Corrosion Management of Seawater Cooling Systems, Vol 72

Francois Ropital, IFP Energies nouvelles, Electrochemistry and Materials, Solaize, France; **Valerie Bour Beucler**, Senior Industry Technical Consultant, and Associate Professor at the IFP School (ENEP Poly), Chairman of the CEFRACOR "corrosion inhibitors" working party. and **Antoine Surbled**, AMPP member, French Corrosion Society (CEFRACOR) member, Consultant in materials and corrosion sciences and technology,

ISBN: 9780443152351
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LIST PRICE: £150.00 / $187.99 / €173.99
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 325
AUDIENCE: Academics, technicians, and engineers who are interested in the corrosion management of sea water cooling systems, Those in industries concerning energy use (gas and oil), geothermic and desalination plant and off-shore marine installations, wind-generators, and sea water heat pumps, Postgraduate students in materials science and engineering studying corrosion management in seawater cooling systems in ship building, offshore and gas platforms
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Provides guidelines for the corrosion management of seawater heat exchangers

A Volume in the *European Federation of Corrosion (EFC) Series* Series

KEY FEATURES

- Covers key technological developments in corrosion management of seawater cooling systems
- Includes coverage of seawater heat exchangers<
- Provides information on many different forms of corrosion
- Presents tactics for the selection of materials, corrosion protections (inhibitors, coatings, cathodic protection)
- Discusses maintenance, control, monitoring and inspection

DESCRIPTION

Corrosion Management of Seawater Cooling Systems, Volume 71 provides an overview on main seawater heat exchanger systems, different forms of corrosion, biocide treatments, corrosion, scale inhibitors, materials used, coatings and cathodic protection, maintenance, and monitoring and control. The book will be a valuable reference resource for academics, technicians and engineers who are interested in the corrosion management of seawater cooling systems. The evolution of practices in terms of sustainability, materials choice, treatment selection and changes to regulations have demonstrated the need to establish this new guide on recommended best practices that support corrosion management and the development of seawater heat exchangers.

Seawater is considered an attractive resource for utilities in many industries such as power plants, refineries and chemical plants. Seawater cooling systems are used in heat exchangers, in once-through cooling water systems, and for recirculating cooling water systems. The metallurgy and materials used in these facilities need to be compatible with seawater and allow good corrosion control. As seawater composition and suspended solids can cause corrosion, scaling, fouling, microbiological growth and macrofouling problems, this book is a necessary addition to the conversation.

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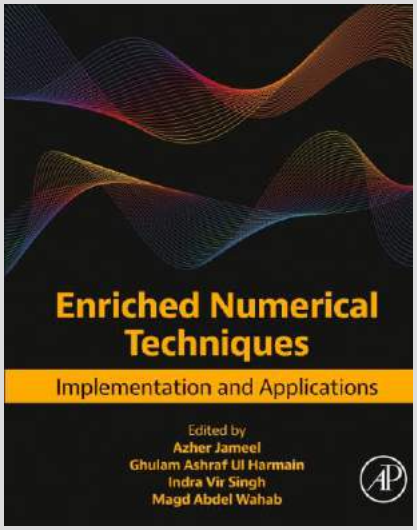

Enriched Numerical Techniques

Implementation and Applications

Edited by : **Azher Jameel**, Assistant Professor, Department of Mechanical Engineering, National Institute of Technology, Srinagar, India; **Ghulam Ashraf Ul Harmain**, Professor, Department of Mechanical Engineering, National Institute of Technology, Srinagar, India; **Indra Vir Singh**, Professor, Department of Mechanical Engineering, Indian institute of Technology, Roorkee, India and **Magd Abdel Wahab**, Professor and Chair, Department of Applied Mechanics, Ghent University, Belgium

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LIST PRICE: £180.00 / $220.00 / €210.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 232
AUDIENCE: Graduate students and researchers interested in computational mechanics
BIC CODES: TGB, UY
THEMA CLASSIFICATION: THEMATJF; THEMAUY

Explains the emerging applications and recent advances in a wide range of enriched numerical techniques

KEY FEATURES

- Features explanations on how to use enriched numerical techniques to model problems in bio-mechanics and fluid flow
- Includes worked examples that are used to explain methods throughout
- Provides practical advice on how to tackle programming issues

DESCRIPTION

Enriched Numerical Techniques: Implementation and Applications explores recent advances in enriched numerical techniques, including the extended finite element method, meshfree methods, extended isogeometric analysis and coupled numerical techniques. Techniques for implementation and programming issues are discussed, with other sections discussing applications for enriched numerical techniques in solving a range of engineering problems. The level set methodologies for complex shaped irregularities is presented, as are enriched numerical methodologies for various complex and advanced problems such as Nonlinear Structural Analysis, Fracture and Fatigue in Structures, Elasto-Plastic Crack Growth, Large Deformation Analysis, Frictional Contact Problems, Thermo-Mechanical Problems, Fluid Flow Investigations, Composite Materials and Bio-mechanics.

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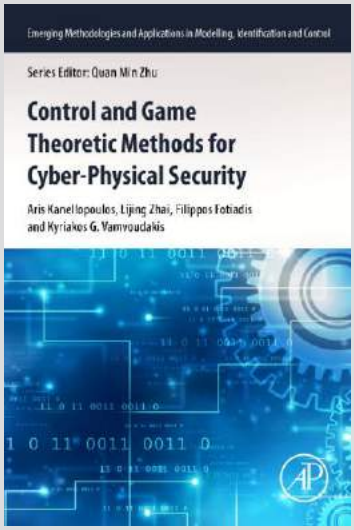

Control and Game Theoretic Methods for Cyber-Physical Security

Aris Kanellopoulos, Research Engineer, Georgia Institute of Technology, Atlanta, GA, USA; **Lijing Zhai**, Ph.D. degree with Professor Kyriakos G. Vamvoudakis at the Guggenheim School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, GA, USA.; **Filippos Fotiadis**, The Daniel Guggenheim School of Aerospace Engineering, Georgia Institute of Technology, USA and **Kyriakos Vamvoudakis**, Dutton-Ducoffe Endowed Professor, Georgia Institute of Technology, GA, USA

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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 182
AUDIENCE: Researchers, engineers, and graduate students in the fields of control theory, IoT, cyber-physical systems, and machine learning
BIC CODES: TJFM1, TJFM
THEMA CLASSIFICATION: THEMATJFM1; THEMATJFM

A reference for the cyber-physical security research community, which includes both rich bibliographical notes on the state-of-the-art in the field

A Volume in the *Emerging Methodologies and Applications in Modelling, Identification and Control* Series

KEY FEATURES

- Serves as a bibliography on different aspects of security in cyber-physical systems
- Offers insights into security through innovative approaches, which amalgamate principles from diverse disciplines
- Explores unresolved challenges in the security domain, examining them through the lens of rigorous formulations from control and game theory

DESCRIPTION

Control-Theoretic Methods for Cyber-Physical Security presents novel results on security and defense methodologies applied to cyber-physical systems. This book takes a control and game theory perspective, treating autonomous platforms as dynamic systems. It introduces algorithmic frameworks designed to proactively and reactively safeguard these systems against catastrophic failures. The algorithms showcased encompass a wide spectrum of security techniques, from model-free detection mechanisms to unpredictability-based defense strategies, combining both model-based and data-driven approaches.

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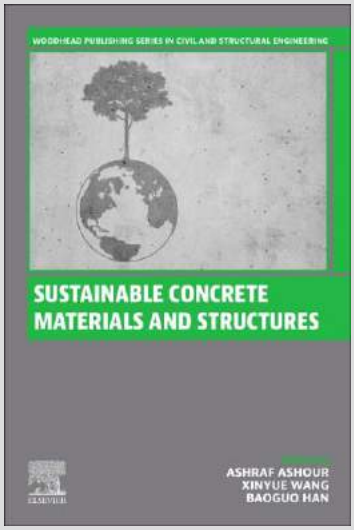

Sustainable Concrete Materials and Structures

Edited by : **Ashraf Ashour**, Professor of Structural Engineering, University of Bradford, UK; **Xinyue Wang**, Postdoctoral fellow, School of Civil Engineering at Dalian University of Technology, China and **Baoguo Han**, Professor of Civil Engineering, Dalian University of Technology, China

ISBN: 9780443156724
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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 418
AUDIENCE: Academic and industrial researchers in civil engineering, material science, chemical engineering, and construction materials
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Discusses recent research progress on the technical routes to sustainable concrete materials and structures

A Volume in the *Woodhead Publishing Series in Civil and Structural Engineering* Series

KEY FEATURES

- Provides a comprehensive collection of technical reviews on the latest advancements in sustainable concrete materials and structures
- Presents state-of-the-art research on preparation, production, processing, and implementation techniques for sustainable concrete materials and structures
- Features techno-economic analysis for each technology discussed
- Covers lifecycle assessment, the Circular Economy and end of life of concrete structures
- Includes industry case studies on implementation

DESCRIPTION

Sustainable Concrete Materials and Structures focuses on recent research progress and innovations in this important field of research. All aspects of the technical routes to sustainable concrete and structures are discussed in detail. These include recent findings on sustainable concrete production and structural design and construction. Low-carbon cement, sustainable concrete mix design, durability, and structural applications are discussed in detail. Emphasis is placed on how to bring some of the innovations in concrete technology closer to market. Information on techno-economic analysis, economy of scale, and the supply chain of sustainable concrete is also addressed.

The book will be an essential reference resource for academic and industrial researchers working in civil engineering, material science, chemical engineering, and the development and manufacture of construction materials.

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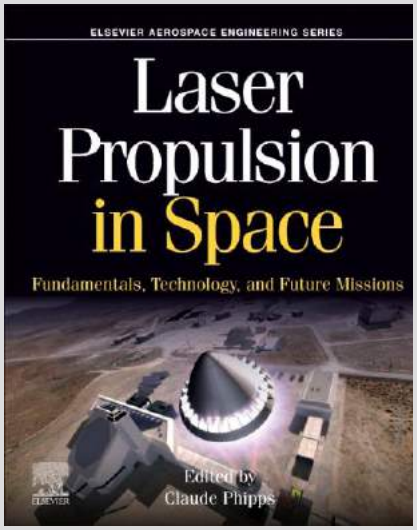

Laser Propulsion in Space

Fundamentals, Technology, and Future Missions

Edited by : **Claude Phipps**, Managing Partner, Photonic Associates, LLC, Santa Fe, New Mexico, USA.

ISBN: 9780443159039
PUB DATE: Jun 01, 2024
LIST PRICE: £149.99 / $185.00 / €172.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 260
AUDIENCE: Masters and PhD students as well as post-doc researchers in advanced programs or highly specialized qualification courses related to aerospace engineering, aerospace and aviation technology, aerospace traffic management, space and planetary science, optics and lasers, optical communications engineering, physics, and astronomy.
BIC CODES: TR, TRP, TTB, TJK, TTDS, TTBL, PHJ, TQK, TGMF1, TJ
THEMA CLASSIFICATION: THEMATR; THEMATRP; THEMATTB; THEMATJK; THEMAPHDF; THEMATQK; THEMAPHQ; THEMATGMF; THEMATJF; THEMATTBL

From clearing space debris to sending probes to Proxima Centauri, laser propulsion is the most efficient drive for space travel.

A Volume in the *Aerospace Engineering* Series

KEY FEATURES

- Covers state-of-the-art methods for LOE debris removal that has become a very critical part of commercial and scientific space management
- Includes opinion sections explaining why we as a technical society should care about each chapter's topic and the considerably good outcomes that can be achieved with the high-intensity pulsed laser radiation technique
- Accompanied by a companion website with video clips and other ancillary materials to support understanding

DESCRIPTION

Laser Propulsion in Space: Fundamentals, Technology, and Future Missions takes readers on a comprehensive journey from a theoretical overview of the fundamentals of laser ablation to a review of current projects involving high-power CW fiber lasers and their ongoing and potential applications. Written by experts in the field, the mathematically sound excursus also features graphics depicting the equations' results and case studies with worked-out examples, making this book an invaluable reference source for students, researchers, and professional engineers in a number of complementary fields.

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ENGINEERING Automotive & Aeronautical
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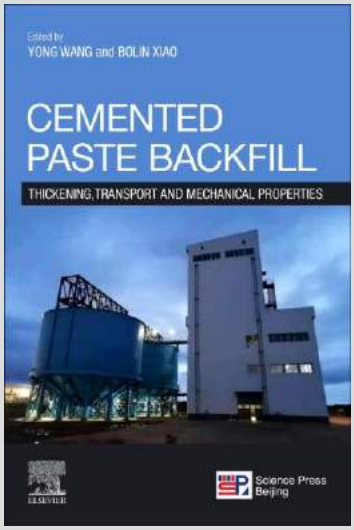

Cemented Paste Backfill

Thickening, Transport and Mechanical Properties

Yong Wang, Associate Professor of Mining Engineering, University of Science and Technology, Beijing, China and **Bolin Xiao**, Assistant Professor, University of Science and Technology Beijing, Beijing, China and visiting scholar, University of Ottawa, Canada

ISBN: 9780443160547
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FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 242
AUDIENCE: Researchers, engineers, and students in mining engineering, civil engineering, and concrete engineering. Graduate students in mining engineering and other related disciplines
BIC CODES: RBG, KNAT
THEMA CLASSIFICATION: THEMAKNA; THEMARBG

Comprehensively describes the rheological and rheological and mechanical properties of Cemented Paste Backfill materials used in underground metal mines

KEY FEATURES

- Investigates rheological properties and multiphysics processes in CPB materials around the world
- Looks into systematic studies on pipe transport and mechanical properties of CPB under temperature effects
- Focuses mainly on the effect of temperature on paste transport and mechanical properties under the temperature effect, which provides a theoretical basis for safe and efficient filling operation and associated future research in this field
- Offer in-depth insights into the evolution of the rheological and mechanical properties of CPB under the effect of temperatures

DESCRIPTION

Cemented Paste Backfill: Thickening, Transport and Mechanical Properties covers a wide range of topics, including a new definition of CPB, past participation and flow-induced corrosion of pipeline under the constant temperature condition, multiphysics processes in CPB and the associated consolidation process, the variation of rheological parameters and transport resistance, prediction model for rheological properties, mechanical behavior and properties of CPB and fiber-reinforced CPB, and control technology to reduce the adverse effect of temperature.

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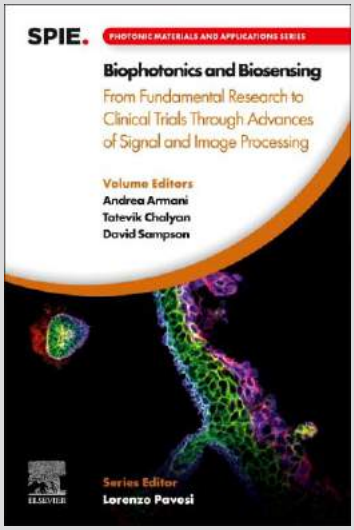

Biophotonics and Biosensing

From Fundamental Research to Clinical Trials Through Advances of Signal and Image Processing

Edited by : **Andrea Armani**, Department of Chemical Engineering and Materials Science, University of Southern California, Los Angeles, CA, United States; **Tatevik Chalyan**, Postdoctoral Researcher, Vrije Universiteit Brussel and **David Sampson**, Surrey Biophotonics, School of Physics, School of Biosciences and Medicine, University of Surrey, Guildford, Surrey

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PAGES: c. 511
AUDIENCE: Biomedical Engineers, Photonics Engineers, Materials Scientists
BIC CODES: TRC, TJ, TGM, TTBL, TTB, PHK
THEMA CLASSIFICATION: THEMATRC; THEMATJF; THEMATGM; THEMATTBL; THEMATTB; THEMAUYS; THEMAPHK; THEMATJFD; THEMATCB

Presents advances in biophotonics and biosensing, from research to clinical trials, emphasizing AI and machine learning-enabled signal and image processing

A Volume in the *Photonic Materials and Applications Series* Series

KEY FEATURES

- Introduces key principles of light-biological tissue interactions and biosensing
- Discusses how the most promising optical diagnostic methods can exploit contemporary signal and image processing algorithms and data analytics
- Includes examples of clinical studies with detailed descriptions of their implementation, along with practical guidance

DESCRIPTION

Biophotonics and Biosensing brings together the knowledge of the basic principles of the field of light–biological tissue interaction, detection methods, data processing techniques, and research, diagnostic, and clinical applications. It is suitable for new entrants to the field, while also highlighting the latest developments for experts. This volume includes perspectives by leading experts from the biophotonics and biosensing, biomedical engineering, and data science communities.

The book provides a basic grounding in the key theoretical principles and practical components of biophotonics and biosensing. Working principles of devices used in spectroscopy, microscopy, and optical sensing are presented, along with their application domains. The reader will learn about existing microscopy-based techniques used in biomedical applications for diagnosis and get to know different signal- and image-processing algorithms, including the state of the art in artificial intelligence approaches, as used in biophotonics. Finally, the book describes through concrete examples, including sample preparation and measurement approaches, how the field has developed, thanks to the integration of biophotonics and optical biosensing with advanced signaland image-processing.

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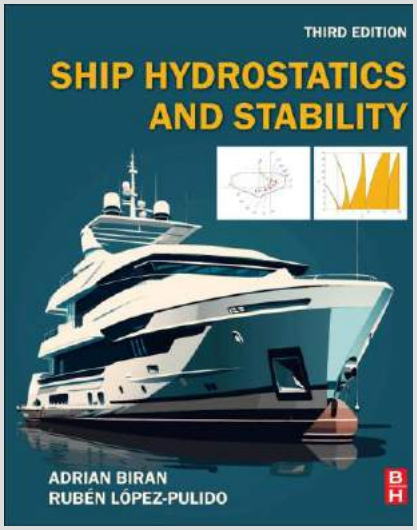

Ship Hydrostatics and Stability, 3e

Adrian Biran, Associate Adjunct Professor, Faculty of Mechanical Engineering, Technion – Israel Institute of Technology, Haifa, Israel and **Rubén López-Pulido**, Diplomatic Counsellor, Embassy of Spain in Ireland, Ireland

ISBN: 9780443191459
PREVIOUS ISBN: 9780080982878
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LIST PRICE: £85.00 / $112.00 / €96.95
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 405
AUDIENCE: Engineering students and researchers with an interest in naval architecture, Ship officers and practicing naval engineers
BIC CODES: TGB
THEMA CLASSIFICATION: THEMATGB

A complete guide to understanding ship hydrostatics in ship design and ship performance

KEY FEATURES

- Includes formulations, methods, and definitions throughout to facilitate understanding at all levels
- Presents rigorous mathematical proofs of the most important theorems
- Provides examples based on the data of real ships that are used throughout the book to explain concepts such as parametric roll theory

DESCRIPTION

Ship Hydrostatics and Stability, Third Edition is a complete guide to understanding ship hydrostatics in ship design and ship performance, taking you from first principles through basic and applied theory to contemporary mathematical techniques for hydrostatic modeling and analysis. Real-life examples of the practical application of hydrostatics are used to explain the theory and calculations using MATLAB and Excel. The new edition of this trusted resource covers new naval architecture regulations such as Second Generation Intact Stability Code (SGISC) and new case studies based on recent capsize and ship stability disasters.

Extensive reference to computational techniques is made throughout and downloadable MATLAB files accompany the book to support the reader's own hydrostatic and stability calculations. The book also includes tables of notations and technical terms and indexes in French, German, Italian, and Spanish.

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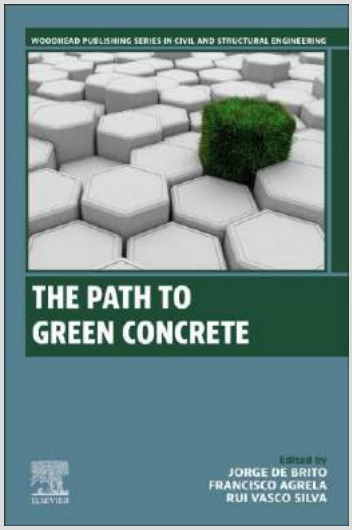

The Path to Green Concrete

Edited by : **Jorge de Brito**, Technical University of Lisbon, Portugal; **Francisco Agrela**, Assistant Professor of Civil Engineering, University of Cordoba, Spain and **Rui Vasco Silva**, Civil Engineering Research and Innovation for Sustainability (CERIS), Instituto Superior Técnico, Universidade de Lisboa, Portugal

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LIST PRICE: £220.00 / $290.00 / €250.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 586
AUDIENCE: Academic and industrial researchers working in sustainable construction materials, civil and structural engineers, manufacturers, and other construction professionals, Postgraduate students in materials science and engineering
BIC CODES: TGM, TN
THEMA CLASSIFICATION: THEMATGM; THEMATN

Presents recent research developments on sustainable concrete composites

A Volume in the *Woodhead Publishing Series in Civil and Structural Engineering* Series

KEY FEATURES

- Presents recent developments on eco-efficient cementitious composites
- Places an emphasis on complete replacement of cement, with the use of alkali-activated materials
- Includes novel enhancing techniques, along with 3D printing and characterization methods

DESCRIPTION

The Path to Green Concrete will enlighten the scientific community on recent developments in this field. Within this volume, world-renowned experts summarize recent research findings covering key topics such as: alkali-activated materials using aluminosilicate waste precursors; use of novel cost-effective and eco-efficient supplementary cementitious materials; state of the art characterization techniques and assessment methodologies; advances on the use of biomass ashes, steel slags and waste glass; the role of carbon capture in the production of concrete and mortar; development of eco-efficient composites for specialized applications; recycling of the fine fraction of construction and demolition wastes; and sustainable self-healing concrete.

This book will be a valuable reference resource for academic and industrial researchers, civil and structural engineers, manufacturers, and other construction professionals working in the development of sustainable construction materials.

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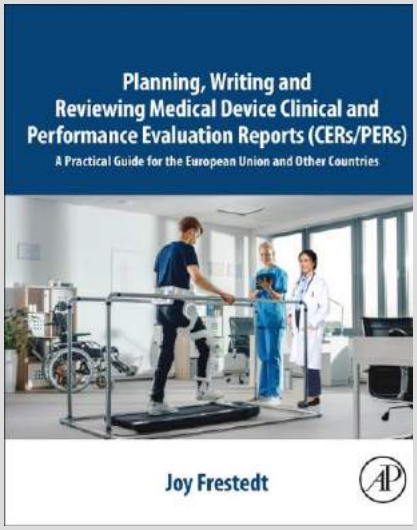

Planning, Writing and Reviewing Medical Device Clinical and Performance Evaluation Reports (CERs/PERs)

A Practical Guide for the European Union and Other Countries

Joy Frestedt, PhD, President and CEO, Frestedt Incorporated, St. Louis Park, MN, USA

ISBN: 9780443220630
PUB DATE: Jun 01, 2024
LIST PRICE: £121.00 / $150.00 / €142.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 418
AUDIENCE: Professionals in the clinical engineering and medical device evaluation sector, researchers in clinical engineering, biomedical engineering, and medical device design and development
BIC CODES: MBGR1, MMG, MBF, MQW
THEMA CLASSIFICATION: THEMAMKG; THEMAMBGR; THEMAPSAX; THEMATCB; THEMAMQW

Comprehensive guide to writing clinical evaluation reports of medical devices, in compliance with the new European Union Medical Device Regulations

KEY FEATURES

- Identifies and explains data analysis for clinical evaluation of medical devices
- Teaches readers how to understand and evaluate medical device performance and safety in the context of new regulations
- Provides analysis of new clinical evaluation criteria in the context of medical device design as well as in-hospital deployment and servicing

DESCRIPTION

A Practical Guide to Planning, Writing, and Reviewing Medical Device Clinical Evaluation Reports guides readers through clinical data evaluation of medical devices that is in compliance with the EU MDR requirements and other similar regulatory requirements throughout the world. This book brings together knowledge learned as the author constructed hundreds of CERs and taught thousands of learners on how to conduct clinical data evaluations. This book will support training for clinical engineers, clinical evaluation scientists, and experts reviewing medical device CERs, and will help individual writers, teams and companies to develop stronger, more robust CERs.

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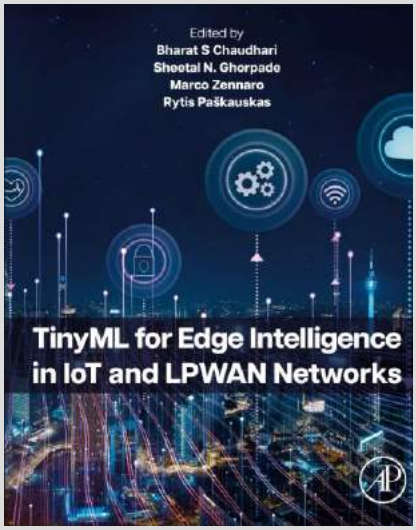

TinyML for Edge Intelligence in IoT and LPWAN Networks

Edited by : **Bharat S Chaudhari**, Professor and Head, School of Electronics and Communication Engineering, MIT World Peace University, India; **Sheetal N Ghorpade**, Principal Data Scientist, Inteliment - Rubiscape Pune, India; **Marco Zennaro**, Research officer, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy and **Rytis Paškauskas**, Research Scientist, Science, Technology and Innovation Unit, The Abdus Salam Centre for Theoretical Physics, Trieste, Italy

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PUB DATE: Jun 01, 2024
LIST PRICE: £134.00 / $165.00 / €160.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 358
AUDIENCE: Academic researchers and professional system engineers, architects, designers, testers, deployment engineers seeking to design ultra-lower power and time-critical applications.
BIC CODES: UT, TJKW
THEMA CLASSIFICATION: THEMAUT; THEMATJKW; THEMATJKT1

A one-stop resource on TinyML as applied to IOT and LPWANs

KEY FEATURES

- This book provides one-stop solutions for emerging TinyML for IoT and LPWAN applications.
- The principles and methods of TinyML are explained, with a focus on how it can be used for IoT, LPWANs, and 5G applications.
- Applications from the healthcare and industrial sectors are presented.
- Guidance on the design of applications and the selection of appropriate technologies is provided.

DESCRIPTION

TinyML for Edge Intelligence in IoT and LPWAN Networks presents the evolution, developments, and advances in TinyML as applied to the Internet of Things (IoT) and low-power wide area networks (LPWANs). It starts by providing the foundations of IoT/LPWANs, low-power embedded systems and hardware, the role of AI and machine learning in communication networks in general, and cloud/edge intelligence. It then presents the concepts, methods, algorithms, and tools of TinyML. Practical applications of TinyML are given from the healthcare and industrial sectors, providing practical guidance on the design of applications and the selection of appropriate technologies.

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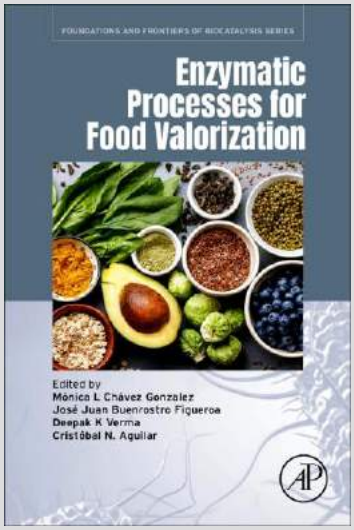

Enzymatic Processes for Food Valorization

Edited by : **Monica L. Chavez Gonzalez**, Full Professor School of Chemistry, Universidad Autonoma de Coahuila, Mexico; **Jose Juan Buenrostro Figueroa**, Titular Researcher. Research Center in Foodand Development, A.C. Delicias, Chihuahua, México; **Cristóbal Noé Aguilar**, Professor, Food Research Department, School of Chemistry, Autonomous University of Coahuila, Mexico Director of Research and Postgraduate Studies, Autonomous University of Coahuila, Mexico and **Deepak K. Verma**, Department of Agricultural and Food Engineering, Indian Institute of Technology, West Bengal, India

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LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 342
AUDIENCE: Professionals in the area of enzyme technology applied in the food industry, Technicians and scientists involved in the use of enzymes on food waste for the valorization and/or recovery of compounds of interest in the food and health area
BIC CODES: TDCT
THEMA CLASSIFICATION: THEMATDCT

Gathers the main enzymes used in food processing and technology to improve organoleptic and quality attributes

KEY FEATURES

- Brings updated content on trends in enzymatic processes for food valorization
- Presents the main enzymes used in food processing and technology to improve organoleptic and quality attributes
- Includes the application of enzymes for the valorization of by-products generated during food processing for an eventual recovery of bioactive
- Explores how food by-products can be used as fermentation substrates for the production of enzymes of industrial interest

DESCRIPTION

Enzymatic Processes for Food Valorization describes the most recent research in the field of catalysis for food valorization, revealing the impact of the implementation of enzymatic catalysis in the different stages that make up the production processes. Sections review advances in food processing using enzymes, explore the use of enzymes on by-products for the release of compounds of interest, and show recent trends in biocatalysis and its application in the food industry.

Written by a team of international experts, this is an invaluable guide for professionals in the area of enzyme technology applied in the food industry, as well as technicians and scientists involved in the use of enzymes on food waste for the valorization and/or recovery of compounds.

