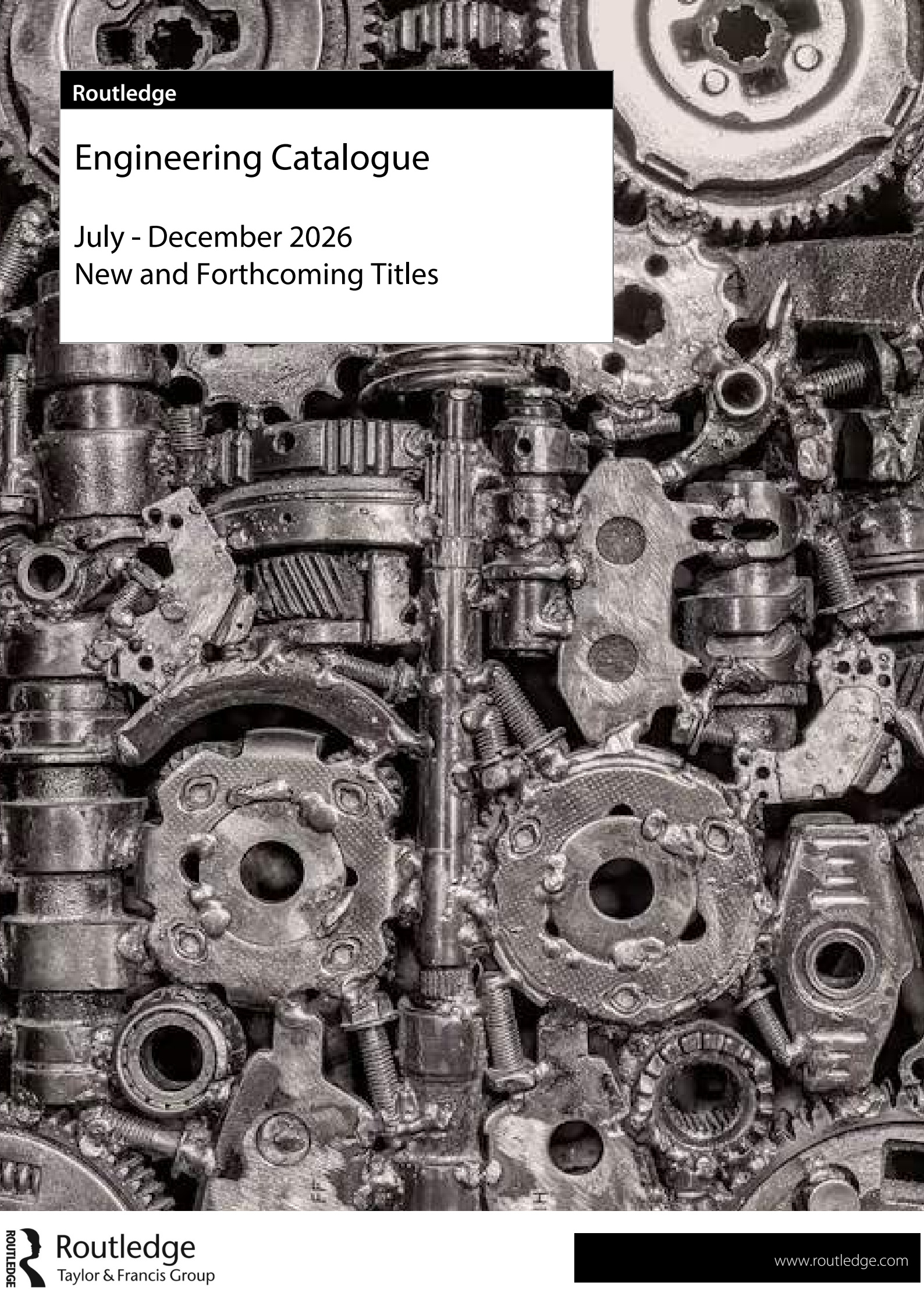




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A Hands-On Introduction to SOLIDWORKS 2026

Text and Video Instruction



Kirstie Plantenberg

Specifically written for those who are new to SOLIDWORKS, A Hands-On Introduction to SOLIDWORKS 2026 allows you to learn as you follow an expert in SOLIDWORKS through the basics of the software to its more in-depth capabilities. This book works perfectly for a freshman design class or as a companion text to an engineering graphics textbook.

SDC Publications

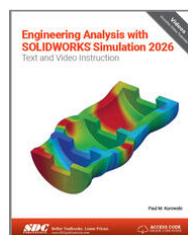
May 2026 : 550pp

Pb: 978-1-630-57769-8 : £77.99

* For full contents and more information, visit: www.routledge.com/9781630577698

Engineering Analysis with SOLIDWORKS Simulation 2026

Text and Video Instruction



Paul Kurowski

Engineering Analysis with SOLIDWORKS Simulation 2026 goes beyond the standard software manual. Its unique approach concurrently introduces you to the SOLIDWORKS Simulation 2026 software and the fundamentals of Finite Element Analysis (FEA) through hands-on exercises. A number of projects are presented using commonly used parts to illustrate the analysis features of SOLIDWORKS Simulation. Each chapter is designed to build on the skills, experiences and understanding gained from the previous chapters.

SDC Publications

May 2026 : 600pp

Pb: 978-1-630-57779-7 : £77.99

* For full contents and more information, visit: www.routledge.com/9781630577797

Design Workbook Using SOLIDWORKS 2026

Design, Detailing, Assembly & Analysis Basics



Ronald E. Barr , Davor Juricic , Thomas J. Krueger , Alejandro Reyes

Each copy of this book includes access to video instruction. In these videos the author provides a clear presentation of tutorials found in the book. The videos reinforce the steps described in the book by allowing you to watch the exact steps the author uses to complete the exercises while he provides additional details along the way.

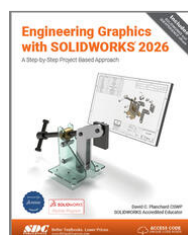
SDC Publications

May 2026 : 250pp

Pb: 978-1-630-57781-0 : £66.99

* For full contents and more information, visit: www.routledge.com/9781630577810

Engineering Graphics with SOLIDWORKS 2026



David C. Planchard

Engineering Graphics with SOLIDWORKS 2026 is the ultimate guide for students, designers, engineers, and professionals who want to master SOLIDWORKS. With a focus on combining the fundamentals of engineering graphics and dimensioning practices with a hands-on, project-based approach, this book takes you on a journey through 11 comprehensive chapters.

SDC Publications

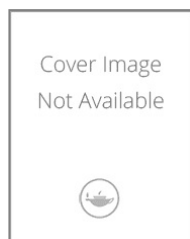
May 2026 : 600pp

Pb: 978-1-630-57765-0 : £73.99

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Designing with SOLIDWORKS 2026

Designing with SOLIDWORKS 2026



Michael J. Rider

Learning SOLIDWORKS through this textbook is not just about mastering a software tool; it's about embracing the future of digital design and engineering. As industries increasingly rely on digital design and virtual simulations, proficiency in SOLIDWORKS equips you with the skills needed to thrive in a rapidly evolving job market.

SDC Publications

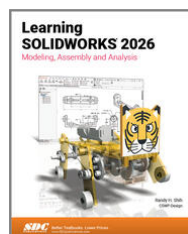
May 2026 : 400pp

Pb: 978-1-630-57792-6 : £68.99

* For full contents and more information, visit: www.routledge.com/9781630577926

Learning SOLIDWORKS 2026

Modeling, Assembly and Analysis



Randy H. Shih

This book will teach you everything you need to know to start using SOLIDWORKS 2026 with easy to understand, step-by-step tutorials. This book features a simple robot design used as a project throughout the book. You will learn to model parts, create assemblies, run simulations and even create animations of your robot design.

SDC Publications

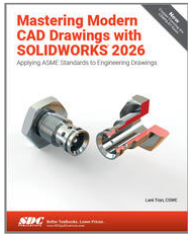
May 2026 : 550pp

Pb: 978-1-630-57766-7 : £69.99

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Mastering Modern CAD Drawings with SOLIDWORKS 2026

Applying ASME Standards to Engineering Drawings



Lani Tran

Mastering Modern CAD Drawings with SOLIDWORKS 2026 provides new and more experienced users with the perfect blend of preparation and plenty of practice to build their skills. Clearly explained theory and techniques help you create 2D drawings and engineering graphics for a variety of parts, meaning you will never have to ask why you are completing a step. Designed as an efficient tool for busy, visually oriented learners, this book offers excellent technical detail and motivating real-world examples, focusing on the latest standards, materials, industries and production processes.

SDC Publications

May 2026 : 500pp

Pb: 978-1-630-57786-5 : £68.99

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Official Certified SOLIDWORKS Professional Certification Guide

SOLIDWORKS 2023 - 2027



David C. Planchard

This book will provide you with a wealth of information about the three segments of the CSWP CORE exam. The intended audience for this book is a person who has passed the CSWA exam and who has eight or more months of SOLIDWORKS training and usage. The intended audience for this book and the CSWP exam is a person who has passed the CSWA exam and who has eight or more months of SOLIDWORKS training and usage. However, passing the CSWA exam is not a prerequisite for taking the CSWP exam if you are a commercial user in industry. For students that take the CSWP exam through their school, you must first pass the CSWA exam

SDC Publications

May 2026 : 200pp

Pb: 978-1-630-57768-1 : £58.99

* For full contents and more information, visit: www.routledge.com/9781630577681

Parametric Modeling with SOLIDWORKS 2026

Parametric Modeling with SOLIDWORKS 2026



Paul J. Schilling , Randy H. Shih

This book also introduces you to the general principles of 3D printing including a brief history of 3D printing, the types of 3D printing technologies, commonly used filaments, and the basic procedure for printing a 3D model. 3D printing makes it easier than ever for anyone to start turning their designs into physical objects and by the end of this book you will be ready to start printing out your own designs.

SDC Publications

June 2026 : 600pp

Pb: 978-1-630-57776-6 : £73.99

* For full contents and more information, visit: www.routledge.com/9781630577766

SOLIDWORKS 2026 Quick Start



David C. Planchard

The perfect companion for anyone who wants to learn SOLIDWORKS quickly and effectively, SOLIDWORKS 2026 Quick Start acquaints you with the basics of SOLIDWORKS 3D CAD software in five easy lessons. This book is ideal for students, designers and engineers who want to jump into SOLIDWORKS, unleash their creativity and take their design skills to the next level today. Written by an experienced SOLIDWORKS instructor, SOLIDWORKS 2026 Quick Start is packed with tips and tricks that help new users streamline their design modeling process to make it efficient and organized.