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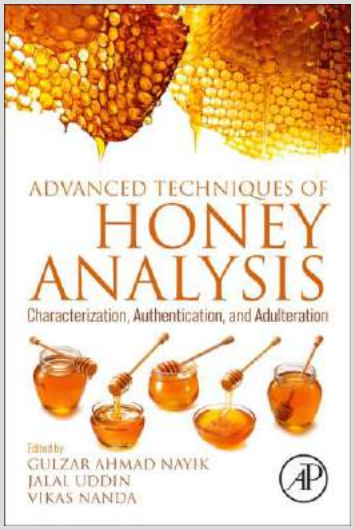

Advanced Techniques of Honey Analysis

Characterization, Authentication, and Adulteration

Edited by : **Gulzar Ahmad Nayik**, M.Sc, PhD, NET, Department of Food Science and Technology, Government Degree College Shopian, Jammu and Kashmir, India; **Jalal Uddin**, PhD, Department of Pharmaceutical Chemistry, Pharmacy College, King Khalid University, Saudi Arabia and **Vikas Nanda**, PhD, Department of Food Engineering and Technology, Sant Longowal Institute of Engineering and Technology, Punjab, India

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PAGES: c. 381
AUDIENCE: Food scientists and those working in honey industries and related fields
BIC CODES: VFM, TDCT
THEMA CLASSIFICATION: THEMAVFMD; THEMATDCT; THEMAMBNH3

Presents a variety of methodologies for honey analysis, including infrared spectroscopy, nuclear magnetic resonance, and more

KEY FEATURES

- Contains comprehensive information on novel honey analytical techniques
- Discusses the characterization of determination of honey adulteration by various novel methods
- Sheds light on Nuclear magnetic resonance (NMR) spectroscopy in honey analysis
- Includes applications, literature reviews, recent developments, and methods

DESCRIPTION

Advanced Techniques of Honey Analysis: Characterization, Authentication, and Adulteration presents an overview of honey, including its classification, composition, safety, present status, quality issues, and prospects before delving into honey adulteration and presenting various methodologies for honey analysis. Broken into fourteen chapters, this book explores the physiochemical, bioactive compound, aroma, microbial, thermal, and rheological analysis and properties of honey. It also considers infrared spectroscopy, nuclear magnetic resonance, and Raman spectroscopy methods. High-performance liquid chromatography, gas chromatography and GC-MS methods are also highlighted.

Written for food scientists and those working in honey industries and related fields, this book will be a welcomed resource for all who wish to play a role in mitigating honey fraud.

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Colorimetric Sensors

Techniques to Measure Food Safety and Quality

Edited by : **Haroon Elrasheid Tahir**, PhD, Jiangsu University, China; **Zou Xiaobo**, School of Food and Biological Engineering, Jiangsu University, Zhenjiang, Jiangsu, China; **Muhammad Arslan**, Jiangsu University, China and **Shi Jiyong**, Jiangsu University, China

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TRIM: 6.00w x 9.00h
PAGES: c. 314
AUDIENCE: Food Scientists, food chemists, sensory scientists, and others interested in colorimetric sensors
BIC CODES: TDCT
THEMA CLASSIFICATION: THEMATDCT

Presents the basics of food contaminants alongside the application of colorimetric sensor measurement methodologies

KEY FEATURES

- Serves as a valuable source for researchers interested in the fundamental, basic, and modern applications of colorimetric sensors/intelligent food packaging
- Presents colorimetric sensors for use as rapid and cost-effective analytical tools to measure food safety and quality
- Covers colorimetric sensors/intelligent food packaging fabricated from natural, and synthetic dyes, and nanotechnology-based biomolecules for the assessment of food safety and quality
- Demonstrates methods for evaluating the authenticity and odorants crucial to consumer acceptance of food products
- Considers future industrial application, commercialization, regulatory aspects of colorimetric sensors/ indicators, and global trends for monitoring food freshness

DESCRIPTION

Colorimetric Sensors: Techniques to Measure Food Safety and Quality explores the latest advancements in colorimetric sensors/indicators and their applications. It consolidates state-of-the-art developments and current approaches in the fabrication of colorimetric sensors/indicators for cutting-edge applications. This book documents the principles of colorimetric sensors, sensor fabrication and characterization, sensitivity and detection limits of colorimetric sensors based on natural pigments, synthetic dyes, and nanotechnologies, as well as safety, quality controls, and regulatory aspects, followed by an assessment of their safety and quality. In addition, global trends in the application of colorimetric sensors in monitoring food freshness, challenges, marketing, and potential future development applications are addressed in detail. How the applications of colorimetric sensors/indicators in the analysis of cereal and cereal-based products, meat and meat products, liquid and semiliquid foods, food authentication, food toxicants, and pathogens, among others, is also discussed. This book can be used as a textbook for graduate students, a reference book for medical biologists, nanobiotechnologists, nanoengineers, agricultural scientists, and general biologists, and an inspiration for industrialists and policymakers studying smart nanomaterials. Graduate students and food scientists of all levels will also benefit.

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FOOD SCIENCE, TECHNOLOGY & NUTRITION
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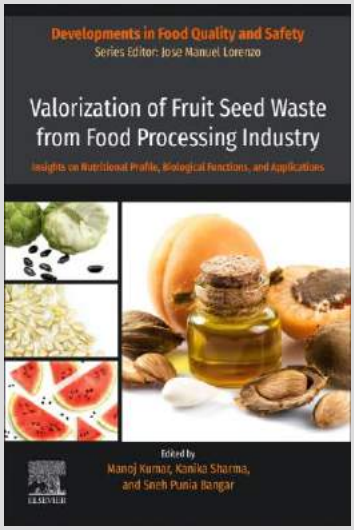

Valorization of Fruit Seed Waste from Food Processing Industry

Insights on Nutritional Profile, Biological Functions, and Applications

Edited by : **Manoj Kumar**, Scientist in the Chemical and Biochemical Processing Division at ICAR—Central Institute for Research on Cotton Technology India; **Kanika Sharma**, Scientist in the Chemical and Biochemical Processing Division at ICAR—Central Institute for Research on Cotton Technology India and **Sneh Punia Bangar**, Postdoctoral Researcher, Clemson University, South Califonia, USA

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PAGES: c. 298
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. The secondary market is composed of 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

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Provides comprehensive information about the biological activities, phytochemical profile, and industrial applications of fruit seed waste

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

KEY FEATURES

- Covers the fundamentals and latest developments in valorization methods for different fruit seed waste
- Provides a comprehensive view of the recovery of valuable ingredients from fruit seed waste
- Thoroughly explores extraction methods for obtaining bioactive components, characterization methods, and phytochemical profile of the seed

DESCRIPTION

Valorization of Fruit Seed Waste from Food Processing Industry: Insights on Nutritional Profile, Biological Functions, and Applications, Volume Five in the Developments in Food Quality and Safety series, provides comprehensive information regarding different aspects of fruit seed waste which can be of great help to students, research scholars, professors, and food industries for both theoretical and practical work. The book covers the composition of different types of fruit seed waste, including their biological and functional characteristics, applications, and extraction/valorization methods for the production of value-added products.

This 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.

FOOD SCIENCE, TECHNOLOGY & NUTRITION
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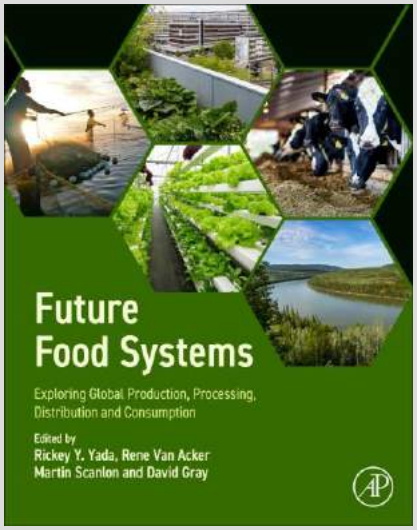

Future Food Systems

Exploring Global Production, Processing, Distribution and Consumption

Edited by : **Rickey Y. Yada**, Dean, Faculty of Land and Food Systems, University of British Columbia, Vancouver, BC, Canada; **Rene Van Acker**, Dean and Professor Ontario Agricultural College | University of Guelph Canada; **Martin Scanlon**, Dean, Faculty of Agricultural and Food Sciences, University of Manitoba (Fort Garry campus); Department of Food and Human Nutritional Sciences, USA and **David Gray**, Ph.D., University of Niagara Falls, Canada

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FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 273
AUDIENCE: Academic and industry researchers seeking to identify and optimize food availability and sustainability by understanding the profile of food supply from production to consumer. Those seeking to create effective policy for food distribution
BIC CODES: TVH, KCT, KNAC, LNKF
THEMA CLASSIFICATION: THEMAKNA; THEMAKCM; THEMALNKF; THEMATVH

Provides an overview of the key components of the production, distribution, and consumption of food, along with the future of food for the world

KEY FEATURES

- Written by industry and academic experts for balanced perspective
- Presents foundational information with practical application insights
- Includes chapters on regulatory and policy issues

DESCRIPTION

Future Food Systems: Exploring Global Production, Processing, Distribution and Consumption provides an overview of food systems, from farming through to logistics, processing, retail, service and consumption, with the intention of enabling more efficient development of policy and implementation of food related practices. The book presents the considerations which must be understood to develop effective and efficient policies and practices for any level of food system and along the continuum of those systems, with attention being given to the academic, public and private sector challenges, and opportunities for progress, efficiency, effectiveness, and sustainability.

Presented in parts to highlight key aspects of the subject area, the book explores production practices including increasingly important programs in integrated farming systems, vertical agriculture and urban farming, processes, value adding for commodities, agricultural technology, supply chain innovations and consumer considerations. The book provides foundational insights into the underpinnings of today's food systems, its challenges and its opportunities for the future.

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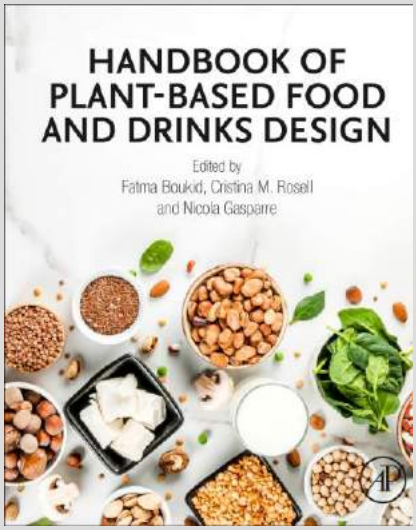

Handbook of Plant-Based Food and Drinks Design

Edited by : **Fatma Boukid**, Ph.D., ClonBio Group Limited, Ireland; **Cristina M. Rosell**, Full Professor and Head, Department of Food and Human Nutritional Sciences, University of Manitoba, Canada and **Nicola Gasparre**, Post-Doctoral Fellow, Department of Food and Human Nutritional Sciences, University of Manitoba, Canada

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LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 536
AUDIENCE: Food industry, academia, policy makers working on all aspects of food science and technology related to plant-based foods such food designers, process experts such process engineers and designers, safety and quality management experts, regulation and legislation Food personnel, students and researchers working with plant-based ingredients/ foods from different aspect such as formulation, ingredient characterization, safety, social impact, climate change, market landscaping, life cycle assessment
BIC CODES: TDCT
THEMA CLASSIFICATION: THEMATDCT

Discusses conventional and emerging technologies for plant-based ingredient improvement

KEY FEATURES

- Brings a critical overview about the health-beneficial compounds of plant-based sources
- Offers guidelines on how to formulate plant-based food or a food alternative
- Discusses the transition towards more plant-based diets on nutrition, economy climate change, health, and sustainability

DESCRIPTION

Handbook of Plant-Based Food and Drinks Design discusses conventional and emerging technologies for plant-based ingredient improvement (yield, nutritional composition and functional properties) while considering food safety, sustainability, and social impact to explore current and potential markets through research and innovation. Divided in 7 sections, the book covers Plant sources for functional ingredients, Processing plant-based sources, Plant-based food design to replace/mimic animal food, Innovation in plant-based food, The promise of parity, Safety and regulations of plant-based foods, Social, environmental, and economic impact, and more.

Written by a team of experts in the field, this book can be a good support for researchers and scientists working with plant-based food, drinks, and market trends.

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FOOD SCIENCE, TECHNOLOGY & NUTRITION
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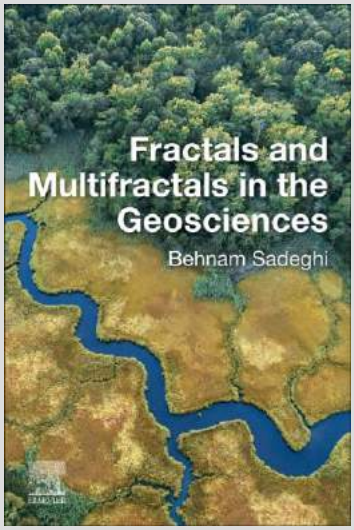

Fractals and Multifractals in the Geosciences

Behnam Sadeghi, CSIRO Mineral Resources, Australian Resources Research Centre (ARRC), Kensington, Australia and and Earth and Sustainability Science Research Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales, Australia

ISBN: 9780323908979
PUB DATE: Jun 01, 2024
LIST PRICE: £134.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 232
AUDIENCE: Mathematical geoscientists, geostatisticians, exploration geochemists, urban and environmental geochemists, applied geochemists, computational geoscientists, data analysts, and GIS professionals, mining engineers, petroleum engineers, exploration geophysicists, mining and petroleum industry decision-makers and stakeholders
BIC CODES: RBG, PB, RBGK, PN
THEMA CLASSIFICATION: THEMAPB; THEMARBG; THEMAPN

Extensively reviews fractal and multifractal models in geoscience exploration and the uncertainties linked to geochemical anomalies

KEY FEATURES

- Provides a comprehensive overview of the use of fractal and multifractal modeling methods, with a detailed assessment of uncertainty quantification in samples and classified models
- Specifically includes novel multifractal models, as well as uncertainty quantification and decision-making methods for use in geosciences and especially geochemistry
- Includes case studies showing the application of the fractal and multifractal methods detailed in the book

DESCRIPTION

Fractals and Multifractals in the Geosciences details the application of a wide range of multifractal methods, including many novel ones developed by the author, along with the assessment of uncertainty in sample classification and stability of spatial patterns. This book also provides criteria for selection of the most effective combination of data pre-processing and multifractal modeling to extract desired features or signals in the data. The book specifically aims to introduce, apply, and test novel multifractal models that account directly for changes in relationships between variables, as well as the effects of distance between samples and the source of anomalous metal contents in geoscience samples. Linked to this will be assessment of the effects of different pre-processing of data prior to application of the models and quantification/model uncertainty in geochemical anomaly maps, associated with sample classification and spatial interpolation. Gaussian simulations such as Sequential Gaussian Simulation and Monte Carlo Simulation will be applied to the new multifractal models developed and a suite of existing models, including (simulated) concentration-area, spectrum-area, singularity and other models.

Fractals and Multifractals in the Geosciences will be invaluable for mathematical geoscientists, geostatisticians, exploration, applied, urban and environmental geochemists, computational geoscientists, data scientists, and GIS professionals who need to better understand fractal geometry, along with its theory and applications in geochemical anomaly classification to generate maps that are helpful for decision-making for follow-up sampling and explorations.

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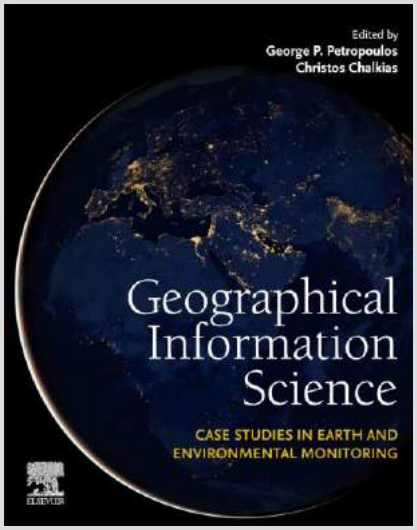

Geographical Information Science

Case Studies in Earth and Environmental Monitoring

Edited by : **George P. Petropoulos**, Assistant Professor of Geoinformatics, Department of Geography, Harokopio University of Athens, Greece and **Christos Chalkias**, Professor of Applied Geography and GIS, Harokopio Univeristy of Athens, Greece

ISBN: 9780443136054
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LIST PRICE: £123.00 / $160.00 / €139.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 191 x 235
PAGES: c. 344
AUDIENCE: Scientists, researchers and academics in the fields of geospatial science & technology, remote sensing, and environmental science
BIC CODES: RGW
THEMA CLASSIFICATION: THEMARGW

Provides a series of case studies demonstrating the use of a wide spectrum of geoinformation technologies in selected environmental applications

KEY FEATURES

- Focuses on global, templated case studies of GIS applications to environmental monitoring
- Includes methodologies allowing readers to recreate techniques and models and workflows that can be used in their own work
- Covers a plethora of topics in applied geosciences, providing environmental and geographical applications of practical interest

DESCRIPTION

Geographical Information Science: Case Studies in Earth and Environmental Monitoring provides detailed remote sensing and GIS methods and algorithms and technology comparisons, focusing on a wide range of environmental applications. The geoinformation technologies are demonstrated through templated case studies detailing real world use of the techniques and clarifying methods, tools, and practical solutions to environmental mapping and monitoring. The book utilizes remote sensing and geospatial data from the most recently launched satellites and applies the latest geospatial data approaches and analysis software tools (both commercial and open source).

This book is a comprehensive reference for researchers, academics and technicians in the fields of geospatial science & technology, remote sensing, and environmental science; or those processing and analyzing geospatial data for monitoring and modelling.

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EARTH & ENVIRONMENT Geology
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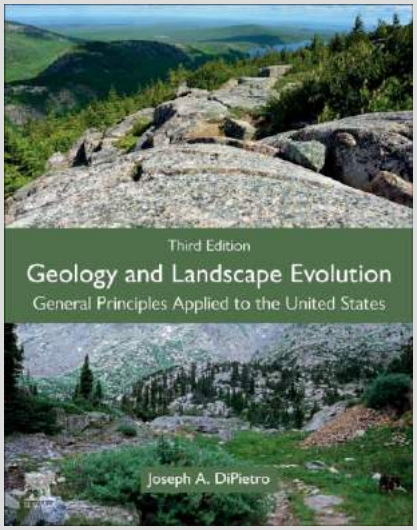

Geology and Landscape Evolution, 3e

General Principles Applied to the United States

Joseph A. DiPietro, University of Southern Indiana, Evansville, USA

ISBN: 9780443158964
PREVIOUS ISBN: 9780128111918
PUB DATE: Jun 01, 2024
LIST PRICE: £123.00 / $160.00 / €139.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 8.50w x 10.875h
PAGES: c. 651
AUDIENCE: Students and researchers in geology, geography, tectonics, and environmental science
BIC CODES: RBGD, RBG
THEMA CLASSIFICATION: THEMARBG

The updated edition explores general concepts on how landscape evolves, applying those concepts to the geology and landscape of the United States

KEY FEATURES

- Presents the complexities of physical geography, geology, geomorphology and climatology of the United States through an interdisciplinary, highly accessible approach
- Offers hundreds of figures, maps and photographs that capture the systematic interaction of land, rock, rivers, glaciers, global wind patterns and climate, including Google Earth images
- Provides a thorough assessment of the logic, rationale, and tools required to understand how to interpret landscape and the geological history of the Earth
- Features exercises that conclude each chapter, aiding in the retention of key concepts
- Includes 3 new sections and 8 additional chapters, as well as major updates to chapters throughout

DESCRIPTION

Geology and Landscape Evolution: General Principles Applied to the United States, Third Edition is an accessible text that balances interdisciplinary theory and applications within the physical geography, geology, geomorphology and climatology of the United States. The vast diversity of terrain and landscape across the United States makes this an ideal tool for geoscientists worldwide who research the country's geological and landscape evolution. The book provides an explanation of how landscape forms and how it evolves. This edition is fully updated with 3 additional sections: Geologic and Tectonic Processes and Provinces; Surface Processes and Provinces; and Compressional Mountain Systems.

Rather than limiting the coverage specifically to tectonics or to the origin and evolution of rocks with little regard for the actual landscape beyond general desert, river, and glacial features, this book concentrates specifically on the origin of the landscape itself, with specific and exhaustive references and examples from across the United States. The book goes on to apply those concepts to specific examples throughout the United States, making it a valuable resource for understanding theoretical geological concepts through a practical lens.

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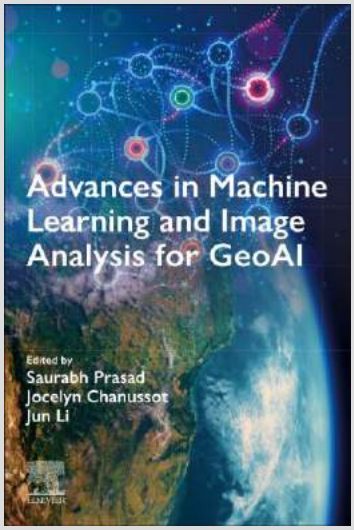

Advances in Machine Learning and Image Analysis for GeoAI

Edited by : **Saurabh Prasad**, Associate Professor, Department of Electrical and Computer Engineering, University of Houston, USA; **Jocelyn Chanussot**, Grenoble Institute of Technology, France and **Jun Li**, Sun Yat-sen University, China

ISBN: 9780443190773
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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 325
AUDIENCE: Graduate students, researchers and practitioners in the area of signal and image processing, geospatial image analysis, and remote sensing
BIC CODES: RB, UFL
THEMA CLASSIFICATION: THEMAKJT; THEMAUFL; THEMARB

A comprehensive overview of the latest techniques and technologies for image analysis and machine learning for geospatial imaging=

KEY FEATURES

- Covers the latest machine learning and signal processing techniques that can effectively leverage geospatial imagery at scale
- Presents a variety of algorithmic frameworks, including variants of convolutional neural networks, multi-stream networks, Bayesian networks, and more
- Includes open-source code-base for algorithms described in each chapter

DESCRIPTION

Advances in Machine Learning and Image Analysis for GeoAI provides state-of-the-art machine learning and signal processing techniques for a comprehensive collection of geospatial sensors and sensing platforms. The book covers supervised, semi-supervised and unsupervised geospatial image analysis, sensor fusion across modalities, image super-resolution, transfer learning across sensors and time-points, and spectral unmixing, among other topics. The chapters in these thematic areas cover a variety of algorithmic frameworks such as variants of convolutional neural networks, graph convolutional networks, multi-stream networks, Bayesian networks, generative adversarial networks, transformers, and more.

This book provides graduate students, researchers, and practitioners in the area of signal processing and geospatial image analysis with the latest techniques to implement deep learning strategies in their research.

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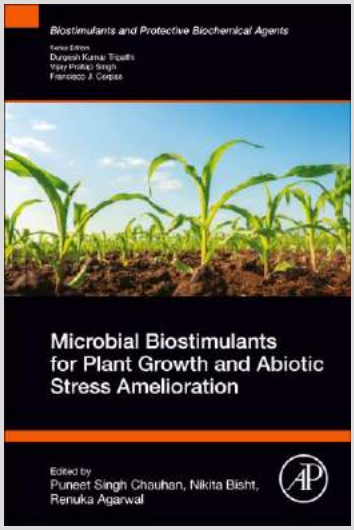

Microbial Biostimulants for Plant Growth and Abiotic Stress Amelioration

Edited by : **Puneet Singh Chauhan**, Principal Scientist and Head, CSIR-National Botanical Research Institute, India; **Nikita Bisht**, Microbial Technologies Division, CSIR-National Botanical Research Institute, Lucknow, India and **Renuka Agarwal**, Microbial Technologies Division, CSIR-National Botanical Research Institute, India.

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LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 465
AUDIENCE: Researchers and academics in the areas of plant science and agronomy/crop science
BIC CODES: TVK, PST, PSD
THEMA CLASSIFICATION: THEMATVK; THEMAPSD; THEMAPST

Helps readers understand the potential benefits of biostimulants in addressing abiotic stress conditions

A Volume in the *Biostimulants and Protective Biochemical Agents* Series

KEY FEATURES

- Presents the potential for more environmentally sustainable interventions against abiotic stresses
- Highlights the variety of applications for which biostimulants are proving effective
- Includes coverage of commercialization and role in addressing Sustainability Development Goals

DESCRIPTION

Microbial Biostimulants for Plant Growth and Abiotic Stress Amelioration, the latest release in the Biostimulants and Protective Biochemical Agents series, provides readers with insights into the major role of biostimulants in plant growth and development while under abiotic stress. The term biostimulants is broadly used to reference a group of diverse substances and microorganisms that stimulate life or that promote favorable plant responses. They stimulate natural processes to enhance/benefit nutrient uptake, nutrient efficiency, tolerance to abiotic stress, and crop quality.

Many biostimulants improve nutrition and they do so regardless of their own nutrient contents. Further, recently microbe-based biostimulants have emerged as important plant protectors under a range of adverse conditions.

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Biogenic Volatile Organic Compounds and Climate Change

Edited by : **Federico Brilli**, Eco-physiologist, Institute for Sustainable Plant Protection, National Research Council, Turin, Italy and **Stefano Decesari**, Senior Researcher, Institute of Atmospheric Sciences and Climate (ISAC), National Research Council, Italy

ISBN: 9780128210765
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LIST PRICE: £118.00 / $150.00 / €132.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 205
AUDIENCE: Atmospheric Scientists, Chemists, Plant Ecophysiologists, Biologists, Climate Modelers, Agricultural Scientists, Biogeoscientists, Atmospheric Chemists. Research communities in sustainability, agriculture, biosphere/atmosphere interactions, VOCs
BIC CODES: RNPG, PHVJ, RN, PSTD, PSB
THEMA CLASSIFICATION: THEMARNPG; THEMARBP; THEMATQ; THEMAPSB; THEMAPST

A single resource on the impact climate change and biogenic volatile organic compounds have on each other

KEY FEATURES

- Explains how volatile organic compound (VOC) production and emission in plants can ameliorate the consequences of climate change induced abiotic and biotic stresses
- Comprehensively addresses the complex interactions between global warming, atmospheric composition and plant ecology beyond carbon sequestration
- Reviews the use of biogenic VOC in sustainability

DESCRIPTION

Biogenic Volatile Organic Compounds and Climate Change highlights the relationship between climate change and biogenic VOC and the impact they have on each other. Topics include the synthesis and emission of VOC in plants, how they respond to environmental stresses, how sustainable agricultural practices plants can be used to directly impact climate change beyond carbon sequestration, a review of biogenic VOCs as air pollutants, and the impact of biogenic VOC on clouds. This groundbreaking work is essential for anyone in climate change, global warming and cooling, atmospheric chemistry, clouds, fate and transport of chemicals in the atmosphere, air pollution, sustainability or agriculture.

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Zinc in Plants

Current Knowledge and Recent Advances

Edited by : **Vijay Pratap Singh**, Assistant Professor, Department of Botany, Chaudhary Mahadeo Prasad College, Allahabad, UP, India; **Sangeeta Pandey**, Assistant Professor, Amity Institute of Organic Agriculture, Amity University Uttar Pradesh, Noida, India.; **Shivesh Sharma**, Professor, Department of Biotechnology, Motilal Nehru National Institute of Technology, Allahabad, UP, India and **Devendra Kumar Chauhan**, Professor and Head of Department of Botany at the University of Allahabad, India

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FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 372
AUDIENCE: Scientists and researchers interested in plant physiology, biochemistry, agriculture and ecology
BIC CODES: PSTD, PSB
THEMA CLASSIFICATION: THEMAPSB; THEMAPST

A complete compilation of the different roles zinc plays in the plant lifecycle

KEY FEATURES

- Provides an overview on the origin, chemistry and behavior of zinc in soil
- Discusses zinc deficiency and toxicity along with causes and remediation
- Presents the latest advances in zinc signaling, regulation and genotypic variation

DESCRIPTION

Zinc in Plants: Current Knowledge and Recent Advances addresses zinc hunger, the transport of zinc in the soil-plant interphase, zinc and abiotic stress in plants, and zinc and plant disease. Written by experts in the field, this title is an essential resource to all scientists and students interested in plant physiology, biochemistry and agriculture. During their life, plants encounter various challenges, including their normal development under changing environmental conditions. Zinc (Zn) is an essential component of thousands of proteins in plants, although it is toxic in excess, and is essential for many processes throughout the plant lifecycle.

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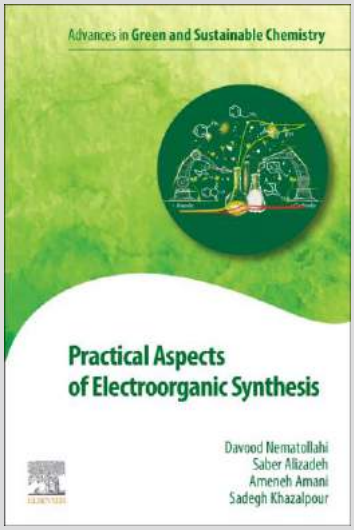

Practical Aspects of Electroorganic Synthesis

Davood Nematollahi, Professor of Analytical Chemistry, Department of Analytical Chemistry, Faculty of Chemistry and Petroleum Sciences, Bu-Ali Sina University, Hamedan, Iran; **Saber Alizadeh**, Assistant Professor of Analytical Chemistry, Department of Chemical Technology, Iranian Research Organization for Science & Technology (IROST), Tehran, Iran; **Ameneh Amani**, Assistant Professor of Analytical Chemistry, Nahavand Higher Education Complex, Bu-Ali Sina University, Hamedan, Iran and **Sadegh Khazalpour**, Associate prof. of Analytical Chemistry, Department of Analytical Chemistry, Faculty of Chemistry and Petroleum Sciences, Bu-Ali Sina University, Hamedan, Iran

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DISCOUNT: Reference
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TRIM: 6.00w x 9.00h
PAGES: c. 298
AUDIENCE: Researchers, academics, undergraduates and scientists within the fields of Analytical Chemistry, Molecular Electrochemistry, Electrosynthesis, Electro-Organic Synthesis, Surface Electrochemistry, Modified Electrode, Green Chemistry and Material science, scientists and researchers within the fields of Laboratory synthesis of Organic-Inorganic Compounds, Industrial synthesis of Organic-Inorganic compounds, Pharmaceutical Industry, Paint Industry, Absorbent and membrane Industry, Fabrication of Energy, Battery, Supercapacitor and Fuel Cell materials. This book can be used for a course as the "Novel and Practical Topics in the Electrochemistry" for Post Graduate Degree and Ph.D students in University
BIC CODES: KCN, RN
THEMA CLASSIFICATION: THEMAKCVG; THEMATQ

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Provides solid insights into experimental approaches and covers novel synthesis techniques

A Volume in the *Advances in Green and Sustainable Chemistry* Series

KEY FEATURES

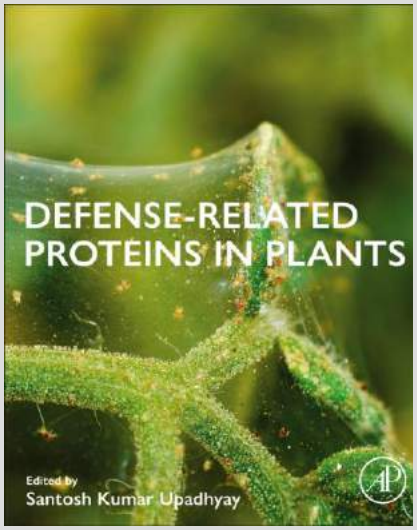
- Discusses complete and up-to-date practical concepts of electrosynthesis methods
- Provides sound insights into the experimental approaches of electrosynthesis, covering new and novel synthesis techniques
- Breaks down the fundamentals aspects of electrolysis into three digestible and logical sections

DESCRIPTION

Practical Aspects of Electroorganic Synthesis presents an educational insight into the practical aspects of electrosynthesis methods by providing a variety of examples and techniques. With the advancement of chemical science and its undeniable role in life, there is a growing need for the employment of green and eco-friendly methods and environmentally acceptable processes to minimize the negative consequences of chemical technologies. These needs and concepts are referred to as “green chemistry” and “sustainable technology”. Electrosynthesis techniques are an example of one of the notable achievements of the interdisciplinary co-operation that assists in minimizing these consequences.

This book comprises three fundamental sections: direct, indirect, and paired electrolysis. As a result, this logically separates the key information needed to conduct electrochemistry into digestible and rational parts. Direct electrolysis discusses anodic oxidation, cathodic reduction, mechanistic studies (cyclic voltammetry), and how to set up electrochemical experiments. Indirect electrolysis proceeds to explore catalysts and additives in more depth to take on modern electrochemical methods. Finally, this book explores the burgeoning new field of paired electrolysis, in which the ultimate green-synthesis applications are possible, with no wasted electrons and very few by-products.

Practical Aspects of Electroorganic Synthesis offers researchers a modern and authoritative resource that brings complete and up-to-date practical concepts of electrosynthesis methods and guides the audience on how to carry out a large number of experimental techniques.



Defense-Related Proteins in Plants

Edited by : **Santosh Kumar Upadhyay**, Assistant Professor, Department of Botany, Panjab University, Chandigarh, India

ISBN: 9780443132360
PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 511
AUDIENCE: Researchers and academics, advanced level students in plant and agricultural sciences, Agricultural-related industry
BIC CODES: PST, PSAK, TVS, PSTL
THEMA CLASSIFICATION: THEMAPST; THEMAPSAK; THEMATVS

A logical and practical resource that summarizes the major classes of plant-defense proteins

KEY FEATURES

- Presents comprehensive information on ‘Defense-related proteins in plants’ for the reader to get all the information on a single platform
- Highlights practical application of defense-related proteins in crops
- Includes identification, characterization, mechanism of action, and applications in crop improvement programs of plant-defense proteins

DESCRIPTION

Defense-related Proteins in Plants presents detailed information on these important mechanisms in plants, including their identification, characterization, mechanism of action, and application in crop improvement programs in a single, cohesive, and comprehensive volume. The foundational information included enables understanding of these proteins and their application in crop improvement programs. The book is a complete guide about defense-related proteins in plants for various categories of readers that will inspire future research into the unexplored areas of molecular aspects of these proteins to understand their role and action mechanism in plants and living organisms as a whole.

Defense-related proteins have drawn the attention of various plant and agricultural scientists and industries because they provide generalized direct stress tolerance in crop plants. These proteins including lectins, chitinases, thaumatin, and osmotin, among others, have been used for the development of transgenic plants to provide protection against various abiotic and biotic stresses. While there is a breadth of research and application information available, it has not, until now, been compiled into a single volume for ease of comparison and translational work.

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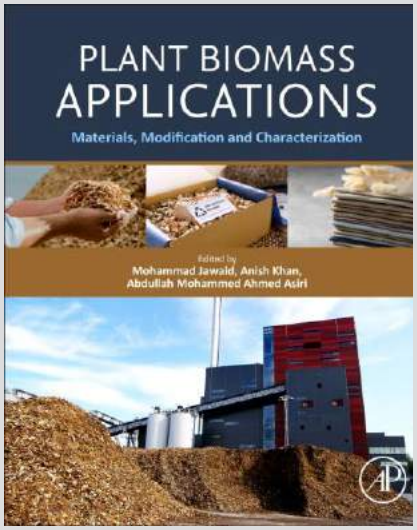

Plant Biomass Applications

Materials, Modification and Characterization

Edited by : **Mohammad Jawaid**, United Arab Emirates University; **Anish Khan**, Center of Excellence for Advanced Materials Research, King Abdulaziz University, Jeddah 21589, Saudi Arabia and **Abdullah Mohammed Ahmed Asiri**, Chairman of the Chemistry Department, King Abdulaziz University, Director of the Center of Excellence for Advanced Materials Research, Saudi Arabia

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FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 372
AUDIENCE: Research scholars from agriculture, plant science, agriculture engineers, developers of engineering materials, those developing specific applications, Those considering the environmental impact of the manufacture and use of these materials
BIC CODES: KNAC, TVK, PST
THEMA CLASSIFICATION: THEMATVK; THEMAKNA; THEMAPST

Explores the unique properties of plant biomass in the fields of biomedical, food, packaging, electronics, automotive, sensors, and textiles

KEY FEATURES

- Presents basic concepts, methods, technical concepts, literature review, and detailed application in particular fields for plant biomass materials
- Focuses on the processing techniques for different biomass
- Describes, in detail, processing methods, value-added products, and their applications in various fields like agriculture and food industry, energy, catalysis, and bio-medicinal applications

DESCRIPTION

Plant Biomass Application: Materials, Modification and Characterization focuses on the unique properties associated with plant biomass, from their biodegradable, non toxic, and safe for handling characteristics to their potential in developing sustainable, climate protecting products. The book covers all aspects of plant biomass materials opportunities, with a focus on the value-added product generated from plant biomass such as polymers, composites, transportation fuels, chemical intermediates/bulk chemicals, or sources of heat and generated power. The conversion of plant biomass into materials product such as plastics, fabrics, and carpets and specialty chemicals presents exciting possibilities for replacing traditionally used fossil fuels. Sections in this new release provide in-depth discussion on the materials derived from plant biomass and their current and potential future applications. Leading researchers from industries, academics, government, and private research institutions across the globe provided insights, making it an important reference for researchers and academics seeking to maximize plant biomass potential.

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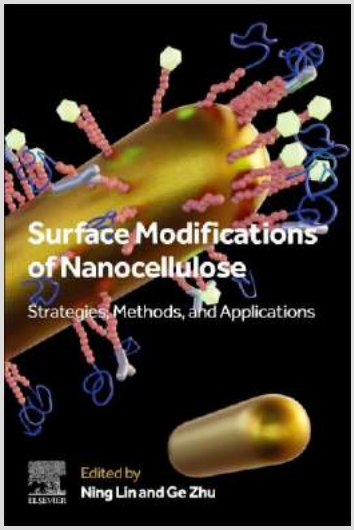

Surface Modifications of Nanocellulose

Strategies, Methods and Applications

Edited by : **Ning Lin**, Associate Professor, Wuhan University of Technology, China and **Ge Zhu**, Lecturer, Wuhan University of Technology, China

ISBN: 9780443161261
PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 372
AUDIENCE: Colleagues, graduate students and researchers who are engaged in biopolymer research, as well as scientists and engineers who are committed to the development of highly-valued functional polymer and nanomaterials and green chemistry, Professional/practitioner who are engaged in biopolymer research
BIC CODES: KCN, RN
THEMA CLASSIFICATION: THEMAKCVG; THEMATQ

Thoroughly examines nanocellulose modifications and applications

KEY FEATURES

- Systemically summarizes the strategy and protocols of surface modifications on nanocellulose
- Includes a database for the modified species as a reference book for surface modification on nanocellulose
- Illustrates the relationship between modification and applications of nanocellulose
- Provides inspiration for the development of potential functional modification in this field

DESCRIPTION

Surface Modification of Nanocellulose: Strategy, Methods, and Applications establishes the basic framework of nanocellulose. This book systemically summarizes the strategy and protocols of surface modifications on nanocellulose and comprehensively analyzes the relationship between surface modifications and their functional applications. It provides a one-stop reference for researchers engaged in biopolymer research with a commitment to the development of highly-valued functional polymers, nanomaterials, and green chemistry.

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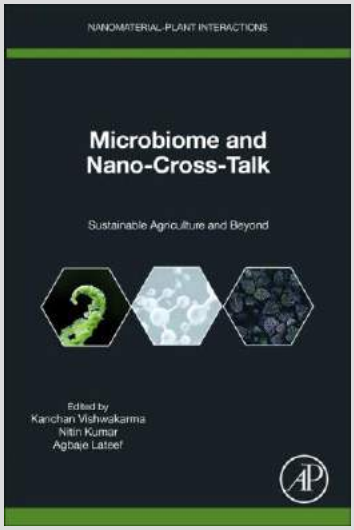

Microbiome and Nano-Cross-Talk

Sustainable Agriculture and Beyond

Edited by : **Kanchan Vishwakarma**, MTech and PhD (MNNIT Allahabad), 1. Research Scientist Amity Institute of Microbial Technology, Amity University Uttar Pradesh, Noida, India 2. Department of Forest Ecology and Management, Umeå Plant Science Centre (UPSC), Swedish University of Agricultural Sciences (SLU), Umeå, Sweden; **Nitin Kumar**, MTech and PhD (MNNIT Allahabad) and **Agbaje Lateef**, Mtech and PhD (Ladoke Akintola University of Technology, Ogbomoso)

ISBN: 9780443188220
PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 418
AUDIENCE: Researchers and Advanced students of plant physiology, agriculture, botany, molecular biology, nanotechnology and biotechnology, Agronomists and Crop Scientists
BIC CODES: PSTD, PSB, TVS, PSTL, PSAF, PST, PSTS
THEMA CLASSIFICATION: THEMAPSB; THEMAPST; THEMATVS; THEMAPSAF

Bridges the knowledge gap between the applications of nanotechnology and microbiology in plant science

KEY FEATURES

- Presents a logistic approach to nanotechnology and microbiology in the plant sciences
- Explores multiple nanomaterials and their interactions for improved plant health and yield
- Enables the reader to devise strategies for engineering stress-tolerant plants and increased plant productivity

DESCRIPTION

Microbiome Nano-Cross-Talk: Sustainable Agriculture and Beyond presents a comprehensive overview of the functional aspects of multiphasic microbial and nanotechnological interactions within and between plants and their ecosystem. Recognizing that beneficial microbes are involved in plant growth promotion, this book highlights their mechanism and regulation to enhance plant's yield and development even under stressed conditions. The merging of nanotechnology with microbiology is an essential aspect of this book. Various nanomaterials, their synthesis approaches as well as applications in agriculture have been studied extensively in past years.

With a focus on focus the morphological, anatomical, biochemical, molecular and gene expression levels of plant growth promotion, the book is the first of its kind to enable scientists to unravel the different pathways and signaling cascades involved in response to this interaction and to understanding how nanomaterials regulate the plant-microbe associations. It critically examines the role of beneficial microbes in conjunction with nanoparticles in plants and the mechanisms adopted by the plants at the biochemical and molecular levels to enhance plant growth and mitigate various stresses.

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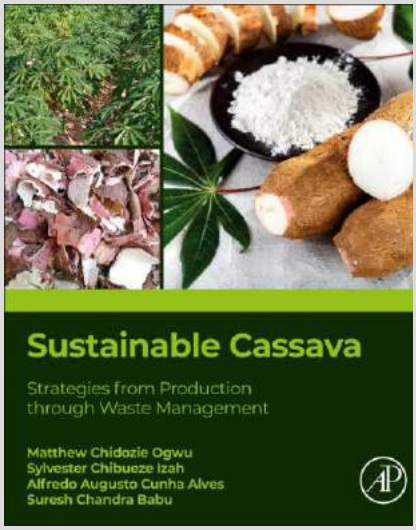

Sustainable Cassava

Strategies from Production through Waste Management

Matthew Chidozie Ogwu, Goodnight Family Department of Sustainable Development, Appalachian State University, Living Learning Center, Bodenheimer Drive, Boone, North Califonia, USA; **Sylvester Chibueze Izah**, Department of Microbiology, Bayelsa Medical University, Imgbi Road, Yenagoa, Bayelsa State, Nigeria; **Alfredo Augusto Cunha Alves**, Embrapa Mandioca e Fruticultura, Rua Embrapa Caixa Postal, Cruz das Almas, Bahia, Brasil and **Suresh Babu**, Head, Capacity Strengthening, Development Strategy and Governance Division, International Food Policy Research Institute (IFPRI) & Extraordinary Professor University of Pretoria, South Africa

ISBN: 9780443217470
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. 324
AUDIENCE: Academics and researchers in cassava genetic resources, cassava production, processing, trade, consumption and sustainable processing waste management strategies
BIC CODES: TV, RN, RNFF, TDCT, KNAC, TVK, TVQ
THEMA CLASSIFICATION: THEMATQ; THEMATV; THEMATDCT; THEMAJW; THEMAKNA; THEMATVK; THEMATVQ

Includes close knowledge and information gaps about the diversity, distribution, and consumption of Cassava

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

KEY FEATURES

- Presents best practices and ideas from around the world, including technological advances for Cassava production and use
- Focuses on sustainability throughout the lifecycle
- Provides insights translatable to other tuber crops for further enhanced sustainable food security

DESCRIPTION

Sustainable Cassava: Strategies from Production through Waste Management presents viable approaches to promote sustainability in this globally important crop, enabling future generations to benefit. Presented in three parts, the first addresses cassava diversity and distribution, sustainable production and cultivation practices, and root processing innovations of the crop. Cassava trade policies and economic value chains, food safety and use of cassava, and agro-industrial cassava products are addressed in the second part. The third part focuses on bioeconomy aspects, cassava waste quality assessment, toxicology, sanitary practices, environmental risk assessment as well as sustainable management strategies for cassava waste using biotechnological and industrial advances.

Addressing the need for a unified and standardized approach for the trade, management, and utilization of cassava genetic resources, finished products, and cassava processing wastes, the book also explores policy and governance structure for addressing environmental and economic issues emanating from their use.

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Shared Research Resources

Best Practices in Management and Administration

Edited by : **Andrew Vinard**, Director, Centralized Core Facilities, UMass Amherst Institute for Applied Life Sciences; **Julie Auger**, Executive Director, Research Core Facilities Program, UC Davis and **Joshua Z. Rappoport**, Executive Director, Research Infrastructure & Operations, Boston College

ISBN: 9780443133992
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LIST PRICE: £95.95 / $125.00 / €109.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 279
AUDIENCE: Current and aspiring Shared Research Resource staff, managers, and directors, Institutional Shared Research Resource administrators
BIC CODES: PSA, MR
THEMA CLASSIFICATION: THEMAPS; THEMAMR

An educational resource for Shared Research Resources Management, sharing world class practices and case studies

KEY FEATURES

- Shares best practices and case studies on shared research resources management from leading institutions around the globe
- Provides theory and practical advice on all main management areas, with direct application to SRR management
- Serves as course material or self-learning guide

DESCRIPTION

Shared Research Resources: Best Practices in Management and Administration brings together best practices and case studies from research institutions around the world. Covering all areas of management, with examples and applications specific to the research environment, this is the perfect reference to build managerial skills. The first part is dedicated to introducing Shared Research Resources (SRR) management. The second part covers all aspects of staffing. Part three contains complete coverage of operations, including service development, instrument procurement, marketing, management software, customer support, safety, maintenance and repair. Part four is dedicated to fiscal management, budgeting, and reporting.

Part five covers strategic management. Part six is devoted to the sustainability of the core facility. The final part covers assessment, including annual reports, program reviews, and audits. This book is a complete reference targeted at SRR managers and staff who need to keep updated with current best practices and case studies. It is also important reading for research institution managers and function leaders.

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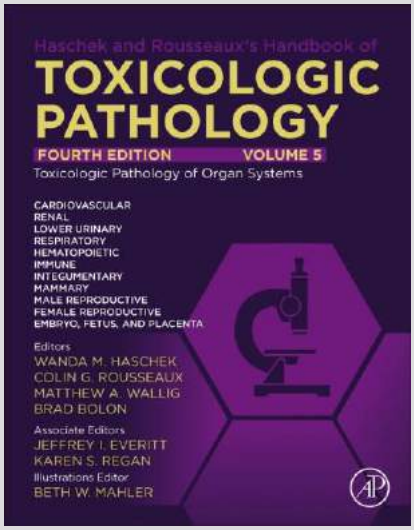

Haschek and Rousseaux's Handbook of Toxicologic Pathology Volume 5: Toxicologic Pathology of Organ Systems, 4e

Edited by : **Wanda M Haschek**, BVSc, PhD, DACVP, FIATP, Professor Emerita, Dept of Veterinary Pathobiology, College of Veterinary Medicine, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA; **Colin G. Rousseaux**, BVSc [Hons], PhD, DABT, FRCPath, FIATP, FATS, Adjunct Professor, Department of Pathology and Laboratory Medicine, University of Ottawa Principal, Colin Rousseaux and Associates, Canada; **Matthew A. Wallig**, DVM, PhD, DACVP, Professor Emeritus, Department of Veterinary Pathobiology, College of Veterinary Medicine University of Illinois at Urbana-Champaign, Urbana, Illinois

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PUB DATE: Oct 01, 2024
LIST PRICE: £195.00 / $250.00 / €220.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 8.50w x 10.875h
PAGES: c. 744
AUDIENCE: Scientists, including pathologists, toxicologists and graduate students, in academia, industry and government. Potential settings include biopharmaceutical, medical device, and chemical companies, contract and basic research organizations, veterinary diagnostic laboratories and medical forensic laboratories, regulatory agencies and universities
BIC CODES: MMGT, MZ
THEMA CLASSIFICATION: THEMAMKGT; THEMAMZ

The single most definitive reference on toxicologic pathology for scientists and researchers in industry, academia, and government

KEY FEATURES

- Includes completely revised chapters on systems toxicologic pathology
- Offers high-quality and trusted content in a multi-contributed work written by leading international authorities in all areas of toxicologic pathology
- Features hundreds of full-color images in both the print and electronic versions of the book to highlight difficult concepts with clear illustrations

DESCRIPTION

Haschek and Rousseaux's Handbook of Toxicologic Pathology, Fourth Edition, Volume Five: Toxicologic Pathology of Organ Systems is a key reference on the integration of structure and functional changes in tissues associated with the response to pharmaceuticals, chemicals, and biologics. This book continues coverage of Organ-Specific Toxicologic Pathology and major organ systems not covered in Volume Four, and has been completely revised, making it an essential part of the most authoritative reference on toxicologic pathology for pathologists, toxicologists, research scientists, and regulators studying and making decisions on drugs, biologics, medical devices, and other chemicals, including agrochemicals and environmental contaminants.

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LIFE SCIENCES Toxicology
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Revealing Uncharted Biology with Single Cell Multiplex Proteomic Technologies

Platforms

Edited by : **Wendy Fantl**, Assistant Professor, Department of Urology and by-courtesy appointment in Obstetrics and Gynecology, Stanford University, CA, USA

ISBN: 9780128222096
PUB DATE: Jun 01, 2024
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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 279
AUDIENCE: PhD students, young researchers and junior faculty members in biomedical sciences, Pharmaceutical Sciences Researchers
BIC CODES: PSF
THEMA CLASSIFICATION: THEMAPSF

A complete guide on currently available Multiplex Single Cell Proteomics research techniques

KEY FEATURES

- Covers the most relevant Multiplex techniques applied to Proteomics
- Provides insights into using the right tool for the biological question of interest
- Discusses applications of techniques in several settings
- Presents an overview on the use of combined techniques

DESCRIPTION

Revealing Unchartered Biology with Single Intact Cells: Currently Available Platforms enables researchers in bioscience to visualize cellular phenomena at an unprecedented scale and rate. The book's editors provide an overview of each of the most current techniques, both individually and when used in conjunction. Sections cover CyTof, Multicolor fluorescence cytometry, CODEX multiplexed imaging, MIBI, Imaging Mass Cytometry, Multi resolution cell orientation, Confocal microscopy, QPI and Fluorescence microscopy, CyTOF and SCRNA Seq, CyTOP and scATAC Seq, and CyTOF and ATAC See, and the application of the techniques to biological questions, including chapters on cellular diversity and generating hypothesis through data analysis.

The final part is dedicated to further the reader’s understanding of complex biological systems by identifying new clinical tools and drug development. This book is the ideal reference for researchers who want to understand the variety of multiplex visualization techniques available for bioscientists and how to make better decisions on how to apply them to the biological question of interest.

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Revealing Uncharted Biology with Single Cell Multiplex Proteomic Technologies

Applications

Edited by : **Wendy Fantl**, Assistant Professor, Department of Urology and by-courtesy appointment in Obstetrics and Gynecology Stanford University, CA, USA

ISBN: 9780128222133
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LIST PRICE: £76.95 / $99.95 / €86.95
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 279
AUDIENCE: PhD students, young researchers and junior faculty members in biomedical sciences, Immunology and Cancer Researchers
BIC CODES: PSF
THEMA CLASSIFICATION: THEMAPSF

Presents practical advice on designing your experiments with Multiplexed Single-Cell analytical techniques

KEY FEATURES

- Provides insights into the path to success of key research articles based on Multiplex Single-Cell analysis techniques results
- Contains detailed method information
- Discusses strengths and limitations of techniques applied to each research domain covered
- Includes discussions on the failures encountered along the research path and how to avoid them

DESCRIPTION

Revealing Unchartered Biology with Single Intact Cells: Case Studies explores the path to research success, key projects, the role of techniques, the selection process, other alternatives considered, what other paths have led to dead ends, detailed protocols followed, and how the analysis of generated data allowed researchers to visualize unchartered biology. Focusing on the research journey that led to the publication of each article, the book's editors interviewed the researchers on the use of the Multiplex Single Cell technique and how it helped hone in on the biological quest. These methods can be expanded to a wide variety of research objectives.

In conclusion to each chapter, the authors critically review their process and provide suggestions of improvement or alternate techniques that could be employed. This book is the ideal reference for researchers new to the world of single-cell multiplex techniques. The discussion on failures encountered along the research path provides insights on how to avoid repeating the same errors.

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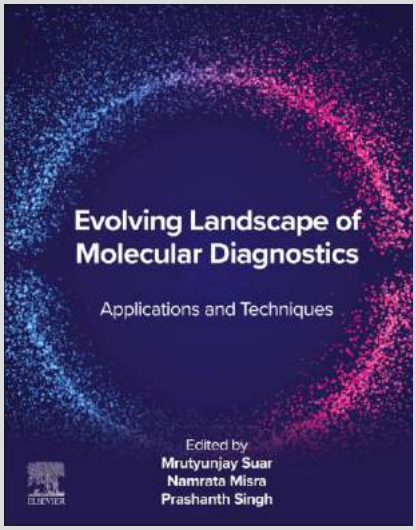

Evolving Landscape of Molecular Diagnostics

Applications and Techniques

Edited by : **Mrutyunjay Suar**, Director General R&D and KIIT University CEO, KIIT-Technology Business Incubator, Bhubaneswar, India; **Prashanth Singh**, CEO, Bhubaneswar City Knowledge Innovation Cluster KIIT University, Bhubaneswar, India; **Namrata Misra**, Assistant Professor, KIIT School of Biotechnology and Head, Bio-innovations, KIIT Technology Business Incubator, KIIT Deemed to Be University, Bhubaneswar, India

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PUB DATE: Jun 01, 2024
LIST PRICE: £135.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 279
AUDIENCE: Researchers and scientists working in clinical microbiology and diagnostic industries, infectious biology and other applied life sciences, Students
BIC CODES: PSG, MJA
THEMA CLASSIFICATION: THEMAMJA; THEMAPSG

Explores challenges, opportunities and future research directions of technologies in diagnostics

KEY FEATURES

- Provides a wide range of diagnostics tools and technologies in the field of infectious biology
- Presents discussions on emerging technologies for early disease diagnosis and novel diagnostics techniques for detection of COVID, Urea Breath Tests for Detection of Helicobacter pylori, Loop-Mediated Isothermal Amplification as Point-of-Care Diagnosis, Molecular imaging, Lab-on-a-chip Technologies, and several others
- Analyzes literature reviews, underpinning methodologies, and opportunities and limitations
- Includes case studies and examples that highlight applications using the underpinning techniques

DESCRIPTION

Evolving Landscape of Molecular Diagnostics: Applications and Techniques presents cutting-edge reviews on current and emerging technologies in the diagnosis of microbial infections. The book discusses the fundamentals of Molecular Diagnostics for bacteria, fungi, viruses and a variety of state-of-the-art diagnostics tools and techniques for obtaining qualitative and quantitative results. It includes topics such as Next generation sequencing and application of "OMICS" for early disease diagnosis. Sections cover the entire spectrum of emerging diagnostic tools and techniques, as well as the principles, pros and cons of each method and applications for diagnosis of infectious disease in plants, humans and veterinary. This is a resource for both researchers and students working in clinical microbiology, infectious biology, applied life sciences and scientists working in the clinical diagnostic industry.

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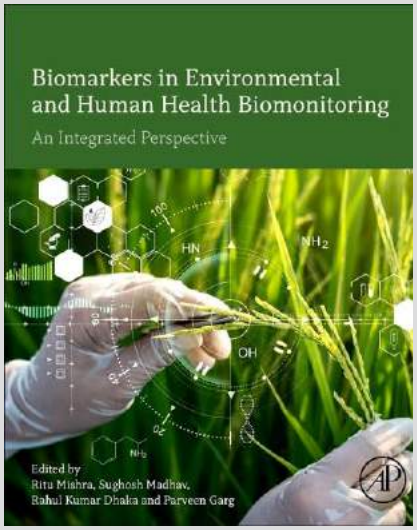

Biomarkers in Environmental and Human Health Biomonitoring

An Integrated Perspective

Edited by : **Ritu Mishra**, Assistant Professor at Department of Botany, University of Allahabad, Prayagraj, India; **Sughosh Madhav**, Postdoctoral Fellow, Department of Civil Engineering, Jamia Millia Islamia, New Delhi, India; **Rahul Kumar Dhaka**, Assistant Professor, Chaudhary Charan Singh Haryana Agricultural University (CCS HAU), Department of Chemistry, College of Basic Sciences & Humanities, Hisar, Haryana, India and **Parveen Garg**, Principal and Professor, Swami Shradhanand College, University of Delhi, New Delhi, India

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LIST PRICE: £134.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 325
AUDIENCE: Researchers in environmental toxicology and environmental science studying the biomonitoring of living organisms for the analysis and detection of accumulated toxicity levels in an ecosystem, its potential impact on environmental and human health
BIC CODES: MMGT
THEMA CLASSIFICATION: THEMAMKGT

Interdisciplinary reference that provides a holistic view of the biomonitoring of environmental degradation and associated human health concerns

KEY FEATURES

- Covers the fundamentals, types, significance, and limitations of biomarkers
- Examines various types of plants, animals, and secondary metabolites in identifying and monitoring toxicity in different ecosystems and potential impacts on health
- Reviews biomarker-based and bioinformatic tools in the detection and monitoring of environmental pollution and associated human health

DESCRIPTION

Biomarkers in Environmental and Human Health Biomonitoring: An Integrated Perspective provides a holistic view of the biomonitoring of environmental degradation, accumulated toxicity, and associated human health concerns. The book incorporates theoretical and practical aspects of the biomonitoring of environmental pollution and the health surveillance of ecological communities using samples from living organisms which are analyzed for contaminants and toxin levels. In the first half, the book provides a general overview if the different types of biomarkers, their significance as bioindicators for contaminants and detection of toxicity, as well as how they can be utilized in the restoration of degraded ecosystems.

The second half of the book discusses molecular biomarkers and how they are used as diagnostic and prognostic tools for pollution monitoring. It also reviews analytical tools used to validate the biomarkers in the detection and monitoring of pollution and disease. Finally, the book delves into how novel approaches like genetic ecotoxicology; Big Data, and artificial intelligence calculates the potential consequences of environmental pollution on the ecosystems and on human health.