SDC Publications

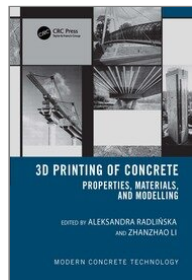
May 2026 : 250pp

Pb: 978-1-630-57778-0 : £57.99

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3D Printing of Concrete

Properties, Materials, and Modelling



Edited by **Aleksandra Radlińska** Pennsylvania State University, USA, **Zhanzhao Li** Pennsylvania State University, USA

Series: *Modern Concrete Technology*

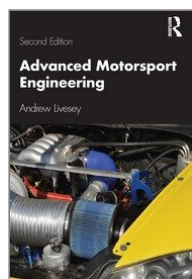
3D printing of concrete offers digital, automated construction on Earth and beyond, with the challenges of applicability and robustness. Leading figures from the concrete community worldwide review the state-of-the-art from properties, materials, and modeling perspectives, with case studies of practical implementation in the construction industry. It gives an overview of fresh and hardened properties of 3D printed concrete as well as a discussion on existing reinforcement strategies; it discusses advanced 3D printable materials and mixture proportioning; it outlines the pros and cons, including the problems of constructability; and it describes innovative modelling technologies.

CRC Press
August 2026 : 600pp
Hb: 978-1-032-54898-2 : £120

* For full contents and more information, visit: www.routledge.com/9781032548982

2ND EDITION

Advanced Motorsport Engineering



Andrew Livesey

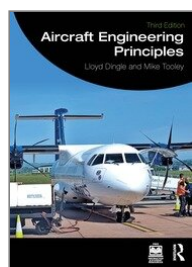
Are you training as a technician, just starting a motorsport degree training as a technician, just starting a motorsport degree? Andrew is a practicing lecturer and motorsport engineer who has trained race engineers who are working for the major motorsport teams, including McLaren and Ferrari, and their supply chains. There are hundreds of different types of jobs in motorsport, this book will help you understand both the technology and the terminology so that you can progress your career quickly, using IMI or EAL qualifications at Level 3. This book is a follow on to Basic Motorsport Engineering, also written by Andrew.

Routledge
June 2026 : 214pp
Pb: 978-1-032-84125-0 : £52.99
Hb: 978-1-032-84734-4 : £130
eBook: 978-1-003-51469-5

* For full contents and more information, visit: www.routledge.com/9781032841250

3RD EDITION

Aircraft Engineering Principles



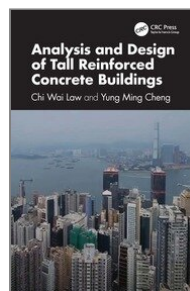
Lloyd Dingle, Mike Tooley Brooklands College, UK

This covers the essential mathematics, electrical, mechanical, physical principles and aerodynamics for students to licensed maintenance engineer status, especially Modules 1, 2, 3, 4, 8 and 11.1 of JAR-66/ECAR-66 and courses for aircraft maintenance certification such as JAR-147/ECAR-147 and FAR-147. Now with electrical power supplies and distribution systems and more on flight aerodynamics. It also suits year 1 aerospace engineering undergraduates and professionals in aircraft manufacturing and operation. Numerous written and multiple-choice question papers are provided at the end of each chapter, and interactive question papers are provided in the eBook+ version of the book.

Routledge
September 2026 : 872pp
Pb: 978-1-032-93666-6 : £54.99
Hb: 978-1-032-94094-6 : £150

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Analysis and Design of Tall Reinforced Concrete Buildings



Chi Wai Law, Yun Ming Cheng

More and taller buildings are being designed and built. These are complex and expensive structures and they can be constructed in varied ground conditions, from good to poor soil and rock. Most existing general books generally cover the basic structural analysis and design principles, and the modelling of structures and foundations for the actual design practice required by engineers tends to be adequately addressed only in narrower and more specialised books. This draws on the authors' extensive practical and research experience to bridge the basic design principles with engineering practice, while remaining rooted in fundamental principles.

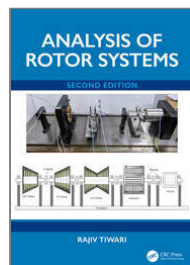
CRC Press
June 2026 : 440pp
Hb: 978-1-041-06596-8 : £170

* For full contents and more information, visit: www.routledge.com/9781041065968

2ND EDITION

Analysis of Rotor Systems

Volume 1



Rajiv Tiwari Department of Mechanical Engineering, Indian Institute of Technology, Guwahati, India

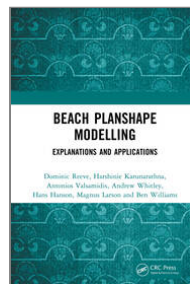
First volume of second edition of Rotor Systems book covers the analysis of simple rotors including rotor dynamic phenomena, gyroscopic effects and instabilities with the help of simple rotor-bearing models. It is biased towards the FEM analysis of complex rotors, both for torsional and transverse vibrations including transfer matrix method. Instabilities of the rotor system is covered for simple as well as complex rotor system considering bearings, seals, internal damping, unsymmetrical shaft stiffness and unsymmetrical rotor inertia. This book is aimed at senior undergraduate/graduate students in mechanical engineering, rotordynamics, and rotating machinery/turbomachinery.