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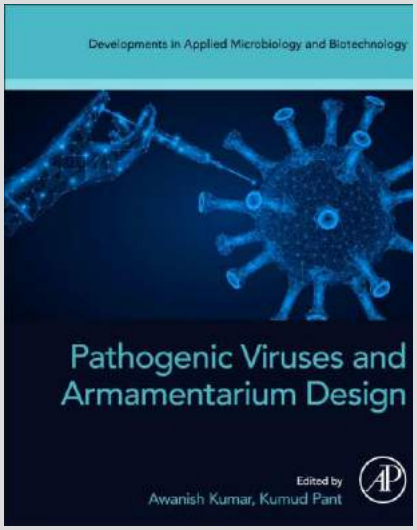

Pathogenic Viruses and Armamentarium Design

Edited by : **Awanish Kumar**, Ph.D, Associate Professor, Department of Biotechnology, National Institute of Technology Raipur, India and **Kumud Pant**, Department of Biotechnology, Graphic Era University, Uttarakhand, India

ISBN: 9780443152412
PUB DATE: Jun 01, 2024
LIST PRICE: £115.00 / $150.00 / €131.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 209
AUDIENCE: Researchers and investigators working in pathogenic human viruses. Researchers in applied microbiology, molecular biology, biotechnology, biochemistry, pharmaceutical industry, Medicinal Chemistry, Drug Discovery etc. Basic and applied scientists of different disciplines (microbiologist, molecular biologists, medicinal chemists,) specialists in different sub-disciplines of phytomedicines, and students in postgraduate and PhD programs, The incorporation of software and tools will help both experienced and new bioinformaticians and students
BIC CODES: PSGL
THEMA CLASSIFICATION: THEMAPSG

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Provides information on pathogenic viruses and armamentarium design, including standards and novel technologies applied to the molecular diagnosis of viral infections

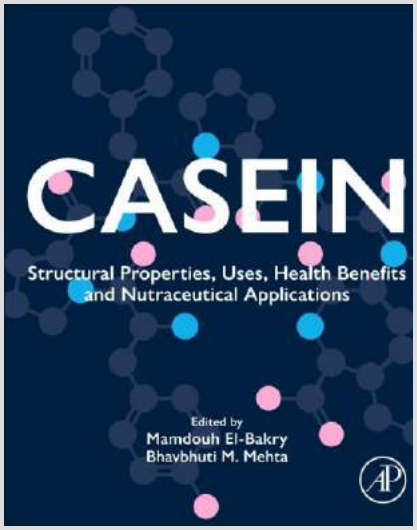
A Volume in the *Developments in Applied Microbiology and Biotechnology* Series

KEY FEATURES

- Covers the latest developments in viral target elucidation and viral control using wet and dry lab strategies
- Presents a comprehensive compilation of anti-viral approaches designed and devised using computational and other laboratory techniques
- Provides a valuable aid in understanding viral disease progression and designing new strategies against existing and evolving viruses

DESCRIPTION

Pathogenic Viruses and Armamentarium Design covers the latest developments in viral target elucidation and viral control using wet and dry lab strategies. The control and combat strategies and their implementation compiled in this book are a valuable aid in understanding viral disease progression and designing new strategies against existing and evolving viruses. This important resource is a comprehensive compilation of anti-viral approaches designed and devised using computational and other laboratory techniques. The content targets the readership of college students, scientists and research investigators working on the pathogenic virus and development of prophylactics and therapeutics against viral infection. Researchers from biotechnology, infection biology, chemistry and pharmaceutical science will surely benefit from this content. The incorporation of software and tools will also help both experienced and new bioinformaticians and students.



Casein

Structural Properties, Uses, Health Benefits and Nutraceutical Applications

Edited by : **Mamdouh El-Bakry**, Ph.D, Regulatory Affairs Technologist, Food Supplements & Natural Cosmetics, Cartagena, Spain and **Bhavbhuti M. Mehta**, Associate Professor and Head, Dairy Chemistry Department, Sheth M.C. College of Dairy Science at Kamdhenu University, Anand, Gujarat, India

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FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 441
AUDIENCE: Food scientists, dairy researchers, pharmaceutical scientists, students and researchers studying related fields
BIC CODES: TDCT
THEMA CLASSIFICATION: THEMATDCT

Explores casein, its types, properties, and application in the food and pharmaceutical industries

KEY FEATURES

- Provides comprehensive coverage of casein, the main milk protein that has many applications and uses
- Includes suggested reading for further information
- Addresses a wide-range of related topics, including non-food applications of casein

DESCRIPTION

Casein: Structural Properties, Uses, Health Benefits and Nutraceutical Applications investigates casein properties, uses, and applications in food and non-food products, in addition to exploring its health benefits and uses in manufacturing, such as in cheese products, along with an in-depth discussion on the future scope, challenges, and market trends of this protein.

Casein: Structural Properties, Uses, Health Benefits and Nutraceutical Applications is an excellent reference for food scientists, dairy researchers, pharmaceutical scientists, students and researchers studying related fields.

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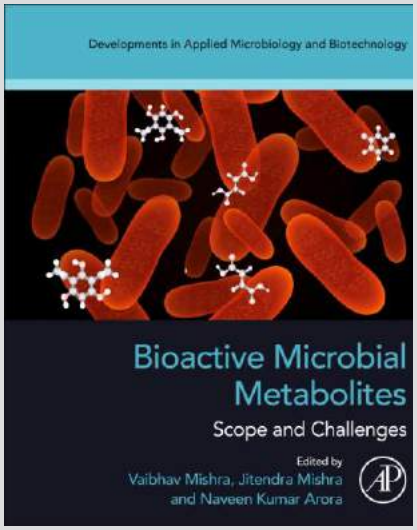

Bioactive Microbial Metabolites

Scope and Challenges

Edited by : **Vaibhav Mishra**, Department of Neurology, University of Missouri, MO, USA; **Jitendra Mishra**, Project Coordinator, Science Technology and Innovation Hub Project, Catalyzed and Supported by DST-SEED Babasaheb Bhimrao Ambedkar University (a Central University), Lucknow, Uttar Pradesh, India and **Naveen Kumar Arora**, FISEB, Professor and Dean, School of Earth and Environmental Sciences, Babasaheb Bhimrao Ambedkar University (a Central University), Lucknow, Uttar Pradesh, India

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TRIM: 7.50w x 9.25h
PAGES: c. 325
AUDIENCE: Research students, academicians, and scientists in environmental microbiology and biotechnology, Industry personnel related to microbiology/ biotechnology
BIC CODES: PSGD
THEMA CLASSIFICATION: THEMAPSG

Provides understanding of metabolic pathways for bioactive metabolite production which plays an important role in modern healthcare

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

KEY FEATURES

- Focuses on the identification and structure elucidation of novel microbial metabolites
- Uncovers extended functions of microbial metabolites
- Provides understanding of metabolic pathways for bioactive metabolites production by using several illustrations, figures and tables so that the readers can easily grasp key concepts

DESCRIPTION

Bioactive Microbial Metabolites: Scope and Challenges not only focuses on the identification, separation and purification of bioactive metabolites, the book also provides an understanding of the metabolic pathways for bioactive metabolites production that play an important role in modern healthcare as frontline treatments for many diseases. This is a valuable reference for research students, academicians and scientists in environmental microbiology and biotechnology, and for industry personnel related to microbiology/ biotechnology. The science discussed herein plays an important role in expanding the market of antibiotics, food and agriculture but also offers eco-friendly, safer and profitable solutions to respective industries.

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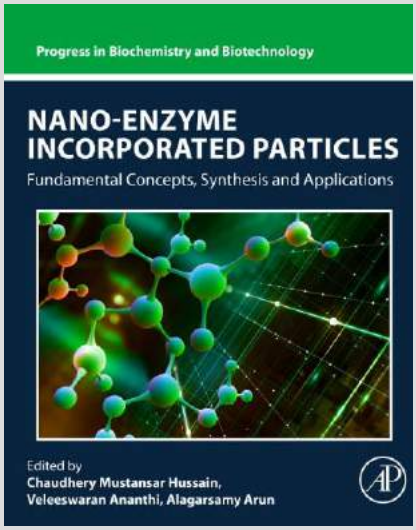

Nano-Enzyme Incorporated Particles

Fundamental Concepts, Synthesis and Applications

Edited by : **Ananthi Veleeswaran**, PhD, Assistant Professor, Department of Microbiology, PRIST University, Madurai; **Arun Alagarsamy**, Professor and Head, Department of Microbiology, Alagappa University, Karaikudi and **Chaudhery Mustansar Hussain**, PhD, New Jersey Institute of Technology, Newark, NJ, USA

ISBN: 9780443188107
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LIST PRICE: £134.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 294
AUDIENCE: researchers, academicians, students in life science, NanoSciences, and engineering, researchers and scientists searching for new advancements in biofuel & research technology
BIC CODES: PSB, PHVN
THEMA CLASSIFICATION: THEMAPSB; THEMAPHVN

Focuses on the integrative approaches of enzyme nanoparticle synthesis and its application on biosensors, biomedicine, and biocatalysis

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

KEY FEATURES

- Focuses on integrative approaches of the enzyme nanoparticle synthesis and its applications on biomedicine, biosensors, and biocatalysis
- Encloses the potential challenges and developments of enzyme incorporated nanoparticles
- Discusses the vital activities of nanozymes in enzyme mimicking processes and prudent bio-catalytic efficiency
- Covers the latest methods and procedures involved in enzyme-incorporated nanomaterials

DESCRIPTION

Nano-Enzyme Incorporated Particles: Fundamental Concepts, Synthesis and Applications focuses on integrative approaches of the enzyme nanoparticle synthesis and its applications on biomedicine, biosensors and biocatalysis. The book discusses the vital activities of nanozymes in enzyme mimicking processes and covers the latest methods and procedures involved. Divided into five sections, this book covers the production and characterization of enzyme nanoparticles, the activities, properties, and applications of enzyme nanoparticles, the development of nanocatalysts as analytical tools, and the degradation of nanoparticles. It covers potential investigations regarding aspects of production, characterization, and applications of enzyme incorporated nanoparticles.

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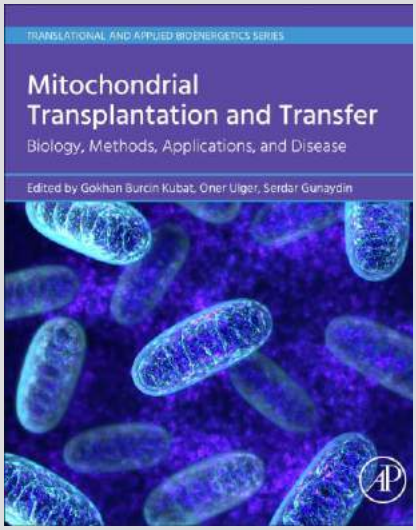

Mitochondrial Transplantation and Transfer

Biology, Methods, Applications, and Disease

Edited by : **Gokhan Burcin Kubat**, Department of Mitochondria and Cellular Research, Gulhane Health Sciences Institute, University of Health Sciences, Ankara, Turkey; **Oner Ulger**, Department of Mitochondria and Cellular Research, Gulhane Health Sciences Institute, University of Health Sciences, Ankara, Turkey and **Serdar Gunaydin**, Professor of Cardiovascular Surgery, University of Health Sciences, Ankara City Hospital Campus, Turkey

ISBN: 9780443188589
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LIST PRICE: £142.00 / $175.00 / €170.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 400
AUDIENCE: Active researchers in biochemistry, molecular biology, cell biology, oncology, and pharmacology, Students and Clinicians
BIC CODES: PSB, PHVN, PSBZ, PSD
THEMA CLASSIFICATION: THEMAPSB; THEMAPHVN; THEMAPSD

An in-depth but accessible treatment of mitochondrial transplantation and transfer, considering fundamental biology, methods, and applications

A Volume in the *Translational and Applied Bioenergetics* Series

KEY FEATURES

- Provides an in-depth discussion of mitochondrial transplantation, considering fundamental biology, disease implications, research methods and applications
- Discusses recent advances in the field and their meaning for future research and clinical utility
- Considers ethical dimensions of mitochondrial transplantation research and use in therapeutics
- Examines mitochondrial transplantation across a range of disease types, from neurological to cardiovascular disease and ischemia

DESCRIPTION

Mitochondrial Transplantation and Transfer: Biology, Methods, Applications, and Disease, a volume in the *Translational and Applied Bioenergetics* series, offers a detailed overview of mitochondrial transplantation across fundamental biology, disease and early therapeutics research. Here, more than twenty experts in the field discuss transplantation and transfer of healthy mitochondria and define future steps to improve new therapeutic applications across a variety of diseases. Emphasis is placed on the physiology of mitochondrial transfer, isolation processes and their applications, transfer methods, and diagnostic and treatment use across cardiovascular, metabolic, and neurological diseases, among other disease types.

Step-by-step instruction is provided around research protocols and methods discussed, along with careful attention to the ethical implications of mitochondrial transplantation research and application.

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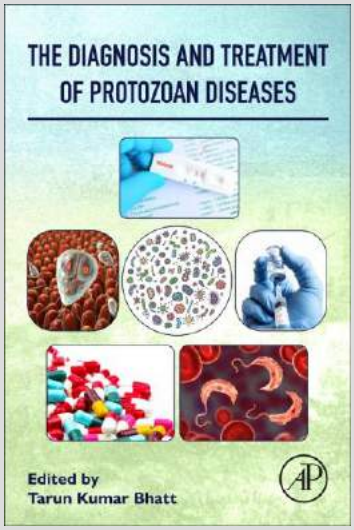

The Diagnosis and Treatment of Protozoan Diseases

Edited by : **Tarun Kumar Bhatt**, Assistant Professor, Department of Biotechnology, Central University of Rajasthan, India

ISBN: 9780443191619
PUB DATE: Jun 01, 2024
LIST PRICE: £134.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 372
AUDIENCE: Professional researchers in the field, and graduate students, working in the area of protozoan parasites and drug development to combat the diseases, Medical professionals involved in protozoan parasite diseases
BIC CODES: MJCM, MMG
THEMA CLASSIFICATION: THEMAMKG; THEMAMJCM

Presents comprehensive coverage of protozoan diseases and their lifecycle, diagnostics, and treatment

KEY FEATURES

- Presents comprehensive coverage on all aspects of major protozoan diseases
- Includes updates on their lifecycle, diagnostics, and treatment
- Covers future research that may help eradicate these diseases

DESCRIPTION

The Diagnosis and Treatment of Protozoan Diseases discusses major protozoan diseases such as Malaria, Leishmaniasis, etc., including other clinically minor protozoan diseases. This book provides all essential information to professional researchers and medical personnel about the disease, causative organism, and their lifecycle, diagnostics, and treatments, including drugs and vaccine, resistance, and key points of future research. Infectious diseases are accountable for millions of deaths every year throughout the globe. Among them, significant contributors are protozoan parasites.

Despite the many research group working on the various protozoan diseases, there are still major gaps to fill. The authors of this book have critically reviewed all the aspects of major protozoan diseases, their diagnostics, and treatments, including resistance.

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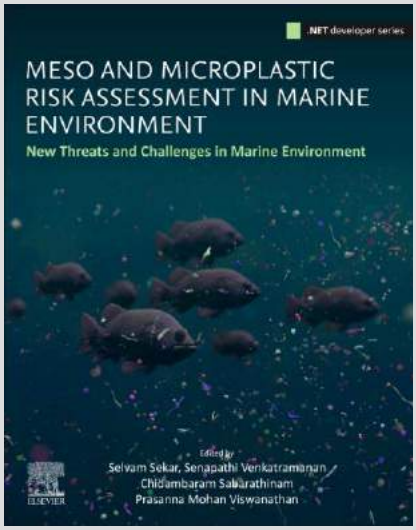

Meso- and Microplastic Risk Assessment in Marine Environments

New Threats and Challenges

Edited by : **Selvam Sekar**, PG and Research Department of Geology, V.O.Chidambaram College, Tuticorin, Tamil Nadu, India; **Senapathi Venkatramanan**, Research Faculty, Department for Management of Science and Technology Development, Faculty of Applied Science, Ton DucThang University, Ho Chi Minh City, Vietnam; **Chidambaram Sabarathinam**, Research Scientist, Water Research Center, Kuwait Institute for Scientific Research, Safat, Kuwait and **Prasanna Mohan Viswanathan**

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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 372
AUDIENCE: Aquatic Ecologists, Environmentalists, Geologists, Geochemists, Hydrogeologists, Sedimentologists, Biologists and Zoologists
BIC CODES: RNKH, RNC
THEMA CLASSIFICATION: THEMAWNW; THEMAPSAF; THEMARNK

A comprehensive overview of the current trends, techniques and methods for management of microplastic contamination in sediments, water, seafood and marine systems

A Volume in the *.NET Developers Series* Series

KEY FEATURES

- Includes a range of topics from meso- to microplastics, including weathering and fragmentation processes of microplastics
- Presents data from source to sink, such as the occurrence and distribution of microplastics in freshwater bodies, coastal zones and the open ocean
- Presents the impacts of microplastics on marine life as well as microplastics as vectors of biological and chemical contaminants
- Provides important analysis on the solutions and next steps

DESCRIPTION

Meso and Microplastic Risk Assessment in Marine Environment: New Threat and Challenges in Marine Environment presents an interdisciplinary approach, offering key techniques and management of microplastic contamination in the disciplines of environmental science, fisheries, oceanography, geology, chemistry, biology and ocean science. Sections cover an overview of microplastic in the marine environment, deal with the origin, occurrences, distribution and various methodologies (for dealing with microplastics) available for microplastics, address the global case study of microplastic separation using recent techniques, and discuss the impact of microplastics on human health and the surrounding environment.

This book is an important step in the field of microplastic pollution mitigation in environmental science as it offers a thorough accounting of the effects of pollutants on the environment, marine organisms, and the public health implications, as such it is relevant for aquatic ecologists, oceanographers, toxicologists, and marine biologists.

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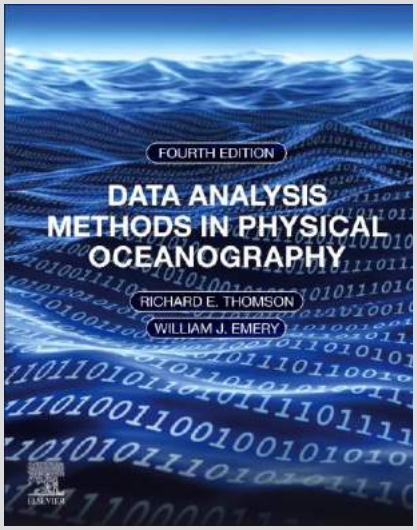

Data Analysis Methods in Physical Oceanography, 4e

Fourth and Revised Edition

Richard E. Thomson, Senior Research Scientist and Head of the Ocean Dynamics and Processes Section, Institute of Ocean Sciences, Sidney, British Columbia, Canada and **William J. Emery**, Professor, Aerospace Engineering Sciences, University of Colorado, Boulder, USA

ISBN: 9780323917230
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LIST PRICE: £49.95 / $60.00 / €51.95
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 744
AUDIENCE: Oceanographers, atmospheric scientists, meteorologists, climatologists, and upper-undergraduate and graduate students studying statistical methods in oceanography, meteorology, and climatology, Engineers
BIC CODES: TQD, RN, RNC, RBKC, PSVT7
THEMA CLASSIFICATION: THEMAPDM; THEMATQ; THEMAPSAF; THEMARBKC

Comprehensive, practical source of information on data analysis methods available to the physical oceanographer

KEY FEATURES

- Includes content co-authored by scientists from academia and industry, both of whom have more than 30 years of experience in oceanographic research and field work
- Provides boxed worked examples that address typical data analysis problems, including examples with computer code (e.g., python code, MATLAB code)
- Presents brief summaries at the end of the more difficult sections to help readers looking for foundational information

DESCRIPTION

Data Analysis Methods in Physical Oceanography: Fourth Edition provides a practical reference to established and modern data analysis techniques in earth and ocean sciences. In five sections, the book addresses data acquisition and recording, data processing and presentation, statistical methods and error handling, analysis of spatial data fields, and time series analysis methods. The updated edition includes new information on autonomous platforms and new analysis tools such as “deep learning” and convolutional neural networks. A section on extreme value statistics has been added, and the section on wavelet analysis has been expanded.

This book brings together relevant techniques and references recent papers where these techniques have been trialed. In addition, it presents valuable examples using physical oceanography data. For students, the sections on data acquisition are useful for a compilation of all the measurement methods.

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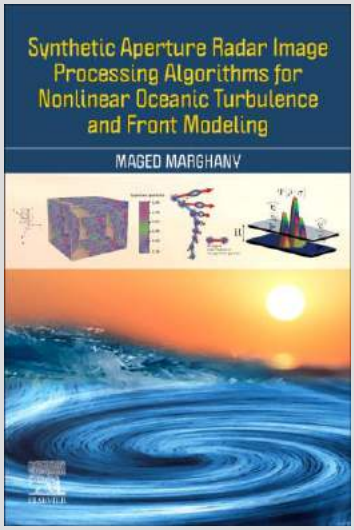

Synthetic Aperture Radar Image Processing Algorithms for Nonlinear Oceanic Turbulence and Front Modeling

Maged Marghany, Professor, Department of Informatics, Faculty of Mathematics and Natural Sciences, Universitas Syiah Kuala Darussalam, Banda Aceh, Indonesia

ISBN: 9780443191558
PUB DATE: Jun 01, 2024
LIST PRICE: £141.99 / $175.00 / €163.99
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 232
AUDIENCE: Researchers and academics in dynamic oceanography and modelling, remote sensing and aquatic science Geographers, Geophysicists, Environmental Engineers
BIC CODES: RBKC
THEMA CLASSIFICATION: THEMARBKC

Comprehensively details the potential of synthetic aperture radar in imaging ocean surface dynamical features

KEY FEATURES

- Details the potential of synthetic aperture radar in imaging ocean surface dynamical features
- Includes detailed algorithms and methods, allowing readers to develop their own computer algorithms
- Covers the latest applications of quantum image processing

DESCRIPTION

Synthetic Aperture Radar Image Processing Algorithms for Nonlinear Oceanic Turbulence and Front Modelling is both a research and practice-based reference that bridges the gap between the remote sensing field and the dynamic oceanography exploration field. In this perspective, the book explicates how to apply techniques in synthetic aperture radar and quantum interferometry synthetic aperture radar (QInSAR) for oceanic turbulence and front simulation and modeling. It includes detailed algorithms to enable readers to better understand and implement practices covered in their own work and apply QInSAR to their own research.

This multidisciplinary reference is useful for researchers and academics in dynamic oceanography and modeling, remote sensing and aquatic science, as well as geographers, geophysicists, and environmental engineers.

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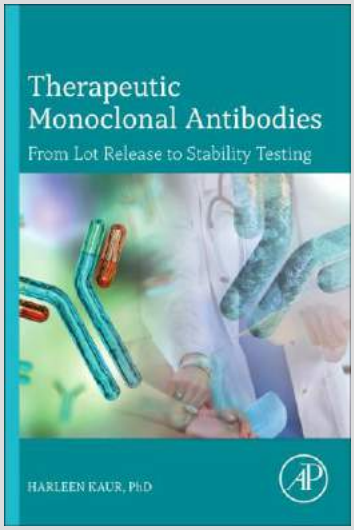

Therapeutic Monoclonal Antibodies - From Lot Release to Stability Testing

Harleen Kaur, Biologics Division, Aurobindo Pharma Ltd., Hyderabad, India

ISBN: 9780323906005
PUB DATE: Jun 15, 2024
LIST PRICE: £115.00 / $150.00 / €131.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 186
AUDIENCE: Researchers in the pharmaceutical sciences as well as industrial pharmaceutical scientists, Researchers on biosimilars, Microbiologists, biochemists
BIC CODES: TCB, MMG
THEMA CLASSIFICATION: THEMAMF; THEMAMKG; THEMATCB

Comprehensive coverage of Lot release testing and stability testing of monoclonal antibodies

KEY FEATURES

- Discusses, in detail, the Lot release methods for both drug substance and drug product, along with their importance in process sample analysis
- Gives specific attention to general characteristics tests, such as pH determination, osmolality, sub-visible particle count, appearance and visible tests, and regulatory/pharmacopeial guidelines
- Includes different kinds of stability testing (real time, accelerated and stressed) and their importance and determinations on product shelf life
- Presents regulatory guidelines on ICH Q2R1, ICHQ6B and ICHQ5C, which are discussed along with analytical method validation, monoclonal antibodies physicochemical characterization and stability testing
- Provides different characterization methods and validation and development case studies of monoclonal antibodies, including biosimilars and innovators

DESCRIPTION

Therapeutic Monoclonal Antibodies: From Lot Release to Stability Testing is a highly topical resource on a subject of interest for scientists and researchers working on monoclonal antibodies' characterization, release testing, stability testing and similarity assessments of monoclonal antibodies in the biopharmaceutical industry. Monoclonal antibodies (mAbs) are large, extremely complex and dynamic biomolecules, so it can be challenging to develop well-characterized therapeutic antibodies that meet regulatory expectations that are also in-line with commercialized standards for different drug markets.

Lot release testing and understanding the stability of the mAb over a period of time, and in different environmental conditions, is an indispensable aspect of mAb physicochemical characterization. This book covers the process, including extensive analysis that starts with quantifying the purity attribute to glycan profiling and identifying the mAb primary structure. The book has a primary purpose of focusing on both Lot release testing and stability testing of monoclonal antibodies (subjects not covered in any great detail in other books).

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Quality Assurance Management

A Comprehensive Overview of Real-World Applications for High Risk Specialties

Gayathri De Lanerolle, Digital Evidence Based Medicine Lab; **Evette Sebastien Roberts**, Audit, Compliance and Infection Prevention and Control Lead, Partnership of East London Co-operatives, London, UK; **Athar Haroon**, Consultant Radiologist, Barts Health NHS Trust, London, UK and **Ashish Shetty**, Consultant in Pain Medicine, University College London Hospitals and Associate Professor, University College London, UK

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LIST PRICE: £95.95 / $125.00 / €109.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 251
AUDIENCE: Research and clinical staff working in clinical research with a focus on QA manager, Trial managers and Research Operational staff working within healthcare, academia and industry
BIC CODES: MMG, MBGR1
THEMA CLASSIFICATION: THEMAMKG; THEMAMBGR

Provides a toolkit to develop quality management systems in line with the necessary and rapidly changing compliance and regulatory frameworks

KEY FEATURES

- Uses practice-based evidence for developing and delivering quality assurance and management systems
- Includes case studies associated with ‘failures’ and ‘lessons learned’
- Discusses clinical trials in academic, clinical and industry settings
- Demonstrates how to build resilience into systems that could evolve to promote best practices, even with limited resources
- Compares and contrasts different QA/QC practices

DESCRIPTION

Quality Assurance Management: A Comprehensive Overview of Real-World Applications for High Risk Specialties demonstrates how to best design and implement standard operating procedures (SOPs) to ensure protocol and regulation adherence. The book showcases similarities and differences between healthcare and academic quality assurance systems, resulting in counter-productivity and performance issues, in addition to regulatory inspection preparedness. It uses the processes and standards of the UK to demonstrate how to combine QA and research building into ‘building blocks’ that share a common pathway for effective project design, analysis and unbiased interpretation of collated data.This book fills a gap, providing original research in QA that especially focuses on specialist areas. It will be of use to research and clinical staff working in clinical research within healthcare, academia and industry.

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Essentials of Translational Pediatric Drug Development

From Past Needs to Future Opportunities

Edited by : **Elke Gasthuys**, Postdoctoral researcher, Ghent University, Belgium; **Karel Allegaert**, Pediatrician-neonatologist and Clinical Pharmacologist, Professor, KU Leuven, Belgium; Senior clinical consultant, Erasmus MC Rotterdam, The Netherlands; **Lien Dossche**, Full-time Academic Staff Member, Ghent University, Belgium and **Mark Turner**, Professor of Neonatology and Research Delivery, University of Liverpool, UK

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LIST PRICE: £135.00 / $175.00 / €155.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 623
AUDIENCE: Translational researchers and clinicians active in the field of pediatric drug development, Pediatricians, pharmacists, general practitioners, health care professionals involved in childcare and pediatric development, clinical trial personnel, patient/parent advocacy groups, institutional review boards, regulatory authorities, and pharmaceutical industry
BIC CODES: MBGR1, MMG, KNDP, MBNS
THEMA CLASSIFICATION: THEMAMKG; THEMAMBGR; THEMAKND; THEMAMBNS

An indispensable guide on the key principles of pediatric drug development

KEY FEATURES

- Covers both theoretical and practical aspects of translational pediatric drug development
- Approaches the topic from different stakeholder perspectives (academics, industry, regulators, clinicians and patient/parent advocacy groups)
- Offers best practices and future perspectives for the improvement of translational pediatric drug development

DESCRIPTION

Essentials of Translational Pediatric Drug Development: From Past Needs to Future Opportunities provides integrated and up-to-date insights relevant for both translational researchers and clinicians active in the field of pediatric drug development. The book covers all key aspects from different stakeholder perspectives, providing a literature overview and careful reflection on state-of-the-art approaches. It will be an ideal guide for researchers in the field who are designing and performing high quality, innovative pediatric-adapted drug development by helping them define needs/challenges and possible solutions that advance and harmonize pediatric drug development.

Despite the broad consensus that children merit the same quality of drug treatment as any other age group, children remain frequently neglected during drug research and development. Even with the adoption of multiple legislations addressing this problem, the lack of efficacy and safety data of marketed as well as newly developed drugs still remain in the pediatric population.

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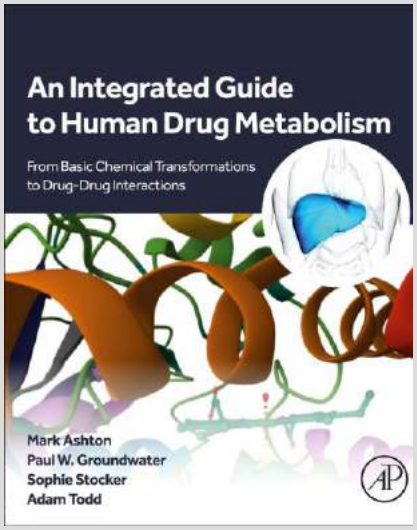

An Integrated Guide to Human Drug Metabolism

From Basic Chemical Transformations to Drug-Drug Interactions

Mark Ashton, PhD, FRSC, FHEA, Lecturer in Medicinal ChemistrySchool of PharmacyThe Faculty of Medical Sciences, Newcastle University, UK; **Paul W. Groundwater**, PhD, CChem, FRSC, Professor of Medicinal Chemistry The University of Sydney School of Pharmacy Faculty of Medicine and Health, The University of Sydney, Australia; **Sophie Stocker**, PhD, BSc, Senior Lecturer The University of Sydney School of Pharmacy Faculty of Medicine and Health, The University of Sydney Sydney, Australia and **Adam Todd**, PhD, FRPharmS, SFHEA, Reader in Pharmaceutical Public Health School of Pharmacy The Faculty of Medical Sciences Newcastle University, Newcastle upon Tyne, UK

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LIST PRICE: £115.00 / $150.00 / €130.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 232
AUDIENCE: Advanced students studying pharmacy and pharmacology and pharmacists, clinicians and pharmaceutical researchers in practice, academia or industry needing a reference for interdisciplinary research
BIC CODES: MMG
THEMA CLASSIFICATION: THEMAMKG

Explores human drug metabolism, from basic science to clinical relevance

KEY FEATURES

- Covers each of the human metabolic processes, employing examples drawn from known metabolic transformations of drugs used clinically
- Provides an integrated approach, linking together the science and practice strands of human drug metabolism
- Contains questions and answers to assess learning of material and real-life case studies

DESCRIPTION

An Integrated Guide to Human Drug Metabolism: From Basic Chemical Transformations to Drug-Drug Interactions uses the chemistry of each of the metabolic transformations to underpin the discussion of drug interactions with foods, herbal medicines, and other drugs. Each of the human metabolic processes are covered, employing examples drawn from known metabolic transformations of drugs used clinically. The clinical relevance of metabolism is discussed, focusing on appropriate prescribing (age-related dosage adjustments, routes of administration, and personalized medicines). Appropriate for use in the classroom or for self-study, this book is for students and researchers needing a reference for interdisciplinary research in drug interactions.

Metabolism is at the center of personalized medicine, as it is a governing factor in the response of the patient to a drug. For example, does the patient express the genes, and so enzymes, which are responsible for the metabolism of a drug? Do they express the genes responsible for the bioactivation of a prodrug into its active form? Examples of clinically used agents for which metabolic phenotyping is essential will be used to highlight the increasing necessity for understanding the genetic profile of individual patients. This book includes questions and answers to gauge learning of each chapter, real-life case studies, and the basic science as a basis for the discussion of clinical aspects.

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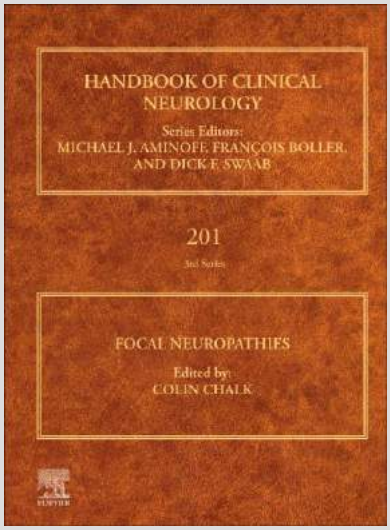

Focal Neuropathies, Vol 201

Colin Chalk, Montréal General Hospital, Department of Neurology & Neurosurgery, McGill University, Montreal, QC, Canada

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DISCOUNT: Reference
FORMAT: Hardback
TRIM: 192 x 262mm
PAGES: c. 296
AUDIENCE: Clinical neurologists
BIC CODES: MJG, PSAN, MJN, MBGR
THEMA CLASSIFICATION: THEMAMKJ; THEMAMBGR; THEMAMFGM; THEMAMJG; THEMAPSAN

Summarizes anatomy, etiology, and new treatments for focal neuropathies

A Volume in the *Handbook of Clinical Neurology* Series

KEY FEATURES

- Summarizes new research on treatment for focal neuropathies
- Differentiates and advises on controversial diagnoses
- Includes neuropathies by location as well as syndrome or type of neuropathy
- Covers biology, diagnosis, imaging, etiology, and treatment

DESCRIPTION

Facial Neuropathies, Volume 202 summarizes research and treatment on focal neuropathies to update clinicians on nerve biology and new diagnostic techniques to guide investigation and treatment of mononeuropathies. The book explores research broadly applicable to all types of mononeuropathies as well as individual mononeuropathy syndromes. Chapters on individual mononeuropathies include anatomy, causes, controversial diagnoses, and current or potential future treatments.

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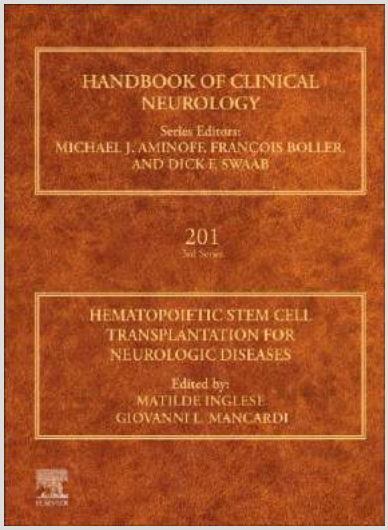

Hematopoietic Stem Cell Transplantation for Neurologic Diseases, Vol 202

Matilde Inglese, DINOGMI, University of Genoa, Italy; IRCCS Ospedale Policlinico San Martino, Genoa, Italy and **Giovanni L. Mancardi**, Universita di Genova, DINOGMI, Genova, Italy

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FORMAT: Hardback
TRIM: 192 x 262mm
PAGES: c. 237
AUDIENCE: Clinical/translational Neuroscienticists
BIC CODES: MJN, MBGR, PSAN, MJG
THEMA CLASSIFICATION: THEMAMKJ; THEMAMBGR; THEMAMFGM; THEMAPSAN; THEMAMJG

Summary of research on HSCT in the treatment of neurological disease and toward better understanding CNS autoimmunity

A Volume in the *Handbook of Clinical Neurology* Series

KEY FEATURES

- Reviews immunological mechanisms of HSCT and CNS autoimmunity
- Identifies neurological diseases showing treatment efficacy with HSCT
- Includes MS, myasthenia gravis, neuromyelitis optica, and more
- Covers early and late side effects of HSCT

DESCRIPTION

Hematopoietic Stem Cell Transplantation for Neurological Diseases (HSCT), Volume 201 provides the latest information on what has been evaluated as a possible therapeutic tool in severe autoimmune diseases for the last 20 years. In the neurological field, HSCT has been widely investigated for the treatment of multiple sclerosis and evidence is accumulating about its potential use in neuromyelitis optica, stiff person syndrome, myasthenia gravis, and many immune neuropathies. Besides their strong clinical relevance, studies on HSCT in neurological diseases have contributed to new insights on the pathological mechanisms underlying CNS autoimmunity, hence this volume summarizes that research.

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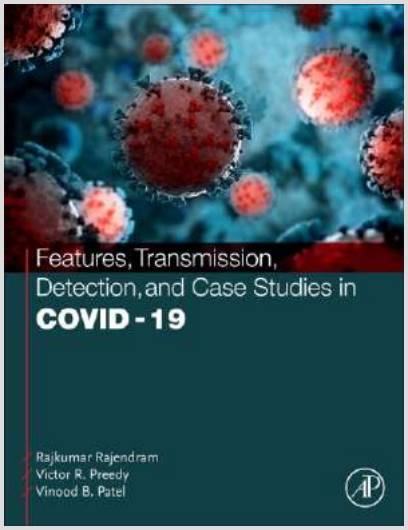

Features, Transmission, Detection, and Case Studies in COVID-19

Edited by : **Rajkumar Rajendram**, AKC, BSc, MBBS, MRCP, EDIC, FRCP Edin, FRCP Lon, Consultant in Internal Medicine, King Abdulaziz Medical City, National Guard Heath Affairs, Riyadh, Saudi Arabia; **Victor R Preedy**, BSc, PhD, DSc, FRSB, FRSPH, FRCPath, FRSC, Professor, Department of Clinical Biochemistry, King's College Hospital, London, UK; Emeritus Professor, Faculty of Life Sciences and Medicine, King's College London, UK Visiting Professor, University of Hull, UK and **Vinood Patel**, PhD, Professor, University Westminster, UK

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PAGES: c. 558
AUDIENCE: Neuroscientists, neurologists, clinicians, health scientists, public health workers, doctors, and research scientists
BIC CODES: MBNS, PSGL, PSD
THEMA CLASSIFICATION: THEMAPSG; THEMAMBNS; THEMAPSD

A comprehensive reference on neurological problems associated with COVID-19 infection

KEY FEATURES

- Describes neurological issues caused by COVID-19, including stroke and loss of taste and smell
- Discusses COVID-19 biology, including pathogenesis and transmission
- Outlines biomarkers in the brain associated with severity and disease outcomes
- Features individual chapter introductions, summaries, and case studies to provide comprehensive descriptions of neurological symptoms

DESCRIPTION

Features, Transmission, Detection, and Case Studies in COVID-19 examines the effects of the virus on the brain, as well as its transmission and clinical profile. Beginning with an introduction to the virus and its pathogenesis, transmission, and avoidance, sections on neurological symptoms and biomarkers in the brain uniquely describe the effects of this virus on this system. Vaccines and treatment are also discussed. Neurological issues covered include brain hypoxia, Parkinson's disease, and incidence of COVID-19-related acute ischemic stroke. This volume is relevant for all neurologists and clinicians working to ensure the best outcomes and patient care of patients with COVID-19.

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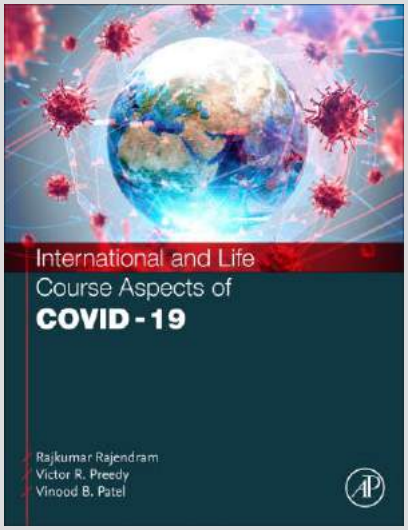

International and Life Course Aspects of COVID-19

Edited by : **Rajkumar Rajendram**, AKC, BSc, MBBS, MRCP, EDIC, FRCP Edin, FRCP Lon, Consultant in Internal Medicine, King Abdulaziz Medical City, National Guard Heath Affairs, Riyadh, Saudi Arabia; **Victor R Preedy**, BSc, PhD, DSc, FRSB, FRSPH, FRCPath, FRSC, Professor, Department of Clinical Biochemistry, King's College Hospital, London, UK; Emeritus Professor, Faculty of Life Sciences and Medicine, King's College London, UK Visiting Professor, University of Hull, UK and **Vinood Patel**, BSc, PhD, FRSC, Reader, Clinical Biochemistry, University of Westminster, London, UK

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AUDIENCE: Neuroscientists, neurologists, clinicians, health scientists, public health workers, doctors, and research scientists
BIC CODES: PSGL, PSD, MBNS
THEMA CLASSIFICATION: THEMAPSG; THEMAMBNS; THEMAPSD

A comprehensive reference on COVID-19 in different populations

KEY FEATURES

- Examines COVID-19 symptoms and concerns according to age
- Discusses outcomes related to global populations and differences observed in symptomatology and care
- Focuses on the brain, with a look at developmental changes in pregnancy, childhood, and adolescence
- Describes mental health impacts in older populations
- Features individual chapter introductions and summaries to provide a comprehensive introduction

DESCRIPTION

International and Life Course Aspects of COVID-19 describes the nuances and differential aspects of COVID-19 in different age groups and internationally. With so many populations affected differently by the virus, this volume details those differences in chapters examining different generations, including children, adolescents, and older populations, with focus on the brain. International observations are detailed as well, with a look at global outcomes. Age-specific effects on the brain are a major focus unique to this resource that is relevant for all clinicians working to ensure the best outcomes in patients with COVID-19 all over the world.

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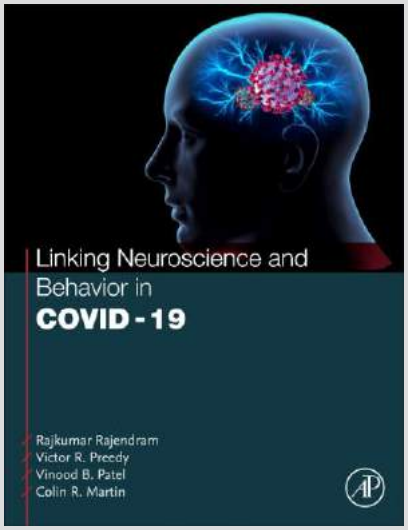

Linking Neuroscience and Behavior in COVID-19

Edited by : **Rajkumar Rajendram**, AKC, BSc, MBBS, MRCP, EDIC, FRCP Edin, FRCP Lon, Consultant in Internal Medicine, King Abdulaziz Medical City, National Guard Heath Affairs, Riyadh, Saudi Arabia; **Victor R Preedy**, BSc, PhD, DSc, FRSB, FRSPH, FRCPath, FRSC, Professor, Department of Clinical Biochemistry, King's College Hospital, London, UK; Emeritus Professor, Faculty of Life Sciences and Medicine, King's College London, UK Visiting Professor, University of Hull, UK; **Vinood Patel**, BSc, PhD, FRSC, Reader, Clinical Biochemistry, University of Westminster, London, UK and **Colin R Martin**, RN, BSc, MSc, PhD, MBA, YCAP, FHEA, C.Psychol, AFBPsS, C.Sci, Professor of Clinical Psychobiology and Applied Psychoneuroimmunology and Clinical Director: Institute for Health and WellbeingUniversity of Suffolk, Ipswich, UK

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PAGES: c. 558
AUDIENCE: Neuroscientists, neurologists, clinicians, health scientists, public health workers, doctors, and research scientists.
BIC CODES: PSGL, PSD, MBNS
THEMA CLASSIFICATION: THEMAPSG; THEMAMBNS; THEMAPSD

A comprehensive reference on the effects COVID-19 and the pandemic have had on behavior

KEY FEATURES

- Discusses the impact of the COVID-19 virus and pandemic on behavior and psychology
- Examines co-morbidities, including dementia, severe traumatic brain injury, and autism spectrum disorder
- Outlines management and care for co-existing conditions, including brain tumors, multiple sclerosis, and ischemic stroke
- Features chapters on critical illness in the brain caused by COVID-19, including cerebral microbleeds and trigeminal neuropathy

DESCRIPTION

Linking Neuroscience and Behavior in COVID-19 examines the impact of the virus and pandemic on behavior and mental health. Chapters look at those with pre-existing conditions, including dementia and multiple sclerosis, and how the pandemic has burdened them further. There is also discussion on the mental health consequences the pandemic has had and continues to have on the broad populace, including depression and anxiety, as well as the neurological effects of the virus itself. Finally, managing care and treatment of conditions - those preceding, caused by, or emerging for the first time during the pandemic are also detailed.

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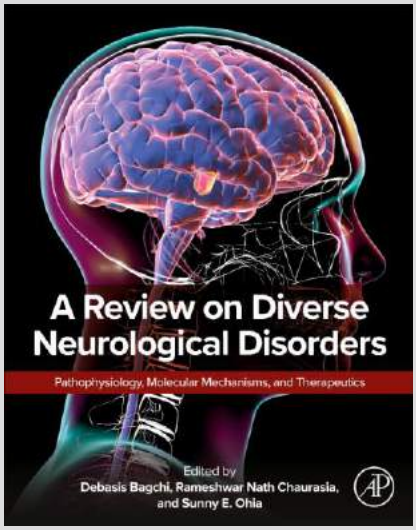

A Review on Diverse Neurological Disorders

Pathophysiology, Molecular Mechanisms, and Therapeutics

Edited by : **Rameshwar Nath Chaurasia**, Department of Neurology, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India; **Sunny Ohia**, Professor, College of Pharmacy and Health Sciences, Texas Southern University, Houston, TX, USA; **Debasis Bagchi**, PhD, Professor, Department of Pharmacological and Pharmaceutical Sciences, College of Pharmacy, University of Houston, USA; Chief Scientific Officer, Cepham Research Center, Piscataway, New Jersey and Adjunct Faculty, Texas Southern University, Houston, Texas, USA

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PAGES: c. 558
AUDIENCE: Neurologists, Psychiatrists, and Psychologists from both academic and private settings health professionals, nurses and general practitioners, public health officials
BIC CODES: MMF, MBGR, PSAN, MMG, MMP, MJN
THEMA CLASSIFICATION: THEMAPSAN; THEMAMKF; THEMAMKJ; THEMAMKS; THEMAMBGR

A comprehensive review of pathophysiology, molecular mechanisms, and therapeutics for neurological disorders

KEY FEATURES

- Epidemiology of neurological disorders and pathogenesis.
- Explores neuroinflammation, ligand-receptors binding, and neurodegeneration.
- Discusses aging and associated disorders in the onset of neurological disorders.
- Neuropharmacology and the protective role of bioactive compounds in neuroprotection.

DESCRIPTION

Diving into the future of neurodegenerative disorders, A Review on Diverse Neurological Disorders: Pathophysiology, Molecular Mechanisms, and Therapeutics presents an unprecedented compilation of knowledge. It embarks on a journey from the roots of mental disorders, through bacterial and fungal invasions, viral attacks, and genetic predispositions, offering a comprehensive understanding of the neurological landscape. Each chapter uncovers the mysteries behind these debilitating conditions, from the pathogenesis of central nervous system tuberculosis to the role of endocannabinoids in rabies infection. This book's exploration extends to neuroinflammation, axonal pathology, and the intricate interplay of diet, gut microbiomes, and cognitive decline. It leaves no stone unturned in unravelling the complexities of neurodegeneration, offering a glimmer of hope through probiotics and natural bioactive compounds in preventing diseases like Parkinson's, Alzheimer's, and amyotrophic lateral sclerosis (ALS). With meticulous discussions on vitamins, micronutrients, antioxidants, and nutraceuticals, this book provides a roadmap for neuroprotection. 'Neurological Disorders and Neurodegeneration' is a groundbreaking resource that paves the way for future treatments and innovations, making it an essential read for professionals and enthusiasts alike.

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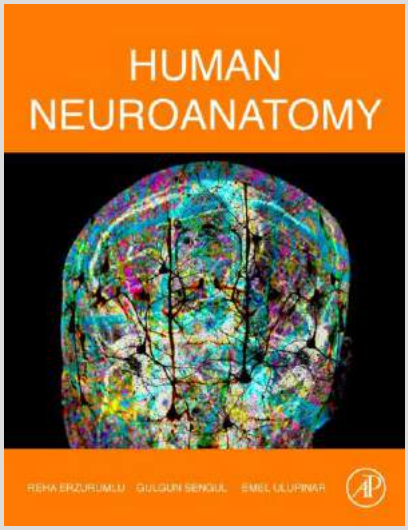

Human Neuroanatomy

Reha Erzurumlu; **Gulgun Sengul**, Professor of Anatomy, Ege University School of Medicine, Turkey and **Emel Ulupinar**

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TRIM: 8.50w x 10.875h
PAGES: c. 279
AUDIENCE: Neuroscientists, neurosurgeons, neurologists, neuroradiologists, neuroscience researchers, neuroscience graduate students, medical students in programs with comprehensive CNS and PNS neuroanatomy curriculums
BIC CODES: MFG, PSAN, MMF, TVH, PSV
THEMA CLASSIFICATION: THEMAPSAN; THEMAMKJ; THEMAMKF; THEMATVH; THEMAPSV

A heavily-illustrated, practical reference on neuroanatomy

KEY FEATURES

- Presents the neuroanatomy of both the central and peripheral nervous systems
- Features a high number of illustrations in the form of photographs, illustrations, and MRI
- Includes a human brain atlas
- Contains boxes of clinical information and tables of topic summaries within each chapter

DESCRIPTION

Human Neuroanatomy is a unique resource that presents the neuroanatomy of the central and peripheral nervous systems. This atlas-style reference features human brain sections with radiological correlations and original illustrations accompanying macroscopic and microscopic photographs. Chapters include a large number of illustrations in the form of photographs, Illustrations, and MR imaging, including a human brain atlas. Boxes within each chapter contain clinical information, with tables of topic summaries. Presented along with clinical approaches and analyses, this is a reference for all neuroscientists, neurosurgeons, neurologists, medical students, and all students of neuroscience.

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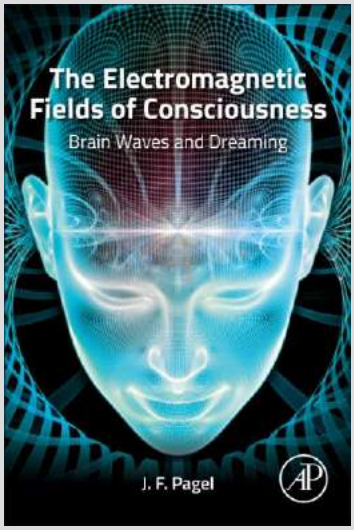

The Electromagnetic Fields of Consciousness

Brain Waves and Dreaming

James F Pagel, Associate Clinical Professor, University of Colorado School of Medicine, USA

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PUB DATE: Jun 01, 2024
LIST PRICE: £155.00 / $200.00 / €175.00
DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 372
AUDIENCE: Graduate students in biological and biomedical sciences, infotechnology, and electrophysiology, neuroscientists, clinicians, biomedical scientists, post-doctoral fellows, researchers
BIC CODES: PSAN, JMR
THEMA CLASSIFICATION: THEMAJMM; THEMAJMR

An innovative reference on the neurology of consciousness as it pertains to electrical fields

KEY FEATURES

- Addresses our current understandings of the origin and potential functions of bioelectricity
- Integrates electrophysiology into current theories of neuroconsciousness, presenting within an historic research and clinical context
- Explores the origin, nature, bioenergetics, and potential genetic effects of synchronous physiologic electrical fields and their use as markers for life and death
- Addresses the definition and assessment of consciousness in human and non-human systems and reviews electrophysiological markers of wake and sleep consciousness states
- Discusses electrophysiologic drug and disease correlates as well as modern forms of electrical therapy

DESCRIPTION

The Electrical Fields of Consciousness: Brain Waves and Dreaming examines neuro-electrophysiology from its origins in the electrical fields of primitive organisms to its roles in the electrophysiologically defined states of human consciousness. This volume presents and cogently organizes the wide spectrum of information available as to how and why bioelectrical fields are used to define and function in supporting both life and consciousness. Integrating electrophysiology in a comprehensible manner into neuroanatomical, electromagnetic, and global platform theories of neuroconsciousness, this book brings together the wide spectrum of available data-based evidence regarding the physiology and functions of bioelectric fields and their relationship to consciousness.

Chapters examine the origin and potential function of bioelectrical fields and EEG associations with conscious states, as well as the relationship between electrical fields and consciousness. Incorporating the basic science, clinical correlates, and functional potential of CNS bioelectrical fields, this book is a must-read for all working in the field of CNS electrophysiology or neuroconsciousness.

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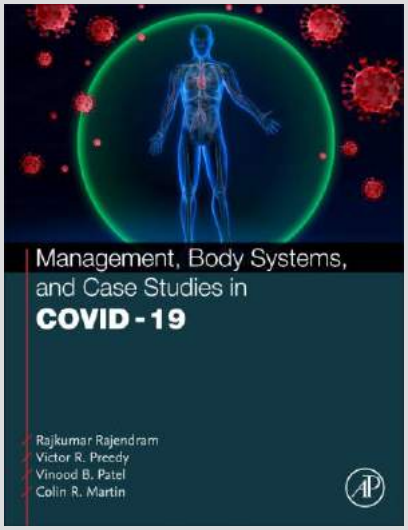

Management, Body Systems, and Case Studies in COVID-19

Edited by : **Rajkumar Rajendram**, AKC, BSc, MBBS, MRCP, EDIC, FRCP Edin, FRCP Lon, Consultant in Internal Medicine, King Abdulaziz Medical City, National Guard Heath Affairs, Riyadh, Saudi Arabia; **Victor R Preedy**, BSc, PhD, DSc, FRSB, FRSPH, FRCPath, FRSC, Professor, Department of Clinical Biochemistry, King's College Hospital, London, UK; Emeritus Professor, Faculty of Life Sciences and Medicine, King's College London, UK Visiting Professor, University of Hull, UK; **Vinood Patel**, BSc, PhD, FRSC, Reader, Clinical Biochemistry, University of Westminster, London, UK and **Colin R Martin**, RN, BSc, MSc, PhD, MBA, YCAP, FHEA, C.Psychol, AFBPsS, C.Sci, Professor of Clinical Psychobiology and Applied Psychoneuroimmunology and Clinical Director: Institute for Health and WellbeingUniversity of Suffolk, Ipswich, UK

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PAGES: c. 558
AUDIENCE: Neuroscientists, neurologists, clinicians, health scientists, public health workers, doctors, and research scientists. Also relevant for clinicians working with haematological, hepatobiliary, gastrointestinal, and cardiovascular systems.
BIC CODES: PSD, PSGL, MBNS
THEMA CLASSIFICATION: THEMAMBNS; THEMAPSD; THEMAPSG

A comprehensive reference on managing the COVID-19 virus in the brain and body

KEY FEATURES

- Discusses the management of multisystem symptomatology, including neurological, hematological, hepatobiliary, gastrointestinal, and cardiovascular systems
- Outlines several neurological conditions, including brain embolism, brain cancer, meningoencephalitis, and smell and taste disorders
- Features individual chapter introductions, summaries, and a section on case studies to provide a comprehensive introduction to the topic
- Describes guidelines for clinics providing neurological care for COVID-19 patients

DESCRIPTION

Management, Body Systems, and Case Studies in COVID-19 describes the management of patients with the novel coronavirus in their varied symptoms. Detailing this multisystem disease and the variety of organs and tissues affected, this volume features chapters on neurological systems, including brain cancer, brain embolism, and meningoencephalitis. Several systems are addressed, including conditions affecting hematological, hepatobiliary, gastrointestinal, and cardiovascular systems. Telemedicine is also discussed. This volume is relevant for all clinicians working to ensure the best outcomes and patient care of patients with COVID-19.

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Thematic Approaches to COVID-19

Edited by : **Rajkumar Rajendram**, AKC, BSc, MBBS, MRCP, EDIC, FRCP Edin, FRCP Lon, Consultant in Internal Medicine, King Abdulaziz Medical City, National Guard Heath Affairs, Riyadh, Saudi Arabia; **Victor R Preedy**, BSc, PhD, DSc, FRSB, FRSPH, FRCPath, FRSC, Professor, Department of Clinical Biochemistry, King's College Hospital, London, UK; Emeritus Professor, Faculty of Life Sciences and Medicine, King's College London, UK Visiting Professor, University of Hull, UK; **Vinood Patel**, PhD, Professor, University Westminster, UK and **Colin R Martin**, RN, BSc, MSc, PhD, MBA, YCAP, FHEA, C.Psychol, AFBPsS, C.Sci, Professor of Clinical Psychobiology and Applied Psychoneuroimmunology and Clinical Director: Institute for Health and WellbeingUniversity of Suffolk, Ipswich, UK

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AUDIENCE: Neuroscientists, neurologists, clinicians, health scientists, public health workers, doctors, and research scientists. Also relevant for clinicians working with haematological, hepatobiliary, gastrointestinal, and cardiovascular systems
BIC CODES: PSD, PSGL, MBNS
THEMA CLASSIFICATION: THEMAMBNS; THEMAPSD; THEMAPSG

Features, Transmission, Detection, and Case Studies in COVID-19
A comprehensive reference on neurological problems associated with COVID-19 infection

Linking Neuroscience and Behavior in COVID-19
A comprehensive reference on the effects COVID-19 and the pandemic have had on behaviour

International and Life Course Aspects of COVID-19
A comprehensive reference on COVID-19 in different populations

Management, Body Systems, and Case Studies in COVID-19
A comprehensive reference on managing the COVID-19 virus in the brain and body

KEY FEATURES

Features, Transmission, Detection, and Case Studies in COVID-19

- Discusses COVID-19 biology, including pathogenesis and transmission
- Describes systemic issues caused by COVID-19, including cardiovascular effects and loss of taste and smell
- Outlines detection methods, biomarkers associated with severity, and disease outcomes
- Features individual chapter introductions, summaries, and case studies to provide comprehensive descriptions of COVID-19 symptoms and effects

DESCRIPTION

Features, Transmission, Detection, and Case Studies in COVID-19 examines the effects of the virus on the body, as well as its transmission and clinical profile. This volume begins with an introduction to the virus and its pathogenesis, transmission, and avoidance, followed by sections on pulmonary and cardiovascular effects, obesity, diabetes, the liver, detection issues, and biomarkers. Vaccines and treatment are also discussed. Specific case studies covered include hypoxia, acute kidney injury, pneumonia, and neurological effects. This volume is relevant for all clinicians and scientists working to ensure the best outcomes for patients with COVID-19.

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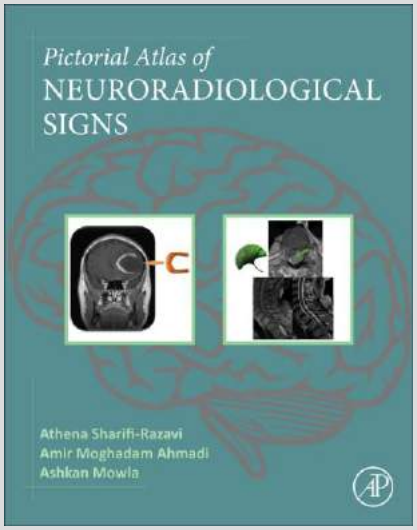

Pictorial Atlas of Neuroradiological Signs

Athena Sharifi-Razavi, Neurology Department Bou-Ali Sina Hospital, Pasdaran Blvd Sari, Iran; **Amir Moghadam Ahmadi**, Thomas Jefferson University, Neurological Research Laboratory, Jefferson Hospital for Neuroscience, Philadelphia, PA, USA and **Ashkan Mowla**, Clinical Assistant Professor of Neurological Surgery, University of Southern California, Health Sciences Campus, South California, Los Angeles, USA

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PAGES: c. 279
AUDIENCE: Neurologists, those with an interest in neuroradiology, Medical students, Radiologists, Neurology, radiology, and neurosurgery residents (especially for board exam preparation)
BIC CODES: MJN
THEMA CLASSIFICATION: THEMAMKJ

Examines various brain scans and identifies underlying causes for such anomalies

KEY FEATURES

- Facilitates learning and acts as a guide to those who need to reference various results in neuroimaging and radiology
- Contains concise information about each sign – such as underlying conditions associated with the sign, diseases, other things to look out for, etc.
- Provides a single reference point for students and practitioners which is not seen in other resources currently available on the market

DESCRIPTION

Pictorial Atlas of Neuroradiological Signs examines various brain scans in order to create a useful guide for clinicians and students. Using images of diseases and other conditions, this atlas is designed to identify various signs as well as explain what the underlying reason for the presentation of such anomalies on brain scans and images. This book will be most useful to clinicians in neurology and students who are studying neuroradiology. Those with an interest in various branches of neuroscience or radiology might also find this book a useful tool.