CRC Press
September 2026 : 1016pp
Hb: 978-1-041-10355-4 : £175

* For full contents and more information, visit: www.routledge.com/9781041103554

Beach Planshape Modelling

Explanations and Applications



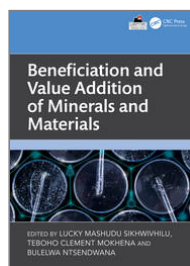
Dominic Reeve, Harshinie Karunaratna, Antonios Valsamidis, Andrew Whitley, Hans Hanson, Magnus Larson, Ben Williams

This book summarises of the theory, solution methods and applications of what has become known as the 1-line beach model whereby changes in the planform shape of a beach can be described by the movement of a single height contour. The book covers the underlying theory; analytical solutions to the equations for restricted cases; semi-analytical methods for less restricted cases; computational methods for more general situations; applications to specific sites with a focus on 'tricks of the trade' to allow complicated cases to be modelled; extensions of the 1-line method to find parameters from observations; and a discussion of uncertainties in the results of predictions.

CRC Press
November 2026 : 264pp
Hb: 978-1-032-77834-1 : £175

* For full contents and more information, visit: www.routledge.com/9781032778341

Beneficiation and Value Addition of Minerals and Materials



Edited by **Lucky Mashudu Sikhwivhilu, Teboho Clement Mokheba, Bulelwa Ntsendwana**

This book provides insights into integrated and novel processes and technologies for mineral extraction, as well as sampling methods used to determine the composition and properties of processed materials. It also evaluates waste recovery and remediation methods within the context of South African mining activities. Furthermore, the book focuses on the beneficiation and utilization of extracted minerals as bulk materials and/or engineered nanomaterials with a wide range of properties for the development of new and nano-enabled technologies, including the evaluation of their toxicity.

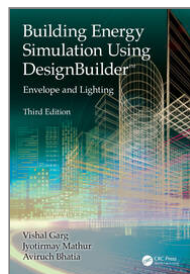
CRC Press
September 2026 : 488pp
Hb: 978-1-032-99409-3 : £160

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Building Energy Simulation Using DesignBuilder™

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Vishal Garg IIIT, Hyderabad, Telangana, India, **Jyotirmay Mathur** MNIT, Jaipur, Rajasthan, India, **Aviruch Bhatia** IIIT, Hyderabad, Telangana, India

This book explains the key concepts of energy simulations, build simulation models and use of these models to integrate daylight and energy efficiency in their building designs. It covers the key concepts of energy simulation, construction of the building with respect to geometry and materials used, simulating the features of a building façade to optimize daylight and energy efficiency followed by energy code compliance and the integration of life cycle analysis (LCA) into the design process. It is aimed at students, researchers in building energy (simulation)/building design courses, energy simulation professionals, architects and so forth.

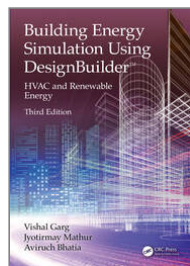
CRC Press
October 2026 : 304pp
Pb: 978-1-032-89601-4 : £120
Hb: 978-1-032-91385-8 : £275

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Building Energy Simulation Using DesignBuilder™

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This book focuses on HVAC and photovoltaics as a medium to improve energy efficiency and energy generation, respectively. It covers heating and cooling design including simulating different types of HVACs from the lens of energy efficiency, and evaluation of the impact of photovoltaics for energy generation. It elaborates upon the cost-benefit analysis, sensitivity assessments, addressing uncertainties for different building components, building energy code compliance for HVAC systems. It also features simulation project case studies. It is aimed at students, researchers in building energy (simulation)/building design courses, energy simulation professionals, architects and so forth.

CRC Press
October 2026 : 320pp
Pb: 978-1-032-90875-5 : £120
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Building Energy Simulation Using DesignBuilder™



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This book explains the key concepts of energy simulations, build simulation models and use of these models to integrate daylight and energy efficiency in their building designs. It covers the key concepts of energy simulation, construction of the building with respect to geometry and materials used. It explains HVAC and photovoltaics as a medium to improve energy efficiency and energy generation, respectively. It covers heating and cooling design including simulating different types of HVACs and impact of photovoltaics for energy generation. It is aimed at students, researchers in building energy building design courses, energy simulation professionals, architects and so forth.

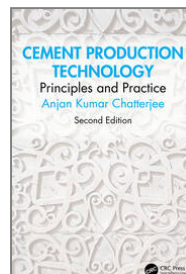
CRC Press
October 2026 : 624pp
Pb: 978-1-032-90110-7 : £175
Hb: 978-1-032-91389-6 : £310

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2ND EDITION

Cement Production Technology

Principles and Practice



Anjan Kumar Chatterjee

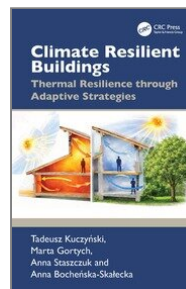
This comprehensive guide covers the complete cement production process—from raw material extraction to finished products.

CRC Press
May 2026 : 506pp
Hb: 978-1-032-89984-8 : £170
eBook: 978-1-003-56300-6

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Climate Resilient Buildings

Thermal Resilience through Adaptive Strategies



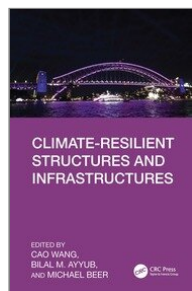
Tadeusz Kuczyński, Marta Gortych, Anna Staszczuk, Anna Bocheńska-Skałicka

Climate Resilient Buildings: Thermal Resilience through Adaptive Strategies explores the urgent need for a paradigm shift in architectural design to address the growing challenges posed by climate change and energy instability. The book emphasizes the importance of thermal resilience, which involves designing buildings that maintain safe indoor conditions during extreme heat, cold, humidity, and power outages.

CRC Press
August 2026 : 456pp
Hb: 978-1-041-32049-4 : £170

* For full contents and more information, visit: www.routledge.com/9781041320494

Climate-Resilient Structures and Infrastructures



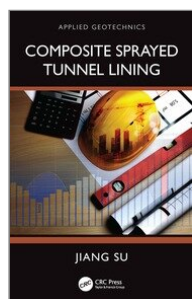
Edited by **Cao Wang**, **Bilal M. Ayyub**, **Michael Beer**

As safety and serviceability of in-service structures and infrastructure systems are threatened by natural hazards. Owners and decision makers are especially concerned about their resilience -- their ability to be in readiness for, to absorb, recover from, and adapt to disruptive events. Climate change is increasingly producing nonstationary natural hazards such as wind hazards, and concurrent multiple hazards may result in especially severe performance reduction. This book focuses on hazard modelling and resilience methods, and their applications, presenting the theory, methodology, and practical applications to enhancing resilience for engineers, policy makers, and researchers.

CRC Press
May 2026 : 392pp
Hb: 978-1-032-93601-7 : **£96.99**
eBook: 978-1-003-56733-2

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Composite Sprayed Tunnel Lining



Jiang Su

Series: Applied Geotechnics

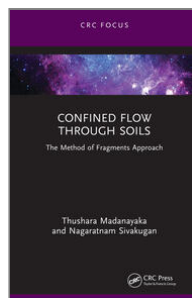
This guide for practising tunnelling engineers sets out the state of the art of composite sprayed concrete lined tunnels covering the full process of design, materials specification, analysis, instrumentation and monitoring, and construction with a sprayed waterproofing membrane in soft ground. Illustrated with worked examples, it considers the construction method, choice of waterproofing membrane, and representation of the construction sequence. Particular focus is on the primary-secondary lining interaction with different types of waterproofing systems, such as sprayed waterproofing and direct concrete-to-concrete contact.

CRC Press
September 2026 : 408pp
Hb: 978-1-032-93603-1 : **£79.99**

* For full contents and more information, visit: www.routledge.com/9781032936031

Confined Flow Through Soils

The Method of Fragments Approach



Thushara Madanayaka James Cook University, Australia,
Nagaratnam Sivakugan James Cook University,
Queensland, Australia

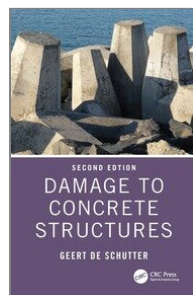
Offers a simple seepage solution method for practising geotechnical engineers. Outlining the background and fundamentals of seepage analysis, this book covers the method of fragments (MoF) for problems in the Cartesian plane, and extends this from plane flow to axisymmetric problems. Guidance is given on the implementation of MoF in a spreadsheet for determining flow rates and exit hydraulic gradients. The findings have been validated extensively using numerical models and laboratory models. This book suits practising engineers, hydrologists and researchers needing simple methods to compute flow rates and exit hydraulic gradients in seepage problems, especially cofferdams.

CRC Press
May 2026 : 142pp
Hb: 978-1-138-49592-0 : **£50**
eBook: 978-1-351-02302-3

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2ND EDITION

Damage to Concrete Structures



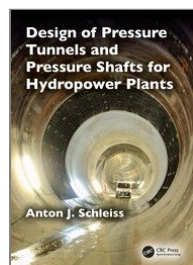
Geert De Schutter Ghent University, Belgium

Concrete can suffer from inappropriate design, errors during execution, mechanisms occurring during hardening, and actions or degradation mechanisms such as reinforcement corrosion, attacks on cement matrix and even aggregate deterioration. This revised textbook for students and reference for professionals now gives more on performance based approaches for durability design, rather than just a descriptive approach, and some focus on sustainability. A new chapter describes the risks related to valorization of secondary or waste materials in concrete. It is illustrated with numerous real-world examples and many drawings and photographs taken of actual structures.