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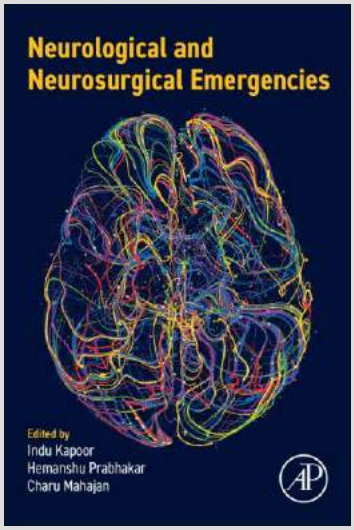

Neurological and Neurosurgical Emergencies

Edited by : **Indu Kapoor**, Department of Neuroanaesthesiology and Critical Care, Neurosciences Center, AIIMS, New Delhi, India; **Hemanshu Prabhakar**, MBBS, MD, PhD, Department of Neuroanaesthesiology and Critical Care, Neurosciences Center, AIIMS, New Delhi, India and **Charu Mahajan**, Department of Neuroanaesthesiology and Critical Care, Neurosciences Center, AIIMS, New Delhi, India

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DISCOUNT: Reference
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TRIM: 6.00w x 9.00h
PAGES: c. 524
AUDIENCE: Neurosurgeons, neurologists, residents, fellows, trainees, and practitioners working in neuro-emergency settings, operation theatres, radiological suites and critical care units
BIC CODES: JNT, MJN, MBGR
THEMA CLASSIFICATION: THEMAJNT; THEMAMKJ; THEMAMBGR

A novel resource on neurological and neurosurgical emergencies

KEY FEATURES

- Covers all neurological and neurosurgical emergencies during the perioperative period
- Offers practical approaches in the treatment and management of such patients in operation theatre, neuroradiological suites, and intensive care units
- Discusses practical and evidence-based concepts of neuroanaesthesia
- Details the latest guidelines in patient management

DESCRIPTION

Neurological and Neurosurgical Emergencies addresses emergencies in all fields of neuroscience, including disciplines like Neurology, Neurosurgery, Neuroanaesthesia, and Neuroradiology. This volume covers neurosurgical emergencies, like hydrocephalus, brain edema, intracranial bleed, intracranial hematoma, infection, and trauma, alongside neurovascular emergencies like acute ischemic stroke, non-traumatic, aneurysmal subarachnoid hemorrhage, carotid cavernous fistula, and arteriovenous malformation.

In addition, the book discusses common emergencies in neurology, including status epilepticus, refractory epilepsy, super-refractory epilepsy, and neuromuscular disorders. Beginning with neurological examination of patients through to anesthetic management of various emergencies, this book features clear images that accompany each emergency with learner-friendly features such as flow-charts, figures, text boxes, and algorithms. This book provides insights into all possible aspects of emergency management and the anesthetic management of such patients.

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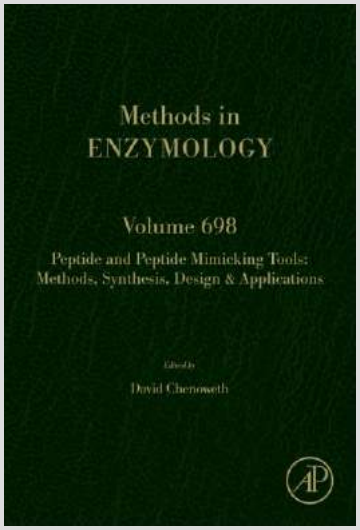

Peptide and Peptide Mimicking Tools: Methods, Synthesis, Design & Applications, Vol 698

Edited by : **David M. Chenoweth**, University of Pennsylvania, PA, USA

ISBN: 9780443218149
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PAGES: c. 400
AUDIENCE: Academic, government and industrial sectors
BIC CODES: PSB, PSD
THEMA CLASSIFICATION: THEMAPSB; THEMAPSD

Edited by one of the best scientists in the field, this series presents the latest updates in the field of enzymology

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Methods in Enzymology*
- Updated release includes the latest information on Peptide Chemical Tools for Modulating Biology

DESCRIPTION

Peptide Chemical Tools for Modulating Biology, Volume 698 in the esteemed *Methods in Enzymology* series, highlights new advances in the field, with this new volume presenting interesting topics on Peptide tools that target telomere maintenance, Molecular Design of Peptide Therapeutics, Sulfonyl peptide tools for modulating biology, Peptide tools for targeting the Crk/CrkL-p130Cas axis, Quorum sensing peptide tools, In vivo stability and BBB penetration of peptide tools, and Oligo-benzamide-based peptide mimicking tools for modulating biology.

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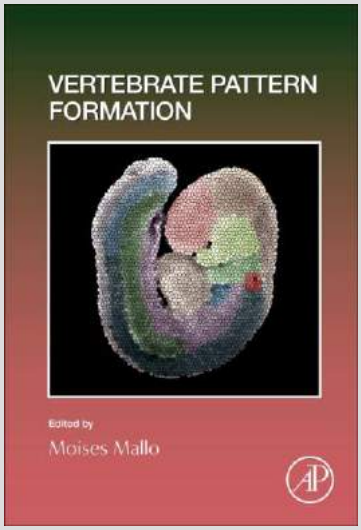

Vertebrate Pattern Formation, Vol 159

Edited by : **Moises Mallo**, Gulbenkian Institute of Science (IGC) Lisbon, Portugal

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DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 337
AUDIENCE: 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 of developmental biology

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 the Vertebrate Pattern Formation

DESCRIPTION

Vertebrate Pattern Formation, Volume 159 in the *Current Topics in Developmental Biology* series, highlights advances in the field, with this volume presenting interesting chapters on timely topics, including Hox genes patterning the vertebrate body, Endodermal patterning, The use of organoids/gastruloids to understand development, Cell shape and movements controlling development, Neural crest and placodes in vertebrate development, Patterning of the neural tube, Non-canonical Wnt signaling in axial extension, The control of transitions along the main body axis, Emergence of a left-right symmetric body plan in vertebrate embryos, Formation of the vascular system, Generation of patterns in the paraxial mesoderm, and more.

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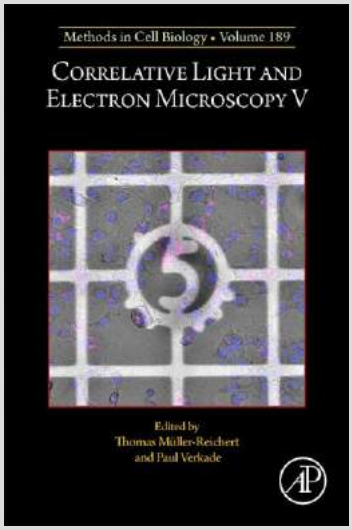

Correlative Light and Electron Microscopy V, Vol 187

Edited by : **Thomas Müller-Reichert**, Prof. Dr, Core Facility Cellular Imaging (CFCI), Faculty of Medicine Carl Gustav Carus, Technische Universität Dresden, Germany and **Paul Verkade**, The University of Bristol, Bristol, UK

ISBN: 9780323951418
PUB DATE: Jun 01, 2024
LIST PRICE: £139.00 / $175.00 / €160.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 0
AUDIENCE: Academic, researchers, government and industrial sectors
BIC CODES: PSD, PSC, PSF
THEMA CLASSIFICATION: THEMAPSD; THEMAPSC; THEMAPSF

Edited by one of the best scientists in the field, this series presents the latest updates in the field of cell biology

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in the Methods in Cell Biology series
- Includes the latest information on the topic of development, characterization and applications in CAR T Cells

DESCRIPTION

Correlative Light and Electron Microscopy V, Volume 187 in the Methods in Cell Biology series highlights advances in the field, with this new volume presenting interesting chapters on timely topics, including Orthotopic brain tumor models derived from glioblastoma stem-like cells, RNA sequencing in hematopoietic stem cells, Generation of inducible pluripotent stem cells from human dermal fibroblasts, In vitro preparation of dental pulp stem cell grafts combined with biocompatible scaffolds for tissue engineering, Gene expression knockdown in chronic myeloid leukemia stem cells, Identification and isolation of slow-cycling GSCs, Assessment of CD133, EpCAM, and much more.

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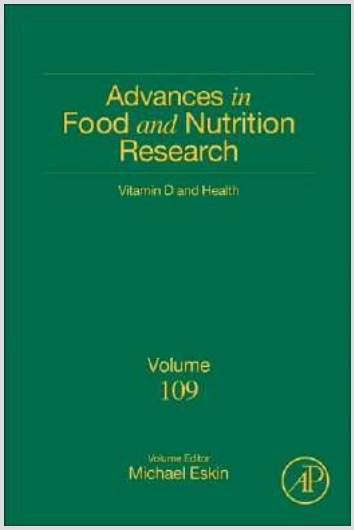

Vitamin D and health, Vol 109

Edited by : **Michael N.A. Eskin**, Ph.D., Professor, Food and Human Nutritional Sciences, University of Manitoba, Winnipeg, Canada

ISBN: 9780443160721
PUB DATE: Jun 01, 2024
LIST PRICE: £126.00 / $182.00 / €130.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 220
AUDIENCE: Nutritionists, Food Scientists, medical researchers, and those working in health-related industries
BIC CODES: TDCT
THEMA CLASSIFICATION: THEMATDCT

Cover Vitamin D, traditionally associated with bone health, and its wide array of health benefits to the human body

KEY FEATURES

- Provides the latest information on the possible mechanisms of action by the active metabolite of vitamin D, 1,25(OH) in immune cells
- Covers the beneficial roles of vitamin D in bone health, cardiovascular disease, diabetes, cancers, and celiac disease
- Discusses vitamin D's ability to reduce the risk of severity and death from viral diseases such as influenza, COVID-19, and the respiratory syncytial virus (RSV)

DESCRIPTION

Vitamin D and Health, Volume 109 reviews the versatility of vitamin D in enhancing the immune system and its potential role in combating many chronic diseases. While vitamin D's role in enhancing bone health is well established, recent studies demonstrated the safety and efficacy of peri-operative vitamin D supplementation in cardiac patients and its impact on post-operative outcomes. Chapters in this new release include discussions on Vitamin D and Immune Function, Vitamin D and Bone Heath, Vitamin D and Cardiovascular Disease, Vitamin D and Cancer, Vitamin D and Diabetes, Vitamin D and Neurological Diseases, Vitamin D and Celiac Disease, and much more.

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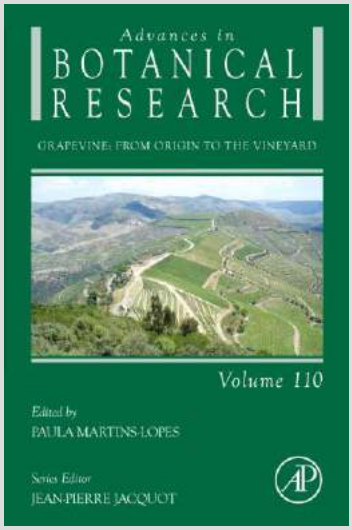

Grapevine, Vol 110

From Origin to the Vineyard

Edited by : **Paula Filomena Martins Lopes**, DNA & RNA Sensing Lab, University of Trás-os-Montes and Alto Douro, School of Life Sciences and Environment, Genetics and Biotechnology Department, Complexo Laboratorial, 5000-801 Vila Real, Portugal University of Lisbon, Faculty of Sciences, BioISI – Biosystems & Integrative Sciences Institute, Campo Grande, 1749-016 Lisbon, Portugal

ISBN: 9780443221743
PUB DATE: Jun 01, 2024
LIST PRICE: £148.00 / $214.00 / €153.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 300
AUDIENCE: Researchers, academics, professionals in viticulture and agricultural management, breeders and, government and policymakers.
BIC CODES: PSA
THEMA CLASSIFICATION: THEMAPS

Edited by one of the best scientists in the field, this series presents the latest updates in the field of botanical research

KEY FEATURES

- Presents the latest release in the *Advances in Botanical Research* series
- Focuses on viticulture and the science of winemaking
- Includes important chapters on grapevine origin and diversity, along with management strategies for reducing pesticide use against diseases, and more

DESCRIPTION

Advances in Botanical Research: From Origin to the Vineyard, Volume 110 highlights new advances in the field, with this new volume presenting interesting chapters on topics such as Grapevine origin and diversity, Climate change implications on the geography of viticulture, Canopy and soil management strategies insights into overcome abiotic stresses in grapevine, Grapevine defense mechanisms when challenged by pathogenic fungi and oomycetes, Management strategies for reducing pesticide use against diseases caused by fungi and oomycetes in grapevine, The Role of Plant Breeding in grapevine production, and New biotechnological tools for grapevine improvement.

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New Approach for Drug Repurposing Part A, Vol 205

Edited by : **Vijai Singh**, Ph.D., Department of Biosciences, School of Science, Indrashil University, Rajpur, Mehsana, India

ISBN: 9780443223389
PUB DATE: Jun 01, 2024
LIST PRICE: £119.00 / $171.00 / €122.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 280
AUDIENCE: students, researchers, clinicians, entrepreneurs, and stakeholders
BIC CODES: PSD, PSB
THEMA CLASSIFICATION: THEMAPSB; THEMAPSD

Drug repurposing is one of the roadway to accelerating drug discovery and development for treating disease and thus to providing better quality of life.

KEY FEATURES

- To offer drug repurposing, novel methods, mechanism of action, lab on chip for drug repurposing,
- To offer computational biology, system biology, artificial intelligence and machine learning for drug repurposing,
- To offer high throughput drug screening, clinical trial of repurposed drug, repurposed biologics, and regulatory consideration

DESCRIPTION

New approach for drug repurposing represents drug discovery and development which is a tedious process that requires 10-15 years of time, investments up to $1-2 billion, and have high risk of failure to enter into market for clinical applications. As the drugs has to pass through number of developmental phase, the likelihood for a drug to be approved from phase I clinical trial to United States of Food and Drug Administration (USFDA) approval is less than 10%. More than 90% of drugs failed in due to toxicity, efficacy and clinical trials. Drug repurposing is one of the roadway to accelerating drug discovery and development for treating disease and thus to providing better quality of life.
This volume covers an overview of drug repurposing, novel methods, mechanism of action, lab on chip for drug repurposing, computational biology, system biology, artificial intelligence and machine learning for drug repurposing, target identification, target mining, high throughput drug screening, clinical trial of repurposed drug, repurposed biologics, and regulatory consideration and intellectual property right of repurposed drug. This volume highlights a number of aspects of the drug repurposing that can help the basic understanding of students, researchers, clinicians, entrepreneurs, and stakeholders to perform their research with great interest.

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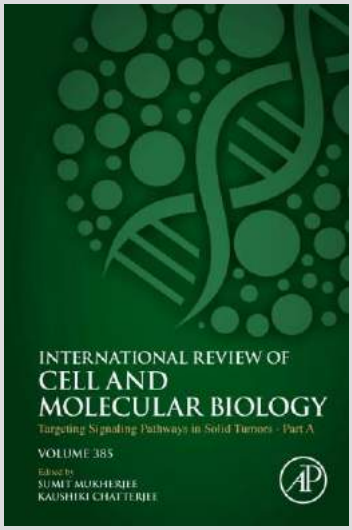

Targeting Signaling Pathways in Solid Tumors Part A, Vol 385

Edited by : **Sumit Mukherjee** and **Kaushiki Chatterjee**

ISBN: 9780443235467
PUB DATE: Jun 01, 2024
LIST PRICE: £165.00 / $239.00 / €171.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 262
AUDIENCE: Basic and translational cancer researchers. Physician scientists.
BIC CODES: PSC, PSD, PSF
THEMA CLASSIFICATION: THEMAPSC; THEMAPSD; THEMAPSF

Edited by one of the best scientists in the field, this series presents the latest updates in the field of cell and molecular biology

KEY FEATURES

- Provides the latest information on cancer research
- Offers outstanding and original reviews on a range of cancer research topics
- Serves as an indispensable reference for researchers and students alike

DESCRIPTION

Targeting Signaling Pathways in Solid Tumors, Part A, Volume 385 in the *International Review of Cell and Molecular Biology* series, highlights new advances in the field, with this new volume presenting interesting chapters on topics such as Drugging the Undruggable: Advances in Targeting KRAS Signaling in Solid Tumors, Emerging Trends in Gastrointestinal Cancers: Targeting Developmental Pathways in their Carcinogenesis and Tumor Progression, Importance of targeting various cell signaling pathways in solid cancers, Targeting signaling pathways in cancer stem cells: a potential approach for developing novel anticancer therapeutics, Factors affecting heterogeneity in breast cancer microenvironment: A narrative review, and much more.

Additional sections cover Exploring TLR Signaling Pathways as Promising Targets in Cervical Cancer: The Road Less Travelled

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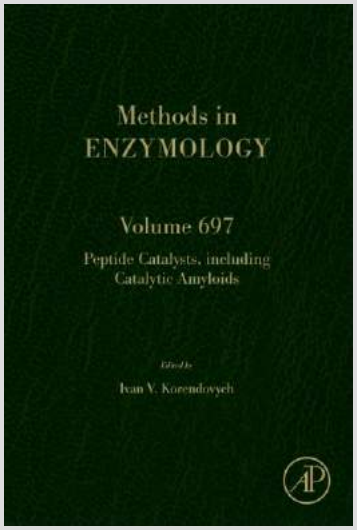

Peptide Catalysts, including Catalytic Amyloids, Vol 697

Edited by : **Ivan Korendovych**

ISBN: 9780443236679
PUB DATE: Jun 01, 2024
LIST PRICE: £138.00 / $199.00 / €142.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 400
AUDIENCE: Academic, government and industrial sectors
BIC CODES: PSD, PSB
THEMA CLASSIFICATION: THEMAPSB; THEMAPSD

Edited by one of the best scientists in the field, this series presents the latest updates in the field of enzymology

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Methods in Enzymology* series
- Updated release includes the latest information on Peptide Catalysts, including Catalytic Amyloids

DESCRIPTION

Peptide Catalysts, including Catalytic Amyloids, Volume 697 in this esteemed series, highlights new advances in the field, with this new volume presenting interesting topics on Screening of oxidative behaviors in catalytic amyloid assemblies, Catalytic amyloids derived for natural proteins, AFM-IR studies of catalytic amyloids, MD structural studies of catalytic amyloids, Characterization of crystalline, amyloid-like amino acid assemblies, Computational modeling of supramolecular peptide assemblies, and Assembly and activity of short prion-inspired peptides.

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SERIALS Methods in Enzymology
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Photochemistry and Photophysics of Earth-Abundant Transition Metal Complexes, Vol 83

Edited by : **Rudi van Eldik**, University of Erlangen-Nurnberg, Germany; Professor of Inorganic Chemistry, Jagiellonian University in Krakow, Poland and **Peter C. Ford**, Department of Chemistry and Biochemistry, University of California Santa Barbara, CA, USA

ISBN: 9780443237461
PUB DATE: Jun 01, 2024
LIST PRICE: £190.00 / $274.00 / €196.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 300
AUDIENCE: Chemists interested in classical inorganic chemistry, computational chemists interested in the application of their methods to various kinds of applied inorganic chemistry
BIC CODES: PN, PNK, PNR, TGM, PNN
THEMA CLASSIFICATION: THEMAPN; THEMAPNK; THEMAPNN; THEMAPNR

Edited by some of the best scientists in the field, this series presents the latest updates in the field of inorganic chemistry

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Advances in Inorganic Chemistry* serials
- Updated release includes the latest information on *Photochemistry and Photophysics of Earth-Abundant Transition Metal Complexes*

DESCRIPTION

Photochemistry and Photophysics of Earth-Abundant Transition Metal Complexes, Volume 83 in the *Advances in Inorganic Chemistry* series, highlights new advances in the field, with this new volume presenting interesting chapters on topics such as Radioluminescence of Copper(I) Clusters, Photophysics and Photochemistry of Chromium(III) Complexes (Molecular Rubies), Chromic behaviors of luminescent copper(I) complexes, Long-lived photoluminescence in group 4 metal complexes enabled by ligand-to-metal charge transfer, Photoactive MOFs for CO2 Activation utilizing Earth Abundant Metals, and more.

Other sections cover Earth Abundant Metal Complexes for Optoelectronic Applications, Photoactive metal to ligand charge transfer excited states in 3d6 and 3d8 complexes, Ligand-to-metal charge-transfer excited states in d0 transition-metal complexes: Investigations into the photochemistry and photophysics of emissive titanocenes, Ultrafast dynamics in photoactive copper complexes from optical and Xray methods, and Photophysical properties of Ni(II) complexes and some copper(I) and zinc(II) complexes.

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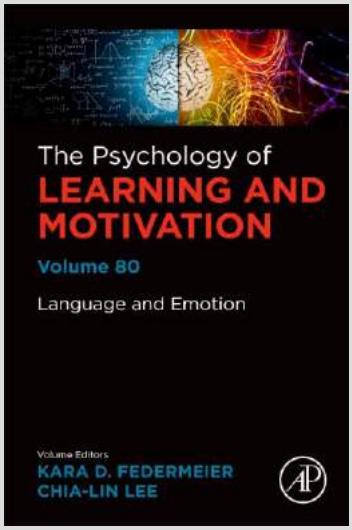

The Intersection of Language with Emotion, Personality, and Related Factors, Vol 80

Edited by : **Kara D. Federmeier**, Professor, Department of Psychology, University of Illinois Urbana-Champaign, IL, USA and **Chia-Lin Lee**

ISBN: 9780443293986
PUB DATE: Jun 01, 2024
LIST PRICE: £98.50 / $142.00 / €102.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 300
AUDIENCE: Researchers and students in cognitive psychology
BIC CODES: JMR
THEMA CLASSIFICATION: THEMAJMR

Essential, authoritative reference on the psychology of learning and motivation for researchers and academics working in cognitive science

KEY FEATURES

- Presents the latest information in the highly regarded *Psychology of Learning and Motivation* series
- Provides an essential reference for researchers and academics in cognitive science
- Contains information relevant to both applied concerns and basic research

DESCRIPTION

The Intersection of Language with Emotion, Personality, and Related Factors, Volume 80 in *The Psychology of Learning and Motivation* series, features empirical and theoretical contributions in cognitive and experimental psychology, ranging from classical and instrumental conditioning to complex learning and problem-solving. Chapters in this release include The landscape of emotional language processing in bilinguals, What's in an emotion word? The role of labeling in emotion regulation and well-being, Language in the eyes of emotional readers, Language, loneliness, and personality, Reading Emotion in Context: the Reciprocal Relationship between Feelings and Words, and Language and sociocultural environments influence our understanding and experience of emotions.

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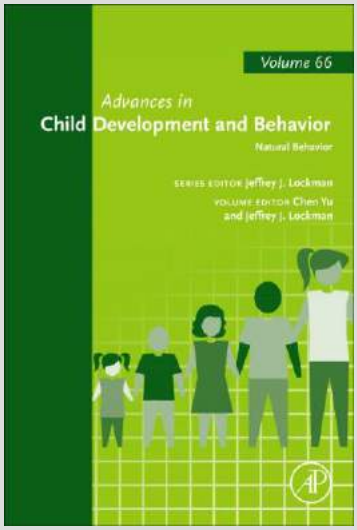

Natural Behavior, Vol 66

Edited by : **Jeffrey J. Lockman**, Department of Human Development and Family Sciences, University of Texas, Austin, TX, USA; **Jeffrey J. Lockman**, Department of Human Development and Family Sciences, University of Texas, Austin, TX, USA and **Chen Yu**

ISBN: 9780443294167
PUB DATE: Jun 01, 2024
LIST PRICE: £78.99 / $114.00 / €81.95
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 280
AUDIENCE: Developmental scientists, child development researchers, graduate students in developmental science or child development/psychology, social policy professionals, education researchers, early childhood professionals
BIC CODES: JMC, JM
THEMA CLASSIFICATION: THEMAJMC; THEMAJM

Understanding development from the lens of the natural contexts within which children actually develop

KEY FEATURES

- Latest research on understanding development based on children's natural behavior, rather than behavior based on short-term visits in laboratory settings
- New methods for studying and analyzing children's natural behavior across short and extended time scales
- Cross-cutting research across different domains (e.g., language, cognition, interpersonal coordination), linked by a focus on natural behavior

DESCRIPTION

Natural Behavior, Volume 66 highlights new advances in the field, with this new volume presenting interesting chapters written by an international board of authors.

There is a long history of studying natural behavior in science. In 1872, Charles Darwin documented his observations on the development of his children in words, which was published in an article titled "A Biographical Sketch of an Infant." Traditionally, observational studies like this had been viewed as insightful but also criticized as not objective and quantitative. More recently, building on advanced computation, the contemporary approaches to studying natural behavior in the real world delivered quantitative results. New sensing and wearable technologies allow researchers to collect high-density data in everyday contexts. With technological advances, we can scale up and obtain quantitative results from real-world data. This volume contains a collection of papers on studying natural behavior of child development. Those papers aim at understanding and predicting behavior and cognition as it occurs within complex real-world situations. Compared with findings from laboratories, the results derived from natural behavior are remarkably reliable, which provides an answer to the reproducibility crisis in science. Moreover, the findings based on natural behavior can be directly applied to the real world, especially in the health and education domains.

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Advances in Insect Physiology, Vol 66

Russell Jurenka, Professor, Department of Entomology, Iowa State University, USA

ISBN: 9780443294303
PUB DATE: Jun 01, 2024
LIST PRICE: £115.00 / $166.00 / €119.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 300
AUDIENCE: Researchers and students of Entomology, insect pathology, microbial pathogenesis, insect biochemistry, insect physiology, and molecular biology
BIC CODES: PSVT7, PSVT
THEMA CLASSIFICATION: THEMATGB; THEMATJF; THEMAUYS; THEMAPSVA; THEMAPS; THEMAMFC; THEMAMFG

Edited by one of the best scientists in the field, this series presents the latest updates in the field of insect physiology

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in the *Advances in Insect Physiology* series
- Updated release includes the latest information on cockroach biology, female insect reproduction, and more

DESCRIPTION

Advances in Insect Physiology, Volume 66 in the series, highlights new advances in the field, with this new volume presenting interesting chapters on topics including Cockroach Biology, Apocrine Secretion from Salivary Glands, and Female Insect Reproduction.

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Advances in Motivation Science, Vol 11

Andrew J. Elliot, Professor of Psychology, University of Rochester, NY, USA

ISBN: 9780443294389
PUB DATE: Jun 01, 2024
LIST PRICE: £98.50 / $142.00 / €102.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 300
AUDIENCE: Researchers, instructors, and students (graduate and advanced undergraduate) in the myriad disciplines in which motivational issues are relevant
BIC CODES: JML, JM, JMH
THEMA CLASSIFICATION: THEMAJML; THEMAJM; THEMAJMH

Influential work on motivation science and research, bringing together experts with cutting-edge theoretical and empirical contributions in psychology

KEY FEATURES

- Presents new research in the field of motivation science and research
- Provides a timely overview of important research programs conducted by the most respected scholars in psychology
- Gives special attention to directions for future research

DESCRIPTION

Advances in Motivation Science, Volume Eleven, the latest release in the Motivation Science series, contains interesting articles that cover topics such as An Ecology of Meaning: An Integrative Framework for Understanding Human Motivations, Beer AMS Quest for Self Knowledge, Boundary conditions of the rational model Finding the limits of rationality, Growth goals: A review of the construct Predictors, Consequences, and Intervention, Pragmatic Prospection Theory, Research, and Practice, and The Quest for Self-Knowledge What Do We Want to Know (and not Know) About Ourselves.

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SERIALS Psychology
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Error Control, Adaptive Discretizations, and Applications, Part 1, Vol 58

Edited by : **Franz Chouly**; **Stéphane P.A. Bordas**, Research Unit in Eng Science, University of Luxembourg, Luxembourg; **Roland becker** and **Omnes Pascal**

ISBN: 9780443294488
PUB DATE: Jun 01, 2024
LIST PRICE: £150.00 / $217.00 / €155.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 290
AUDIENCE: PhD students, experienced researchers, post-doctoral researchers, R&D specialists in industry
BIC CODES: PH
THEMA CLASSIFICATION: THEMAPH

Provides results on the mechanics of multi-scale deformable media, with applications to health and digital twinning

KEY FEATURES

- Covers multi-scale modeling
- Includes updates on data-driven modeling
- Presents the latest information on large deformations of multi-scale materials

DESCRIPTION

Error Control, Adaptive Discretizations, and Applications, Volume 58, Part One highlights new advances in the field, with this new volume presenting interesting chapters written by an international board of authors. Chapters in this release cover hp adaptive Discontinuous Galerkin strategies driven by a posteriori error estimation with application to aeronautical flow problems,
An anisotropic mesh adaptation method based on gradient recovery and optimal shape elements, and Model reduction techniques for parametrized nonlinear partial differential equations.

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SERIALS Engineering
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Advances in Parasitology, Vol 124

David Rollinson, Merit Research Scientist, The Natural History Museum, London, UK and
Russell Stothard, Chair in Medical Parasitology, Liverpool School of Tropical Medicine, UK

ISBN: 9780443295140
PUB DATE: Jun 01, 2024
LIST PRICE: £160.00 / $231.00 / €165.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 279
AUDIENCE: Academic, government and industrial sectors
BIC CODES: MMFP
THEMA CLASSIFICATION: THEMAMKFP

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 *Advances in Parasitology* series
- Updated release includes the latest information on Advances in Parasitology

DESCRIPTION

Advances in Parasitology Volume 124, the latest release in this esteemed series, highlights new advances in the field, with this new release including chapters on Geomorphological determinants and geospatial analyses of mosquito habitat for control and elimination studies of malaria in Africa, Immunology and Pathology of Echinostomes and other Intestinal Trematodes, PfEMP1 – Still of key importance in Plasmodium falciparum malaria immunity and pathogenesis, and more.