CRC Press
May 2026 : 244pp
Pb: 978-1-032-91181-6 : **£62.99**
Hb: 978-1-032-91212-7 : **£96.99**

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Design of Pressure Tunnels and Pressure Shafts for Hydropower Plants



Anton Schleiss Swiss Federal Institute of Technology
Lausanne (EPFL)

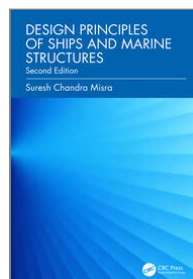
Pressure tunnels and shafts are essential for hydropower plants, and their cost and linings is significant. This outlines the design basis, including rock hydraulics, then details the need and use of various types of linings. Pervious linings are often the most economical solution, but seepage forces in the lining and the rock mass result in hydraulic-mechanical interactions. In tight linings, the use of high-grade steels facilitates very high heads at storage level and pumped storage powerplant projects, but these require new risk-based design approaches. It covers design criteria and calculation methods, including safety assessment.

CRC Press
May 2026 : 460pp
Hb: 978-1-032-12284-7 : **£170**
eBook: 978-1-003-22392-4

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2ND EDITION

Design Principles of Ships and Marine Structures



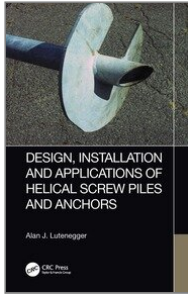
Suresh Chandra Misra Indian maritime University, India

This book details every facet of ship design and design integration including naval architecture and marine engineering applications and principles relevant to the design of various systems, advanced numerical techniques applicable to maritime design procedure at the concept design stage. Second edition of this book discusses related sustainability aspects, high speed computing, handling of big data, data communication and virtual reality. It further includes second generation stability assessment and usage of alternative fuels. This book is aimed at students and design professionals in the field of shipping, shipbuilding and offshore engineering.

CRC Press
August 2026 : 616pp
Hb: 978-1-041-06709-2 : **£170**

* For full contents and more information, visit: www.routledge.com/9781041067092

Design, Installation and Applications of Helical Screw Piles and Anchors



Alan J. Lutenecker University of Massachusetts, Amherst, USA

This book describes the geotechnical design, installation and application of helical anchors and piles in soils to civil engineering practice. A number of design examples and parametric analyses are presented illustrating the procedures for determining the ultimate axial tension and compression capacity of single-helix and multi-helix anchors and piles in clay and sand, illustrating basic design methods. Methods of installation are described and recommendations for installation monitoring are given.

CRC Press
October 2026 : 664pp
Hb: 978-1-032-94890-4 : £170

* For full contents and more information, visit: www.routledge.com/9781032948904

Earth Retaining Structures

Design and Seismic Performance



Luigi Callisto

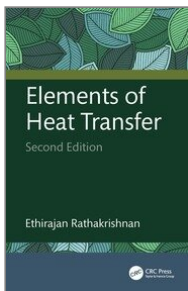
This comprehensive and insightful guide to the analysis and design of earth retaining structures, focuses particularly on seismic loading and soil-structure interaction. It combines principles with practice, and relates the behaviour of earth retaining systems to fundamental soil mechanics and limit states design. The book's innovative and rigorous methods for seismic analysis and application to practical engineering suit increased concern earthquake-resistant geotechnical design. This is primarily a graduate textbook, and also a reference for practising engineers to update and refine their design skills, particularly in relation to seismic performance and modern design standards.

CRC Press
September 2026 : 384pp
Hb: 978-1-041-14844-9 : £89.99

* For full contents and more information, visit: www.routledge.com/9781041148449

2ND EDITION

Elements of Heat Transfer, 2e



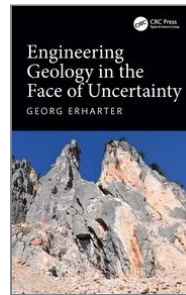
Ethirajan Rathakrishnan

This textbook serves as a comprehensive guide to heat transfer, covering both theoretical and applied aspects for undergraduate and graduate courses. It introduces fundamental principles, thermodynamics, and heat transfer processes, including conduction, convection, radiation, mass transfer, boiling, condensation, and heat exchangers. The second edition adds cryogenics, addressing modern applications like superconductors and space systems.

CRC Press
September 2026 : 536pp
Hb: 978-1-041-23678-8 : £120

* For full contents and more information, visit: www.routledge.com/9781041236788

Engineering Geology in the Face of Uncertainty



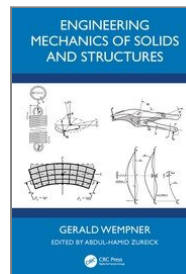
Georg Erharter

Ground engineering deals with geological material of an uncertain nature. Good engineering geology applies geological principles along with practical investigation and interpretation techniques in a project holistic manner. This book moves from the fundamentals of geotechnical engineering and geology to ground-related uncertainty. It covers the range from ground investigation, ground documentation and modeling across the planning and construction phases, illustrated with case studies, and using modern digital tools such as remote sensing, machine learning, parametric modeling or building information modeling. It suits specialist practitioners, students and researchers.