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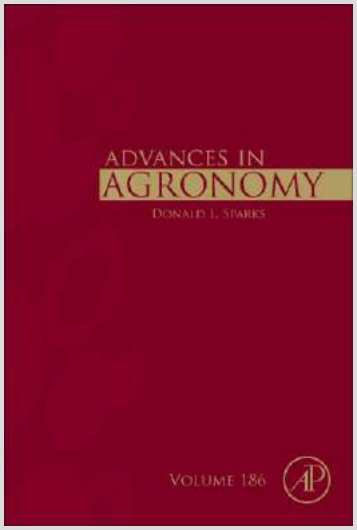

Advances in Agronomy, Vol 186

Donald L. Sparks, Director, Delaware Environmental Institute, University of Delaware, Newark, DE, USA

ISBN: 9780443295287
PUB DATE: Jun 01, 2024
LIST PRICE: £135.00 / $193.00 / €138.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 275
AUDIENCE: Scientists and practitioners in academe, government, and industry and students in an array of fields including crop and soil sciences, agronomy, plant biology, and environmental sciences
BIC CODES: TV, PST, PSA, RNC, RN
THEMA CLASSIFICATION: THEMATV; THEMAPST; THEMAPS; THEMAPSAF; THEMATQ

Highly cited serial review that includes cutting-edge information on the crop and soil sciences and the latest agronomy research

KEY FEATURES

- Includes numerous, timely, state-of-the-art reviews on the latest advancements in agronomy
- Features distinguished, well recognized authors from around the world
- Builds upon this venerable and iconic review series
- Covers the extensive variety and breadth of subject matter in the crop and soil sciences

DESCRIPTION

Advances in Agronomy, Volume 186, the latest release in this leading reference on agronomy, contains a variety of updates and highlights new advances in the field, each written by an international board of authors.

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SERIALS Agricultural & Biological Sciences
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Advances in Heat Transfer, Vol 57

John Patrick Abraham, University of St. Thomas, Saint Paul, MN, USA; **Wolodymyr J. Minkowycz**, Professor of Mechanical Engineering, Department of Mechanical and Industrial Engineering, University of Illinois, Chicago, USA and **John M. Gorman**, University of Minnesota, Minneapolis, MN, USA

ISBN: 9780443295362
PUB DATE: Jun 01, 2024
LIST PRICE: £150.00 / $217.00 / €155.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 279
AUDIENCE: Industry practitioners and academics teaching advanced courses
BIC CODES: TGB
THEMA CLASSIFICATION: THEMAPHFC

Edited by some of the best scientists in the field, this series presents the latest updates in the field of heat transfer

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Advances in Heat Transfer* serials

DESCRIPTION

Advances in Heat Transfer, Volume 57 presents the latest in a serial that highlights new advances in the field, with this updated volume presenting interesting chapters written by an international board of authors.

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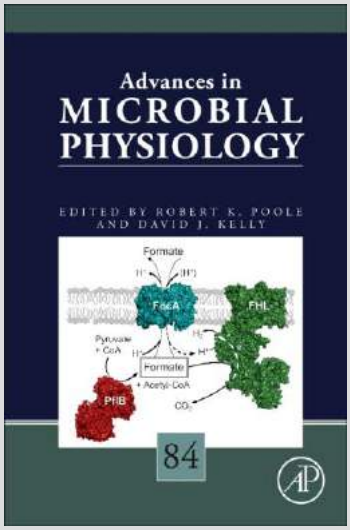

Advances in Microbial Physiology, Vol 84

Robert K. Poole, West Riding Professor of Microbiology, Department of Molecular Biology and Biotechnology, University of Sheffield, UK and **David J. Kelly**, Professor of Microbiology, Department of Molecular Biology and Biotechnology, University of Sheffield, UK

ISBN: 9780443295409
PUB DATE: Jun 01, 2024
LIST PRICE: £125.00 / $179.00 / €128.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 164
AUDIENCE: Microbiologists, biochemists, biotechnologists, and those interested in physiology, microbial biochemistry and its applications
BIC CODES: PSG, PSD, PSB, PHVN
THEMA CLASSIFICATION: THEMAPSG; THEMAPSD; THEMAPSB; THEMAPHVN

Edited by some of the best scientists in the field, this series presents the latest updates in the field of microbial physiology

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Advances in Microbial Physiology* serial
- Covers Mycobacterial efflux systems, New insights in bacterial organophosphorus, The link between gut sulfidogenic bacteria and disease, and much more

DESCRIPTION

Advances in Microbial Physiology, Volume 84 in this ongoing serial, highlights new advances in the field with this new volume presenting interesting chapters. Each chapter is written by an international board of authors. Topics of interest in this update include Mycobacterial Efflux systems, New insights in bacterial organophosphorus cycling: from human pathogens to environmental bacteria, Link between gut sulfidogenic bacteria and disease, The Formate-H2 Axis and its Importance for Microbial Physiology, Physiology of diazotrophs, Antibiotic efficacy, and Microbial metabolites as modulators of host physiology.

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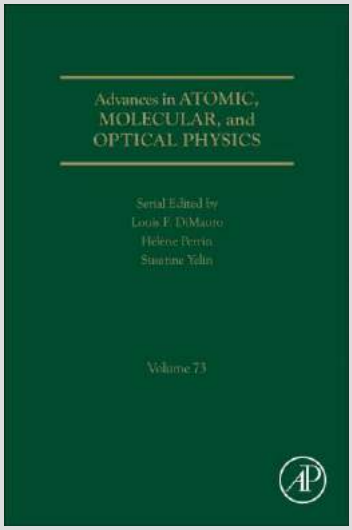

Advances in Atomic, Molecular, and Optical Physics, Vol 73

Susanne Yelin, Physics Department, University of Connecticut, Storrs, CT, USA; **Louis F. Dimauro**, Ohio State University, USA and **Helene Perrin**, Universite Paris 13, Institut Galilee, France

ISBN: 9780443296802
PUB DATE: Jun 01, 2024
LIST PRICE: £165.00 / $239.00 / €171.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 476
AUDIENCE: Any researcher interested in atomic, molecular, and optical physics.
BIC CODES: PHJ, PHM
THEMA CLASSIFICATION: THEMAPHJ; THEMAPHM

Delve into the forefront of atomic, molecular, and optical physics, featuring reviews on cutting high harmonic generation in thin-film samples

KEY FEATURES

- Covers ultrafast optics
- Includes update on high harmonic generation from thin-films
- Updates on quantum-computation assisted atomic and molecular calculations

DESCRIPTION

Advances in Atomic, Molecular, and Optical Physics, Volume 73 gives an overview on the latest evolutions in atomic, molecular, and optical physics, specifically promoting two important aspects of the field of ultrafast optics and strong fields. In particular, the book consists of a review over high harmonic generation (HHG) from thin-film samples, featuring experimental and theoretical studies of HHG from thin films in comparison to bulk crystals of the same materials and the specific interest in HHG from van der Waals materials and HHG studies at the 2D limit.

The second review concerns quantum computing technologies enabled studies of molecular processes using present-day devices, with applications in vibrational spectroscopy, electronic structure calculations, population transfer processes induced by a laser field, and interacting spin systems.

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Advances in Clinical Chemistry, Vol 120

Gregory S. Makowski, Vice President and Chief Scientific Officer, Clinical Laboratory Partners, Newington, CT, USA

ISBN: 9780443297007
PUB DATE: Jun 01, 2024
LIST PRICE: £142.00 / $205.00 / €147.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 216
AUDIENCE: Clinical Laboratory Professionals, Physicians and Research Scientists
BIC CODES: PSB, PHVN, PSA, PSD
THEMA CLASSIFICATION: THEMAPSB; THEMAPHVN; THEMAPS; THEMAPSD

Publishes cutting-edge reviews in the field of clinical chemistry that include the expertise of international contributors

KEY FEATURES

- Provides the most up-to-date technologies in clinical chemistry and clinical laboratory science
- Authored by world renowned clinical laboratory scientists, physicians, and research scientists
- Presents the international benchmark for novel analytical approaches in the clinical laboratory

DESCRIPTION

Advances in Clinical Chemistry, Volume 120, the latest installment in this internationally acclaimed series, contains chapters authored by world-renowned clinical laboratory scientists, physicians, and research scientists.

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SERIALS Chemistry & Chemical Engineering
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Advances in Ecological Research, Vol 70

Edited by : **Kim Yates**, Emergency Medicine Specialist Director of Emergency Medicine Research and **Alex Dumbrell**, University of Essex, UK

ISBN: 9780443297328
PUB DATE: Jun 01, 2024
LIST PRICE: £151.00 / $188.99 / €174.99
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 296
AUDIENCE: Researchers and Academia, Environmental Professionals, Educators and Students, Scientific Institutions and Libraries, Industry Professionals
BIC CODES: RNC, RN
THEMA CLASSIFICATION: THEMAPSAF; THEMATQ

Edited by one of the best scientists in the field, this series presents the latest updates in the field of ecological research

KEY FEATURES

- Provides the latest information on cancer research
- Offers outstanding and original reviews on a range of cancer research topics
- Serves as an indispensable reference for researchers and students alike

DESCRIPTION

Advances in Ecological Research, Volume 70 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 Agricultural & Biological Sciences
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Coulomb Interactions in Particle Beams, Vol 230

Peter W. Hawkes, Founder-President of the European Microscopy Society and Fellow, Microscopy and Optical Societies of America; member of the editorial boards of several microscopy journals and Serial Editor, Advances in Electron Optics, France and **Martin Hÿtch**, Senior Scientist, French National Centre for Research (CNRS), Toulouse, France

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LIST PRICE: £169.00 / $245.00 / €175.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 216
AUDIENCE: Physicists, electrical engineers, applied mathematicians in all branches of image processing and microscopy as well as electron physics in general
BIC CODES: UYS, TJFD, TGB
THEMA CLASSIFICATION: THEMAUYS; THEMATJF; THEMATGB

Presents cutting-edge articles on the latest developments in all areas of microscopy, image science, and related subjects in electron physics

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in the *Advances in Imaging and Electron Physics* series

DESCRIPTION

Coulomb Interactions in Particle Beams, Volume 230, the latest release in the *Advances in Imaging and Electron Physics* series, merges two long-running serials, *Advances in Electronics and Electron Physics* and *Advances in Optical and Electron Microscopy*. The series features articles on the physics of electron devices (especially semiconductor devices), particle optics at high and low energies, microlithography, image science, digital image processing, electromagnetic wave propagation, electron microscopy, and the computing methods used in all these domains.

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SERIALS Physics & Astronomy
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Enhancement of Brain Functions Prompted by Physical Activity Vol 2, Vol 286

Edited by : **Chi-Hung Juan**, Chair Professor of Cognitive Neuroscience in the Institute of Cognitive Neuroscience, National Central University, Taiwan; **Chun-Hao Wang**, Institute of Physical Education, Health & Leisure Studies, and the Department of Psychology at National Cheng Kung University and **Shih-Chun Kao**, assistant professor in the Department of Health and Kinesiology at Purdue University

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LIST PRICE: £199.95 / $288.00 / €206.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 333
AUDIENCE: Undergraduates, graduates, academics, and researchers in the field of neurology and brain research
BIC CODES: JMM, PSAN
THEMA CLASSIFICATION: THEMAJMM; THEMAPSAN

Edited by some of the best scientists in the field, this series presents the latest updates in the field of brain research

KEY FEATURES

- Provides the authority and expertise of leading contributors from an international board of authors
- Presents the latest release in *Progress in Brain Research* series
- Updated release includes the latest information on Enhancement of Brain Functions Prompted by Physical Activity

DESCRIPTION

Enhancement of Brain Functions Prompted by Physical Activity, Volume Two, Volume 286 in the *Progress in Brain Research* series, highlights new advances, with this updated volume presenting chapters on a variety of timely topics, including Predicting sports performance of elite female soccer players through smart wearable measurement platform, Physical activity and verbal memory performance: mediating effects of resting-state brain activity, Associations between physical activity, body composition, and cognitive performance among female office workers, Grip strength, working memory, and emotion perception in middle aged males, Association of aerobic fitness and grip strength with cognitive and academic performance in Arab children, and much more.

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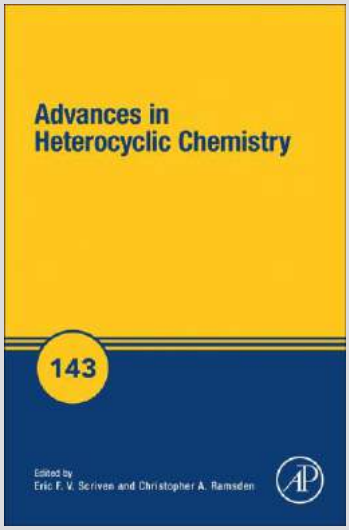

Advances in Heterocyclic Chemistry, Vol 143

Eric F.V. Scriven, Publishing Editor of Arkivoc, Department of Chemistry, University of Florida, Gainesville, USA and **Christopher A. Ramsden**, Professor of Organic Chemistry, Keele University, Staffordshire, UK

ISBN: 9780443297403
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LIST PRICE: £169.00 / $245.00 / €175.00
DISCOUNT: Serial
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 292
AUDIENCE: Graduate students and research workers in academic and industrial laboratories, organic chemists, polymer chemists and biological scientists
BIC CODES: PN, PNN
THEMA CLASSIFICATION: THEMAPN; THEMAPNN

Provides the latest, comprehensive reviews written by established, world-renowned authorities in heterocyclic chemistry

KEY FEATURES

- Considered the definitive serial in the field of heterocyclic chemistry
- Serves as the go-to reference for organic chemists, polymer chemists, and many biological scientists
- Provides the latest comprehensive reviews written by established authorities in the field
- Combines descriptive synthetic chemistry and mechanistic insights to enhance understanding on how chemistry drives the preparation and useful properties of heterocyclic compounds

DESCRIPTION

Advances in Heterocyclic Chemistry, Volume 143, the latest release in this esteemed series, highlights new advances in the field. Chapter sin this release include Heterocyclic Zwitterions Based on Coupled Polymethines, Recent chemistry and applications of 1,3,4-oxadiazoles, The Synthesis and Applications of Bioactive Phenoxazinones. Diversity of Heterocyclic Reactants in the Click Reaction, Recent advances in the Synthesis of Benzo[b]furans, Bis-ethanones and their derivatives: versatile precursors for bis-heterocycles.

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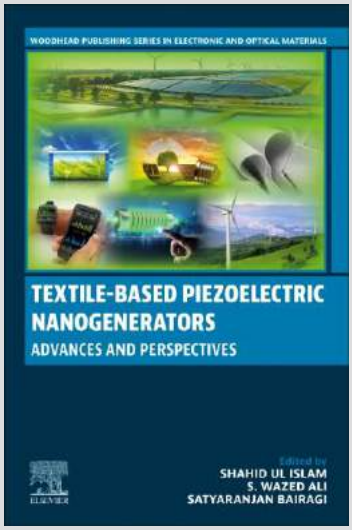

Textile-Based Piezoelectric Nanogenerators

Advances and Perspectives

Edited by : **Shahid Ul Islam**, Department of Applied Sciences and Humanities, Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi 110025, India; **S. Wazed Ali**, Associate Professor, Indian Institute of Technology (IIT) Delhi, India and **Satyaranjan Bairagi**, Research Associate, University of Glasgow, UK

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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 fabrication of piezoelectric nanogenerators in conventional textiles for the development of next-generation wearable energy harvesters
- Provides systematic and comprehensive coverage of the topic and highlights current and potential applications of textile-based piezoelectric nanogenerators for further investigation

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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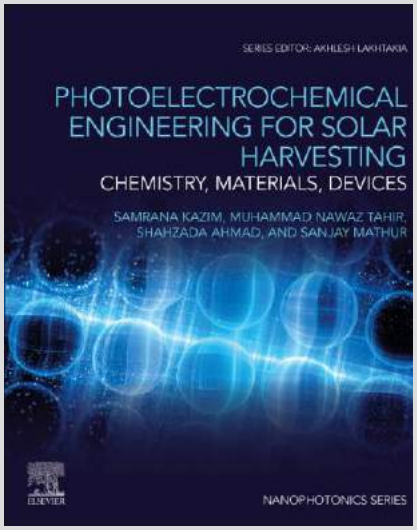

Photoelectrochemical Engineering for Solar Harvesting

Chemistry, Materials, Devices

Edited by : **Samrana Kazim**, Ikerbasque fellow and Group leader, Basque Centre for Materials, Applications, and Nanostructures (UPV), Spain; **Muhammad Nawaz Tahir**, Assistant Professor, Chemistry Department, King Fahd University of Petroleum and Minerals, Dhahran, Kingdom of Saudi Arabia; **Shahzada Ahmad**, Ikerbasque professor, University of Basque Country, Spain and **Sanjay Mathur**, Director, Institute of Inorganic Chemistry, University of Cologne, Germany

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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 7.50w x 9.25h
PAGES: c. 558
AUDIENCE: Materials Scientists, Inorganic Chemists, Chemical Engineers, Process Engineers, Energy
BIC CODES: TJFD, TGM
THEMA CLASSIFICATION: THEMATGM; THEMATJF

Overview of experimental approaches towards the design of innovative energy materials for solar energy fuel production

A Volume in the *Nanophotonics* Series

KEY FEATURES

- Covers the design of innovative energy materials such as photocatalysts and water oxidation catalysts for solar energy harvesting
- Reviews computational and theoretical approaches before providing a comprehensive overview of experimental directions
- Provides information to guide photon and photoelectrochemical engineering of catalysts for solar applications

DESCRIPTION

Photoelectrochemical Engineering for Solar Harvesting: Chemistry, Materials, Devices provides an up-to-date appraisal of the photon engineering of innovative catalysts for solar energy harvesting. This book analyzes the overall progress, potential challenges, and the industrialization of new catalysts in the near future. The primary emphasis is on experimental approaches from materials synthesis to device applications, however, there is also an introduction to relevant photochemistry concepts. This book is suitable for materials scientists and chemists who, through the use of photonics, are in continuous pursuit of improving the efficiencies of different devices used to capture solar energy for the generation of sustainable fuel.

Sunlight-driven fuel synthesis is the most sustainable and potentially economical option for producing energy vectors through water splitting. Thus, this book focuses on the design of photocatalysts and water oxidation catalysts, as artificial photosynthesis and hydrogen fuel production via water oxidation (in place of fossil fuels) are two promising approaches towards renewable energy.

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ENGINEERING Nanotechnology
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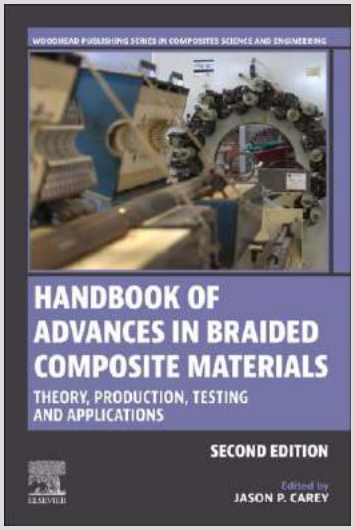

Handbook of Advances in Braided Composite Materials, 2e

Theory, Production, Testing and Applications

Edited by : **Jason P. Carey**, Professor, Mechanical Engineering, University of Alberta, Canada

ISBN: 9780443186028
PREVIOUS ISBN: 9780081003695
PUB DATE: Jun 17, 2024
LIST PRICE: £210.00 / $275.00 / €240.00
DISCOUNT: Reference
FORMAT: Hardback
TRIM: 6.00w x 9.00h
PAGES: c. 530
AUDIENCE: Academic and industrial researchers, materials scientists working in composite technology and development in automotive, aerospace, transport, energy, and biomedical sectors, Postgraduate students
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Extensively reviews the properties, design, manufacturing, testing, and next generation applications of braided composite materials

A Volume in the *Woodhead Publishing Series in Composites Science and Engineering* Series

KEY FEATURES

- Covers new developments in advanced testing methods and imaging technology
- Presents new findings in manufacturing and material properties
- Discusses new developments in sustainable green braided composites, and in 3D braiding

DESCRIPTION

Handbook of Advances in Braided Composite Materials: Theory, Production, Testing and Applications, Second Edition extensively reviews the properties, design, and manufacturing, testing and next generation applications of braided composite materials. Following the introductory chapter and the opening topic of working with the enclosed composite apps, Part One discusses manufacturing processes and advanced testing of braided composite materials. Part Two then looks at predicting properties and designing braided composite materials, including mechanics for braided composite materials such as micromechanics, macromechanics and ply mechanics. Advances in 2D and 3D modeling, as well as design of braided composite materials, are also covered.

Finally, Part Three provides information on the applications of Next Generation braided composite materials. These topics consist of shape memory composites, nanostructures in braids, electrospinning, braidtrusion and green braids. The book presents up-to-date technology developments and recent research findings, along with an android and IPhone App to support design criteria, which is available via an online open source platform provided by the editor.

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ENGINEERING Materials
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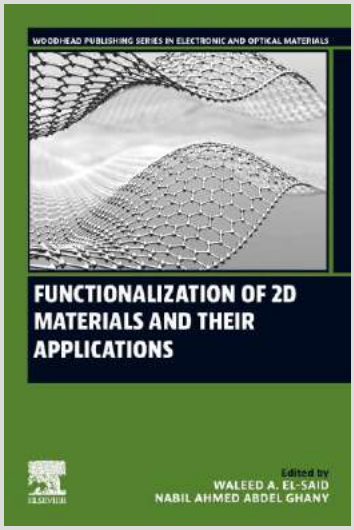

Functionalization of 2D Materials and Their Applications

Edited by : **Waleed A. El-Said**, Associate Professor, Chemistry Department, Assiut University, Assiut, Egypt and **Nabil Ahmed Abdel Ghany**, Professor, Physical Chemistry Department, National Research Centre (NRC), Giza, Egypt

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DISCOUNT: Reference
FORMAT: Paperback
TRIM: 6.00w x 9.00h
PAGES: c. 412
ILLUSTRATIONS: Approx. 213 illustrations (113 in full color)
AUDIENCE: Materials Scientists and Engineers, Physicists, Chemists
BIC CODES: TGM, TJFD, TJ
THEMA CLASSIFICATION: THEMATGM; THEMATJF

Introduces advances in the synthesis and fabrication of nanopatterned 2D materials and their applications in energy production, conversion and storage, and more

A Volume in the *Woodhead Publishing Series in Electronic and Optical Materials* Series

KEY FEATURES

- Reviews the latest advances in the approaches of the fabrication of 2D materials, including nanopatterned, composites and porous 2D materials
- Provides information on the functionalization of 2D materials, with particular attention given to electrical, thermal and optical properties which may make the material useful for a wide range of applications
- Discusses the applications of 2D materials in energy, sensing, environmental remediation and electronics

DESCRIPTION

Functionalization of 2D Materials and Their Applications reviews the synthesis and characterization of nanopatterned 2D materials and how to modify different substrates with these materials. Each chapter emphasizes fabrication, including the fabrication of different morphologies of graphene and transition metal dichalcogenides (TMDCs), the fabrication of different composites and the surface modification of different nanopatterned graphene and TMDCs, and the effects of these nanostructures on the different properties of the modified substrates, such as the electrical, thermal and optical properties, and more. The applications of graphene and TMDCs in the enhancement of Raman spectroscopy, solar cells, fuel cells, supercapacitors, biosensors, chemical sensors, water treatment, water desalination, perovskite photodetectors, energy storage devices, environmental applications and cell-based chips are also reviewed.

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ENGINEERING Electrical
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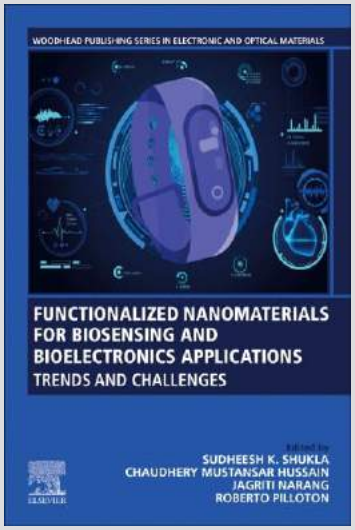

Functionalized Nanomaterials for Biosensing and Bioelectronics Applications

Trends and Challenges

Edited by : **Sudheesh K. Shukla**, Department of Chemical Sciences, University of Johannesburg, Doornfontein Campus, Johannesburg, South Africa; Department of Biomedical Engineering, School of Biological Engineering and Life Science, Shobhit Institute of Engineering & Technology (Deemed-to-be University), Modipuram, Meerut, India; School of Chemical Engineering and Physical Sciences, Lovely Professional University, Phagwara, India; **Chaudhery Mustansar Hussain**, PhD, New Jersey Institute of Technology, Newark, NJ, USA; **Jagriti Narang**, Department of Biotechnology, School of Chemical and Life Science

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PAGES: c. 581
ILLUSTRATIONS: 70 illustrations (20 in full color)
AUDIENCE: Materials Scientists and Engineers Analytical Chemists, Biomedical Engineers
BIC CODES: TJ, TGM, TJFD
THEMA CLASSIFICATION: THEMATJF; THEMATGM

Presents recent advances in understanding, fabrication methods, and application directions of the integration of functionalized nanomaterial systems with sensing platforms

A Volume in the *Woodhead Publishing Series in Electronic and Optical Materials* Series

KEY FEATURES

- Introduces the most common functionalized nanomaterials and their morphologies, properties, and mechanisms for sensing applications
- Reviews functionalization and fabrication methods and techniques for the integration of one- and two-dimensional materials for sensing applications
- Addresses the most relevant applications of functionalized nanomaterials for biosensing and bioelectronics applications

DESCRIPTION

Functionalized Nanomaterials for Biosensing and Bioelectronics Applications: Trends and Challenges describes current and future opportunities for integrating the unique properties of two-dimensional nanomaterials with bioelectronic interfaces. Sections focus on background information and fundamental concepts, review the available functionalized nanomaterials and their properties, explore the integration of functionalized nanomaterials with bioelectronics, including available fabrication and characterization methods, electrical behavior at the interface, and design and synthesis guidelines, and review examples of microsystems where functionalized nanomaterials are being integrated with bioelectronics.

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ENGINEERING Electrical
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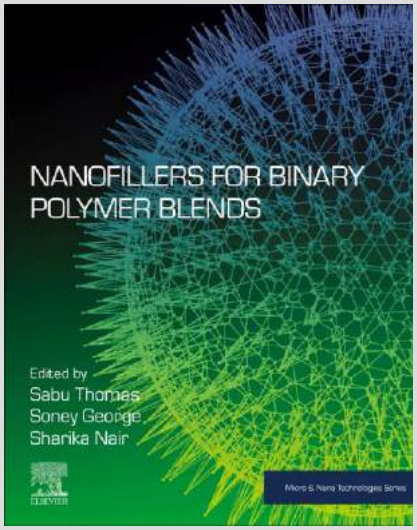

Nanofillers for Binary Polymer Blends

Edited by : **Sabu Thomas**, Full Professor, International and Inter University Centre for Nanoscience and Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala, India; **Soney C. George**, Dean of Research and Director of the Center for Nanoscience and Technology, Amal Jyothi College of Engineering, Kottayam, India. and **Sharika T. Nair**, Assistant Professor in the Department of Chemistry, St Xavier's College, Vaikom, Kottayam, India

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TRIM: 7.50w x 9.25h
PAGES: c. 744
AUDIENCE: Materials Scientists, Engineers
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Provides a detailed overview of the properties, manufacture and applications of nanofilled polymer blends

A Volume in the *Micro and Nano Technologies* Series

KEY FEATURES

- Outlines the various types of nanofillers, explaining how the properties of each enhances the morphology, rheology, mechanical, dynamic mechanical, viscoelastic, electrical and thermal properties of polymer blends
- Provides information on the theory, modeling and simulation of nano-filled polymer blends
- Assesses the mechanism of selective localization of nanofillers in polymer blends, the effect of localization of nanofillers on the microstructure, and the relative performance of polymer blends

DESCRIPTION

Nanofillers for Binary Polymer Blends covers major advances in the field of polymer-blend nanocomposites. The book encompasses the fundamentals of polymer blends, various nanofillers, experimental techniques used in their fabrication, the characterization of various polymer blend nanocomposites, and theoretical evaluations of various properties. The properties and potential applications that have been achieved in various polymer blends by the addition of nanofillers are also highlighted. Applications for commercial products, including automotive parts, packaging, construction materials, biotechnology, medical devices, building materials, computer housings, car interiors, etc., are also covered in detail.This is an important reference source for materials scientists and engineers looking to increase their understanding of how nanofillers are being used in polymer blends.