CRC Press
October 2026 : 288pp
Hb: 978-1-041-06601-9 : £130

* For full contents and more information, visit: www.routledge.com/9781041066019

Engineering Mechanics of Solids and Structures



Gerald Wempner Georgia Institute of Technology (retired), Atlanta, USA, **Abdul-Hamid Zureick**

This textbook for advanced students in aerospace, mechanical, and civil engineering sets out the underlying concepts, methods, and theories. As well as giving the Newtonian approach to motion and equilibrium, it offers the Lagrangean criteria of work and energy as the most effective means to formulate finite elements and other discrete approximations. Thorough mathematics demonstrates the limitations of the approximations and provides the tools for more precise analyses. This can then be applied to a broad spectrum of structural and mechanical components – the analysis and design of a dome or a bridge, the hull of a ship or a spacecraft, or the mechanical component of an engine.

CRC Press
June 2026 : 642pp
Hb: 978-1-041-12570-9 : £130
eBook: 978-1-003-66586-1

* For full contents and more information, visit: www.routledge.com/9781041125709

Engineering with Glass



Mithila Achintha University of Manchester, UK

This text covers the design, construction, and maintenance of glass structures for civil and structural engineering and architecture students, and also for building and facade engineers wanting an overview. It presents the full spectrum of engineering topics, from glass as a material, its use, stress analysis and detailed design, and code-based design procedures. It sets out testing, maintenance, and sustainability, and the reuse of construction sector glass products and structures. No prior knowledge of glass structures is required.

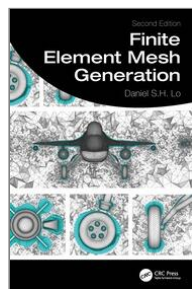
CRC Press
November 2026 : 352pp
Pb: 978-0-367-74135-8 : £69.99

Hb: 978-0-367-74137-2 : £96.99

* For full contents and more information, visit: www.routledge.com/9780367741358

2ND EDITION

Finite Element Mesh Generation, 2e



Daniel S.H. Lo University of Hong Kong

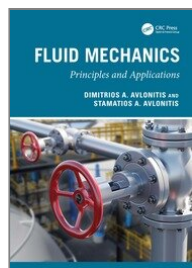
Finite Element Mesh Generation provides a comprehensive guide to the application of finite element mesh generation over 2D domains, curved surfaces, and 3D space. This develops from the basic meshing algorithms to the most advanced schemes to deal with problems with specific requirements such as boundary conformity, adaptive and anisotropic elements, shape qualities, and mesh optimization. It sets out the fundamentals of popular techniques. In this new edition the combination of Delaunay triangulation and the advancing front technique, coupled with parallelization, and the incorporation of AI, give much more powerful and readily available solutions for industrial problems.

CRC Press
October 2026 : 808pp
Hb: 978-1-041-35461-1 : £190

* For full contents and more information, visit: www.routledge.com/9781041354611

Fluid Mechanics

Principles and Applications



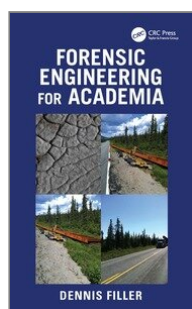
Dimitrios A. Avlonitis, Stamatios A. Avlonitis

Fluid Mechanics: Principles and Applications is an essential resource for engineering students and professionals seeking a clear and accessible introduction to the fundamentals of fluid mechanics. The book emphasizes the systematic transformation of real-world fluid mechanics problems into mathematical models, equipping readers with the tools to solve practical engineering challenges.

CRC Press
November 2026 : 1064pp
Hb: 978-1-041-35139-9 : £115

* For full contents and more information, visit: www.routledge.com/9781041351399

Forensic Engineering for Academia



Dennis Filler

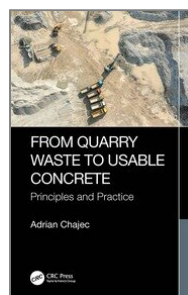
Most engineering curricula lacks forensic engineering content, particularly the role of science in investigation and assessment, engineering failures and cause and effect analysis, and jurisprudence as it relates to engineering. Forensic Engineering for Academia addresses these and other important aspects of forensic engineering education.

CRC Press
September 2026 : 232pp
Hb: 978-1-041-03320-2 : £96.99

* For full contents and more information, visit: www.routledge.com/9781041033202

From Quarry Waste to Usable Concrete

Principles and Practice



Adrian Chajec

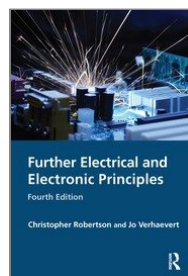
Rather than simply disposing of quarry wastes, these can be used effectively in cementitious composites. This requires understanding of their essential properties, micro-scale material studies and extends into Life Cycle Assessment, possible AI-based prediction of durability, and economic assessment. This suits academic researchers as well as industry professionals considering characterization methods, and reactivity and function as concrete fillers, as well as the challenge of safety in processing, cleaning and neutralizing hazardous compounds. The book gives 7 detailed case sustainable materials and waste management.

CRC Press
July 2026 : 382pp
Hb: 978-1-041-06352-0 : £175

* For full contents and more information, visit: www.routledge.com/9781041063520

4TH EDITION

Further Electrical and Electronic Principles



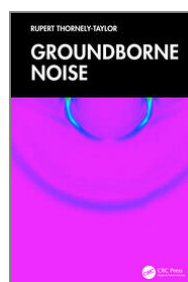
Christopher Robertson, Jo Verhaevert Ghent University, Belgium

This thoroughly revised edition gives more on electronic principles and a fuller coverage of active electronics, with the additional topics on rectifier circuits, JFETs and MOSFETs, while covering with electrical principles. It prioritizes applications and examples and is richly illustrated with artwork and includes supplemental materials like biographies of scientists. A background in mathematics, specifically complex numbers, is needed. This follows Fundamental Electrical and Electronic Principles, 4th ed (2024) and suits further education students training as technicians, and an introduction for first-year undergraduates across engineering.