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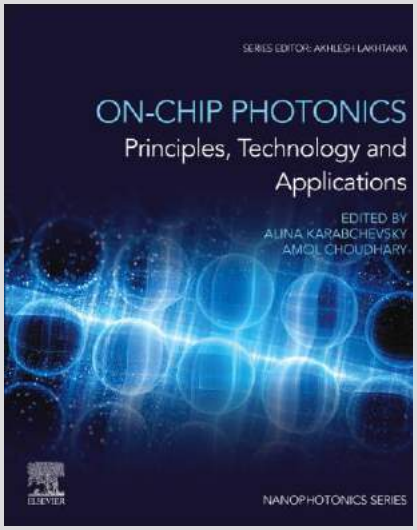

On-Chip Photonics

Principles, Technology and Applications

Edited by : **Alina Karabchevsky**, Ben-Gurion University, School of Electrical and Computer Engineering, Department of Electrooptics and Photonics, Beer-Sheva, Israel; **Amol Choudhary**, Indian Institute of Technology (IIT), Department of Electrical Engineering, and the Bharti School of Telecommunication Technology and Management Delhi, India and **Akhlesh Lakhtakia**, Evan Pugh University Professor and The Charles Godfrey Binder (Endowed) Professor, Department of Engineering Science and Mechanics, Pennsylvania State University, USA

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PAGES: c. 502
AUDIENCE: Materials Scientists and Engineers
BIC CODES: TTB, TGM
THEMA CLASSIFICATION: THEMATTB; THEMATGM

Comprehensive reference on applications-specific research directions of on-chip photonics including principles, materials, and methods to enable commercial translation

A Volume in the *Nanophotonics* Series

KEY FEATURES

- Introduces advanced concepts of passive and active on-chip photonic components
- Discusses emerging applications of on-chip photonics, quantum technologies, computing, and more
- Reviews materials, computational tools, and suggestions for the realization of on-chip photonic devices

DESCRIPTION

On-Chip Photonics: Principles, Technology and Applications reviews the advances of integrated photonic devices and their demonstrated applications. The discussed applications encompass a wide range of cutting-edge technologies, including quantum photonics, lasers on a chip, mid-infrared and overtone spectroscopies, all-optical processing on a chip, logic gates on a chip, and cryptography on a chip. The summaries in the book chapters facilitate an understanding of the field and enable the application of optical waveguides in a variety of optical systems. Overviews of computational tools, material platforms, and suggestions for the realization of on-chip photonic devices are also included

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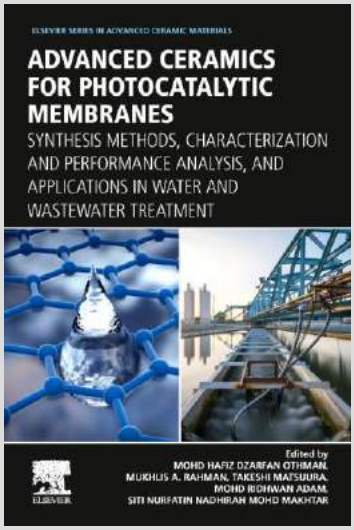

Advanced Ceramics for Photocatalytic Membranes

Synthesis Methods, Characterization and Performance Analysis, and Applications in Water and Wastewater Treatment

Edited by : **Mohd Hafiz Dzarfan Othman**, PhD, Department of Energy Engineering, Faculty of Chemical and Energy Engineering; and Advanced Membrane Technology Research Centre (AMTEC), Universiti Teknologi Malaysia, Johor, Malaysia; **Mukhlis A. Rahman**, PhD, Faculty of Petroleum and Renewable Energy Engineering, Universiti Teknologi Malaysia, Johor, Malaysia; **Takeshi Matsuura**, Department of Chemical and Biological Engineering, University of Ottawa, Ottawa, ON, Canada;

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AUDIENCE: Academic researchers, industrial R&D working in separation science and membrane technology, materials scientists and engineers, chemists, environmental and chemical engineers working in water treatment, desalination, water purification and other contaminated liquid sources such as sewage, leachates, and oily waters, Membrane fabrication companies, regulators, and postgraduate students
BIC CODES: TDCP, TGM, TDCQ
THEMA CLASSIFICATION: THEMATDPF; THEMATGM; THEMATGMP

Presents a detailed review of recent research on advanced ceramic photocatalytic materials used in membrane processes for water and wastewater treatment

A Volume in the *Elsevier Series on Advanced Ceramic Materials* Series

KEY FEATURES

- Provides a comprehensive review of advanced ceramic materials used in photocatalytic membranes
- Covers synthesis of ceramic membranes via both physical and chemical approaches
- Discusses materials characterization, properties, and performance analysis
- Covers modeling, simulation, and the theory of mass transfer mechanisms
- Features applications in water and wastewater treatment
- Discusses system scale up, economic viability, and cost analysis

DESCRIPTION

Advanced Ceramics for Photocatalytic Membranes: Synthesis Methods, Characterization and Performance Analysis, and Applications in Water and Wastewater Treatment reviews recent research on the application and use of advanced ceramic materials in photocatalytic membrane processes. Sections cover current developments in photocatalytic membrane processes, synthesis and fabrication techniques using either physical or chemical approaches, diverse characterization methods and performance evaluations, and various types of environmental applications. The book is not only limited to the conceptual theory, it also gives a detailed review of recent progress in materials science. Readers will find applications in different disciplines, i.e., chemistry, physics, and mechanics that are critically required in modern science and engineering. This across-the-board briefing on the field is suitable for use as a major reference, as well as a knowledge sharing tool.

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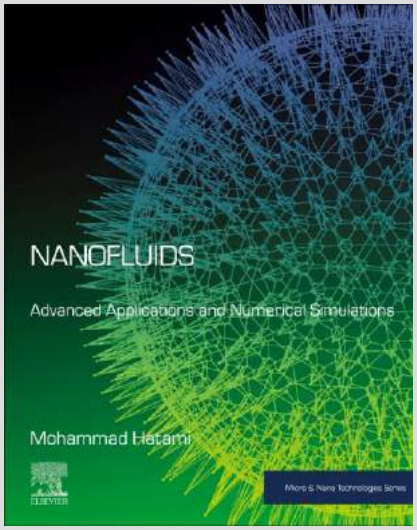

Nanofluids

Advanced Applications and Numerical Simulations

Mohammad Hatami, Associate Professor, Department of Mechanical Engineering, Esfarayen University of Technology, Esfarayen, North Khorasan, Iran

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PAGES: c. 325
AUDIENCE: Researchers and advanced students working in nanofluids, simulation, and numerical methods, and across nanotechnology, biomedicine, electronics, energy, chemistry, materials science, and mechanical engineering, Scientists, engineers, and R&D professionals with an interest in nanofluids, simulation, and numerical methods for advanced applications (electronics, energy, biomedicine, automotive)
BIC CODES: TGM, TJ
THEMA CLASSIFICATION: THEMATGM; THEMATJFD

A complete guide to numerical methods for nanofluid analysis, including a range of applications

A Volume in the *Micro and Nano Technologies* Series

KEY FEATURES

- Presents numerical methods for modelling of nanofluids in details
- Examines stability, magnetic field, electric field, and other effects on behavior and optical properties
- Explores cutting-edge applications of nanofluids by numerical methods

DESCRIPTION

Nanofluids: Advanced Applications and Numerical Simulations combines the mathematical and numerical studies of nanofluids and their application to a range of applications. The book begins by introducing the principles of nanofluids, structures, types, properties, methods and stability. This is followed by a detailed chapter that explains a full range of numerical techniques for the modeling of nanofluids. Subsequent chapters offer in-depth coverage of target areas, including cooling and heating applications, micro-electric and magnetic devices, chemistry and oil recovery, biomedicine, renewable energy, and automotive engineering.

Throughout the book, methods for numerical modelling are described in detail, with supporting equations, techniques, and applied examples. This is a valuable resource for advanced students, scientists, engineers, and R&D professionals working with nanofluids, simulation, and numerical methods for advanced applications, as well as researchers across nanotechnology, biomedicine, electronics, energy, chemistry, materials science and mechanical engineering.

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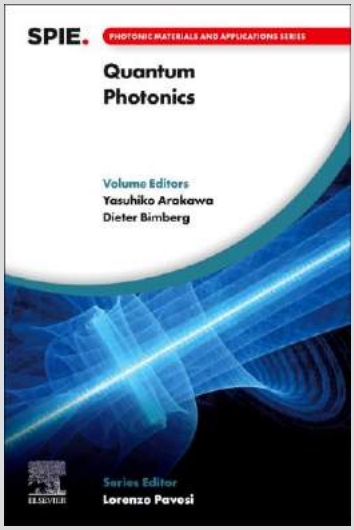

Quantum Photonics

Edited by : **Yasuhiko Arakawa**, Specially Appointed Professor, Institute for Nano Quantum Electronics, The University of Tokyo; Professor Emeritus, The University of Tokyo; Program Director, MEXT Q-LEAP and Supervisor, CREST Quantum Technology and **Dieter Bimberg**, Director, Bimberg Chinese–German Center for Green Photonics, Chinese Academy of Sciences at CIOMP, Changchun and Founding Director, Center of Nano Photonics, TU Berlin, Germany

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AUDIENCE: Materials Scientists and Engineers; Electrical Engineers
BIC CODES: TGM, TJFD, TTB
THEMA CLASSIFICATION: THEMATGM; THEMATJF; THEMATTB

Important introduction to the field of quantum photonics, including physics, materials, devices, and system applications

A Volume in the *Photonic Materials and Applications Series* Series

KEY FEATURES

- Covers the whole quantum photonics field, including nanostructured materials, physics, modelling, and quantum technology applications ranging from applications of q-bit emitters to quantum dot lasers
- Comprehensively and systematically reviews fundamentals and applications of quantum photonics for beginners in the field
- Provides foundational knowledge for modern photonics-related quantum technologies

DESCRIPTION

Quantum Photonics aims to serve as a comprehensive and systematic reference source for entrants to the field of quantum photonics, including updated topics on quantum photonics for researchers working in this field. The book reviews the fundamental knowledge of modern photonics related quantum technologies, key concepts of quantum photonic devices, and quantum photonics applications. The book is suitable for graduate students, researchers, and engineers who want to learn quantum photonics fundamentals.

The editors, who are leaders in this field, have formulated this book as an introduction to the cutting-edge research in quantum photonics. Researchers and students involved in the development of semiconductor optoelectronics and optical communication systems should also find this book helpful.

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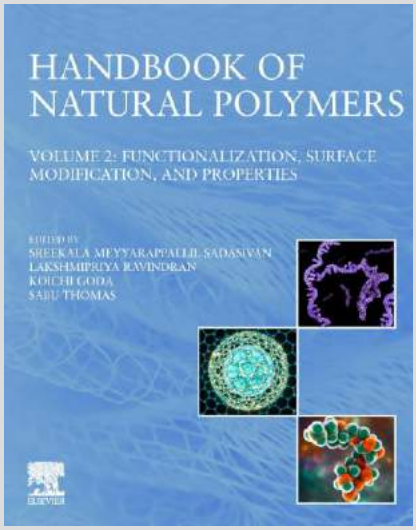

Handbook of Natural Polymers, Volume 2

Functionalization, Surface Modification, and Properties

Edited by : **M.S. Sreekala**, Associate Professor, School of Chemical Sciences, Mahatma Gandhi University, Kottayam, Kerala, India, and Joint Director, International and Inter-University Centre for Nanoscience and Nanotechnology and School of Nanoscience and Technology, Mahatma Gandhi University, Kottayam, Kerala, India; **Lakshmipriya Ravindran**, Assistant Professor, School of Energy Materials, Mahatma Gandhi University, Kottayam, Kerala, India; **Koichi Goda**, Full Professor, Department of Mechanical Engineering, Yamaguchi University, Japan

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AUDIENCE: Researchers, scientists, and advanced students interested in preparation and application of natural polymers, from a range of disciplines including polymer chemistry, polymer physics, surface science, nanotechnology, composite science, materials science, biomedical engineering, environmental science, chemical engineering, and mechanical engineering, Engineers and R&D with an interest in polymers from natural sources, across a range of industries (biomedical, pharmaceutical, packaging, environmental, consumer products, automotive, etc.)
BIC CODES: TDCP, PHFC, TGM, PNR
THEMA CLASSIFICATION: THEMATDCP; THEMATGMP; THEMATDPF; THEMAPHFC; THEMATGM

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A complete guide to functionalization, modification, and properties of natural polymers, highlighting latest techniques and application potential

KEY FEATURES

- Provides systematic coverage of the latest methods for functionalization, surface modification, and properties' analysis of natural polymers
- Includes an extensive range of natural polymer sources, including established biopolymers and emerging materials
- Explores modifications and properties of natural polymers and their related composites, blends, IPNs, gels and nanoparticles

DESCRIPTION

The Handbook of Natural Polymers, Volume Two: Functionalization, Surface Modification, and Properties covers modifications, functionalization, analysis and properties of polymers from natural sources. The book begins by introducing the current state-of-the-art, challenges and opportunities in natural polymers. This is followed by detailed coverage of methods for chemical, physical and surface modifications, and functionalization of natural polymers, including nanocellulose composites, gluten, chitin, alginate, pectin, keratin, shellac, wool, hemicellulose, lignin, natural rubber, albumin, collagen, gelatin, zein, soya protein, silk fibroin, gutta percha and gum. The final chapters explain several other key aspects, such as microscopical and spectroscopical analysis, mechanical, thermal, and more.

The book aims to offer potential avenues for the preparation, modification, and implementation of advanced natural polymer-based materials with the desired properties for specific applications.

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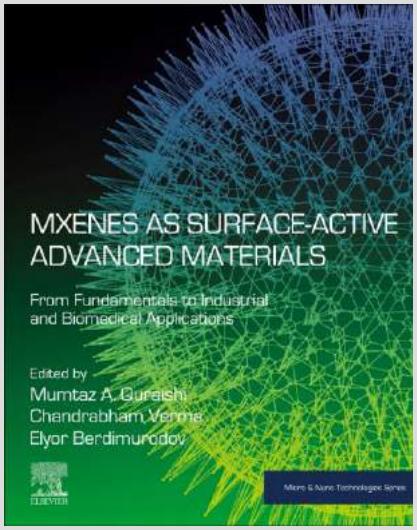

MXenes as Surface-Active Advanced Materials

From Fundamentals to Industrial and Biomedical Applications

Edited by : **Mumtaz A. Quraishi**, Chair Professor, Interdisciplinary Center for Research in Advanced Materials, King Fahd University of Petroleum and Minerals,Dhahran, Saudi Arabia.; **Chandrabhan Verma**, Researcher, Department of Chemical and Petroleum Engineering, Khalifa University, Abu Dhabi, United Arab Emirates and **Elyor Berdimurodov**, Associate Professor, Faculty of Natural Sciences, National University of Uzbekistan, Karshi State University, Faculty of Natural Sciences, Karshi, Uzbekistan.

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AUDIENCE: Material scientists and engineers, academic and industrial researchers in the field of material science, nanotechnology, polymer science, 2D material chemistry, and inorganic chemistry, Professionals in the field of nanotechnology
BIC CODES: TGM, TJ
THEMA CLASSIFICATION: THEMATGM; THEMATJFD

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Explores fundamental aspects related to the surface and interface interaction of MXenes nanostructures and their industrial and biomedical applications

A Volume in the *Micro and Nano Technologies* Series

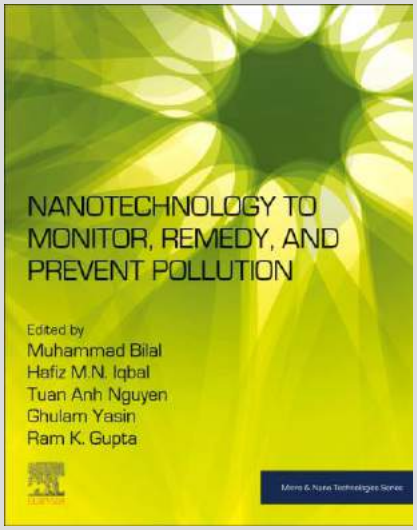
KEY FEATURES

- Discusses fundamental characteristics, properties, synthesis methods, and processing techniques of MXenes
- Provides state-of–the-art information on the most recent advances, including theoretical and experimental studies and new applications
- Includes recent studies concerning surface chemistry and surface interaction of MXenes with different materials

DESCRIPTION

MXenes as Surface-Active Advanced Materials: From Fundamentals to Industrial and Biomedical Applications covers numerous aspects of the basic science and applications of MXenes, including synthesis, classification, structure, and properties, as well as applications in gas storage and separation, environment and catalysis, tribology, biomedicine, and more. The book focuses on the characterization, synthesis and properties of MXenes, including surface/interface chemistry properties and metal- MXenes interaction. Other sections illustrate the current and potential applications of these nanomaterials within industry and biomedicine. These include a through discussion of surface chemistry and surface interaction of MXenes with different materials, along with current and future applications.

This book provides a complete exploration of surface and interface applications of MXenes, highlighting established research and future perspectives, and is a valuable resource to scientists and professionals in the field of material science, nanotechnology, and 2D material chemistry.



Nanotechnology to Monitor, Remedy, and Prevent Pollution

Edited by : **Muhammad Bilal**, Associate Professor, Department of Sanitary Engineering, Faculty of Civil and Environmental Engineering, Gdańsk University of Technology, Gdańsk, Poland; **Hafiz M. N. Iqbal**, Research Professor, School of Engineering and Sciences, Tecnológico de Monterrey, Mexico; **Ram K. Gupta**, Professor, Department of Chemistry, Kansas Polymer Research Center, Pittsburg State University, Pittsburg, KS, USA; **Tuan Anh Nguyen**, PhD, Senior Principal Research Scientist, Institute for Tropical Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam and **Ghulam Yasin**, Researcher, School of Environment and Civil Engineering, Dongguan University of Technology, Guangdong, China

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AUDIENCE: Academics and researchers, undergraduate and postgraduate students of programs/courses on environmental engineering for sustainability, environmental sciences (including ecology and conservation, green chemistry, plant science, zoology, mineralogy, oceanography, limnology, soil science, geology, physical geography, and atmospheric science), biotechnology/biomaterials and nanotechnology/nanomaterials.
BIC CODES: TGM, RN, TJ
THEMA CLASSIFICATION: THEMATQ; THEMATJFD; THEMATGM

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An essential reference text on the latest developments in nanoremediation technologies and materials

A Volume in the *Micro and Nano Technologies* Series

KEY FEATURES

- Comprehensively presents applications of state-of-the-art nanotechnologies and nanomaterials for control, prevention, and removal of persistent air, water, and soil pollutants.
- Provides a new benchmark for pros and cons of established processes for nano remediation, revealing the importance of such research beyond national boundaries and policies.
- Classifies noise as a contaminant and discusses how its real impacts on human and animal life can be limited through impedance-matching nanotechnology.

DESCRIPTION

For decades an increasingly rapid urbanization pace, modern industrial development, and constantly intensive agricultural practices have caused controlled or uncontrolled release of hazardous contaminants that seriously threaten our environment. All natural spheres (atmosphere, hydrosphere, biosphere, lithosphere, and anthroposphere) seem to have been exposed to harmful practices and emerging research in nanomaterials is now trying to combat their adverse impact on physical ecosystems and organisms, as well as human health. In this context, pollution remediation at the nanoscale has come to the forefront for its potential to unlock sustainable, highly efficient, and cost-effective technologies, capable to restore in situ or ex situ land, water, and air resources.

Nanotechnology to Monitor, Remedy, and Prevent Pollution covers design, fabrication, and extensive applications of engineered nanostructured materials in various shapes and morphologies (such as nanoparticles, wires, tubes, fibres) that, because of their size, surface-to-volume ratio, and high reactivity, function as catalysts and adsorbents of organic pollutants (aliphatic and aromatic hydrocarbons), gases, chemicals (arsenic, manganese, iron, nitrate, heavy metals), antibiotics, and biological entities (bacteria, viruses, parasites). Their integration with biotechnological processes for monitoring and prevention of pollution is also explored alongside the invisible dangers caused by noise.

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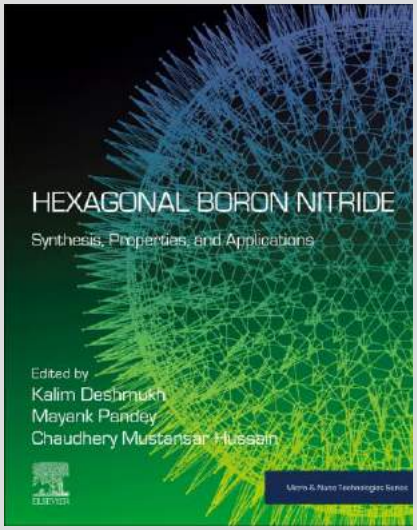

Hexagonal Boron Nitride

Synthesis, Properties, and Applications

Edited by : **Kalim Deshmukh**, Senior Researcher, New Technologies - Research Centre, University of West Bohemia, Czech Republic; **Mayank Pandey**, Department of Electronics, Kristu Jayanti College (Autonomous), Bangalore, Karnataka, India and **Chaudhery Mustansar Hussain**, PhD, New Jersey Institute of Technology, Newark, NJ, USA

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AUDIENCE: Academia: Researchers and advanced students across nanotechnology, materials science, chemistry, environmental science, chemical engineering, biomedicine, electronics, and engineering. Industry: Scientists, engineers, and R&D professionals with an interest in advanced 2D materials or nanomaterials for various applications (electronics, biomedicine, environment, energy storage, sensing, etc.).
BIC CODES: TGM, TJ
THEMA CLASSIFICATION: THEMATGM; THEMATJFD

A thorough guide to hexagonal boron nitride, from fundamentals to preparation methods and advanced applications

A Volume in the *Micro and Nano Technologies* Series

KEY FEATURES

- Presents the synthesis, properties, functionalization, and characterization methods for hexagonal boron nitride
- Explores novel applications across biomedicine, electronics, energy storage, and water treatment
- Addresses key challenges, such as biocompatibility, toxicity, and environmental and health impact

DESCRIPTION

Hexagonal Boron Nitride: Synthesis, Properties, and Applications offers a comprehensive approach to hexagonal boron nitride (h-BN), covering synthesis, exfoliation, properties, characterization, functionalization, heterostructures, nanocomposites, and modelling and simulation, and guiding the reader towards advanced applications in biomedicine, electronics, energy storage, wastewater treatment, and other areas. The book begins by introducing hexagonal boron nitride, discussing classification, structure, synthesis methods, exfoliation, and functionalization techniques. This is followed by in-depth coverage of properties and characterization, as well as heterostructures and other two-dimensional materials and nanocomposites.

The fourth section of the book examines specific target applications, covering a range of cutting-edge areas including micro- and nano-electronics, anti-friction and anti-corrosive coatings, bone tissue engineering, wound healing, nanomedicine, drug delivery, catalysis, water treatment, energy storage and conversion, sensing and bio-sensing, and fire-retardant applications. Finally, computational modelling and simulation, and environmental aspects, are addressed in detail.

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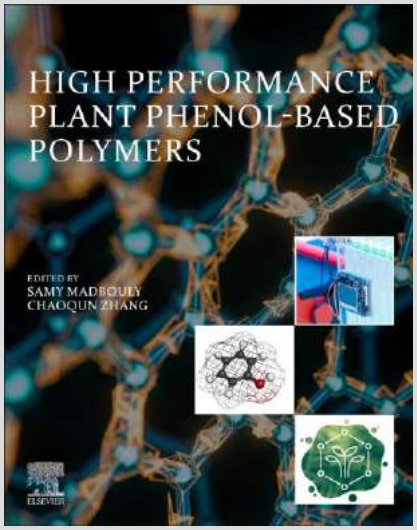

High Performance Plant Phenol-Based Polymers

Edited by : **Samy Madbouly**, Pacific Northwest National Laboratory, Richland, WA, USA. and **Chaoqun Zhang**, College of Materials and Energy, South China Agricultural University, Guangzhou, China

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PAGES: c. 465
AUDIENCE: Academia: Researchers and advanced students across polymer science, composite science, chemistry, materials science, biotechnology, and engineering. Industry: Engineers, scientists, and R&D professionals with an interest in advanced bio-based polymers and sustainable materials.
BIC CODES: TDCP, TGM, PNR
THEMA CLASSIFICATION: THEMATDCP; THEMATGMP; THEMATDPF; THEMATGM

A cutting-edge guide to plant phenol-based polymers, including fundamentals, preparation methods, and applications

KEY FEATURES

- Reviews the current state-of-the-art in phenol-based polymers, composites, and nanocomposites
- Guides the reader through the preparation of a range of advanced polymers based on plant phenols
- Provides a critical review of current applications in various fields, such biomedicine and automotive

DESCRIPTION

High Performance Plant Phenol-Based Polymers brings together the latest advances in phenol-based polymers, composites, and nanocomposites, covering synthesis, preparation, characterization, processing, and applications.

Bio-renewable plant phenols represent a diverse class of chemicals with great industrial significance due to their unique structures and high abundance. The depolymerization process of lignin into small bio-based phenols is a relatively new approach and has received considerable attention recently.

This process produces key intermediates, phenolic compounds that can be used to develop and design a wide range of high-performance, bio-renewable, and multifunctional polymers and composites.

This book will provide materials scientists and engineers with a useful framework to help take advantage of the latest research conducted in this rapidly advancing field, enabling them to develop and commercialize their own products quickly and more successfully. The book will be of practical interest to academic researchers, industrial scientists, engineers, and advanced students in the area of materials science and engineering, particularly those with an interest in high-performance bio-based polymers and composites.

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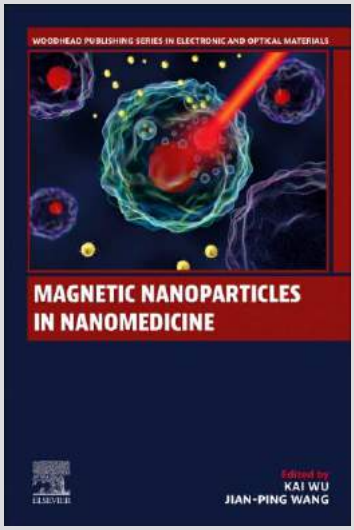

Magnetic Nanoparticles in Nanomedicine

Edited by : **Kai Wu**, Assistant Professor, Texas Tech University, Department of Electrical and Computer Engineering, USA and **Jian-Ping Wang**, University of Minnesota, USA

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AUDIENCE: Researchers working in the areas of magnetic materials and biomedical applications. Senior undergraduates and graduate students in Electrical Engineering, Materials Science, Biomedical Engineering, Chemical Engineering, Engineers working in the industry of magnetic nanomaterials, Clinicians working in magnetic therapy and magnetic diagnosis
BIC CODES: PHK, TGM, MQW, MBG
THEMA CLASSIFICATION: THEMATGM; THEMAPHK; THEMAMQW; THEMAMBG; THEMATCB

Explores the most recent advances in the medical use of magnetic nanoparticles

A Volume in the *Woodhead Publishing Series in Electronic and Optical Materials* Series

KEY FEATURES

- Provides a valuable tool for academics and clinicians, pushing the frontiers of magnetic-based early-stage disease diagnosis and screening
- Clearly explains the synthesis, functionalization, and biocompatibility of magnetic nanoparticles
- Describes micromagnetic simulation, a valuable tool for predicting the properties of magnetic nanomaterials

DESCRIPTION

Magnetic Nanoparticles in Nanomedicine provides readers with the fundamental theories and principles of magnetic materials, the synthesis and surface functionalization strategies of MNPs, and the standard techniques for characterizing physicochemical properties of MNPs. Other sections review MNP-based therapies such as magnetic hyperthermia therapy, drug/gene delivery, and magnetic neurostimulation and cover MNP-based in vitro and in vivo disease diagnosis, respectively, including techniques such as magnetoresistive (MR), nuclear magnetic resonance (NMR), magnetic particle spectroscopy (MPS) biosensing platforms, magnetic resonance imaging (MRI), and magnetic particle imaging (MPI).

Final chapters address biocompatibility and safety issues in applying MNPs to in vivo biomedical applications, including coverage of the toxicity of MNPs to human tissues, the immune responses of the human body to these particles, as well as blood circulation time of MNPs.

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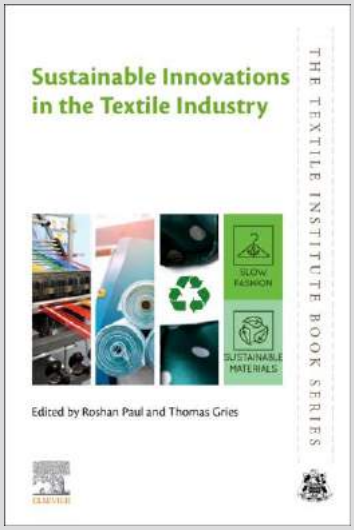

Sustainable Innovations in the Textile Industry

Edited by : **Roshan Paul**, RWTH Aachen University, Germany. Functional finishing, smart coatings, eco-friendly colouration, denim and jeans, personal protective equipment, technical textiles, effluent treatment, sustainability, biotransformation, bioeconomy, circular economy. and **Thomas Gries**, RWTH Aachen University, Germany. Textile innovation, digitalisation, sustainability, biotransformation, decarbonisation, textile recycling, circular economy, bioeconomy, and energy and material efficiency.

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AUDIENCE: Academics and researchers with an interest in textile sustainability, and professionals working in textile and related industries.
BIC CODES: TGM
THEMA CLASSIFICATION: THEMATGM

Addresses advances taking place at every stage of the textile supply chain that are leading to improvements in sustainability and resource efficiency

A Volume in the *The Textile Institute Book Series* Series

KEY FEATURES

- Emphasizes innovative production technologies, the biotransformation of the textile industry, the circular economy, recycling, and the green future of textiles
- Addresses sustainability in business and logistics, explaining how these functions influence the environmental impact of other stages of the value chain
- Provides a guide to the eco-labels and assessment methods used by industry

DESCRIPTION

Sustainable Innovations in the Textile Industry addresses advances taking place at every stage of the textile value chain that are leading to improvements in sustainability and resource efficiency. It contains comprehensive coverage of the complete textile process sequence, including fiber to textile manufacture and wet processing techniques, such as dyeing, printing, finishing, coating and cleaning. In addition, it also provides the latest industry knowledge on technological advances in textile machinery, supply chain, recycling, effluent discharge, and other innovations that enhance sustainability. This holistic approach is required to effectively address the sustainability issue, which requires action across the value chain.

Having included historical aspects of sustainability in textiles as well as the state of the art in innovative fibers, chemicals and manufacturing processes, this book is essential reading for anyone interested in sustainable directions in the textile industry.

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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.

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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

A Volume in the *The Textile Institute Book Series* Series

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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