Routledge
August 2026 : 396pp
Pb: 978-1-032-93639-0 : £48.99
Hb: 978-1-032-93705-2 : £99.99

* For full contents and more information, visit: www.routledge.com/9781032936390

Groundborne Noise



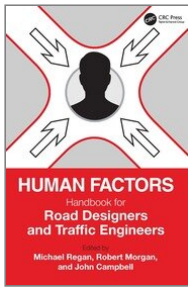
Rupert Thornely-Taylor

This book is for practitioners in the measurement, prediction, assessment and mitigation of groundborne noise, as well as acoustics engineering students. It explains the sources of groundborne noise, how they transmit into the medium supporting them (or in which they are embedded), the range of wave types that result, how they are propagated through all the different forms of soil, rock or building structures that connect them to receptors, and how the vibration that is groundborne noise is transmitted into receiving structures, to be re-radiated as an acoustical phenomenon in rooms and other spaces.

CRC Press
August 2026 : 248pp
Hb: 978-1-041-01997-8 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041019978

Human Factors Handbook for Road Designers and Traffic Engineers



Edited by **Michael Regan** University of NSW, Sydney, Australia, **Robert Morgan** Road safety engineer, Australia, **John Campbell** Exponent, Inc, USA

Human error contributes to most road crashes but is mostly predictable and readily understandable, so good human-centred design of roads and traffic schemes minimises the potential for error, by accounting for human performance limitations, capabilities and variability. Designers and engineers can help drivers, pedestrians or riders make better, safer and more effective decisions. This handbook and textbook puts this understanding at the heart of basic training in road and traffic design for undergraduate and graduate students. Packed with checklists, case studies, photos, examples and practical exercises, it is a must-have for students, instructors and professionals alike.

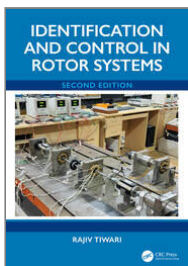
CRC Press
August 2026 : 744pp
Hb: 978-1-032-43196-3 : £190

* For full contents and more information, visit: www.routledge.com/9781032431963

2ND EDITION

Identification and Control in Rotor Systems

Volume 2



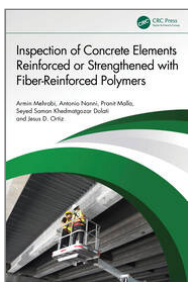
Rajiv Tiwari Department of Mechanical Engineering, Indian Institute of Technology, Guwahati, India

Second volume of Rotor systems deals with identification in rotor systems. It covers the unbalanced identification and bearing dynamic parameter identification algorithms, sensors and exciters used in rotor system and related signal conditioning equipment. The error analysis is discussed in length to understand associated measurement error. Expands on the control of rotor system including analysis of simple and multi-DOF rotor system to include experimentation on the flexible balancing of rotors. This book is aimed at senior undergraduate/graduate students in mechanical engineering, rotordynamics, rotating machinery/turbomachinery, and related fields.

CRC Press
September 2026 : 776pp
Hb: 978-1-041-10357-8 : £175

* For full contents and more information, visit: www.routledge.com/9781041103578

Inspection of Concrete Elements Reinforced or Strengthened with Fiber-Reinforced Polymers



Armin Mehrabi, **Antonio Nanni** University of Miami, USA, **Pranit Malla**, **Sayed Saman Khedmatgozar Dolati**, **Jesus D. Ortiz**

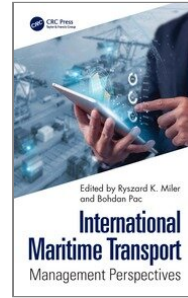
FRPs have performance advantages over than steel for strengthening and repairing concrete structures, as externally bonded systems and as internal reinforcement for concrete elements. Nevertheless, these reinforced/strengthened concrete (RSC) elements need to be inspected regularly. This book reviews serviceability considerations along with specification and standards for design and installation. It identifies potential damage and anomalies and proposes improved detectability of FRP defects such as by NDT. It offers a guide for in-service inspection of FRP-RSC elements, condition rating tables, examples, and guidance for load rating.

CRC Press
July 2026 : 272pp
Hb: 978-1-041-08642-0 : £110

* For full contents and more information, visit: www.routledge.com/9781041086420

International Maritime Transport

Management Perspectives



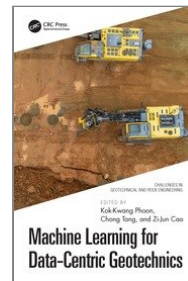
Edited by **Ryszard K. Miler** WSB University in Gdansk, Poland, **Bohdan Pac**

International Maritime Transport: Management Perspectives offers a comprehensive exploration of the challenges and opportunities in contemporary maritime transport management. By applying a modeling-based approach, this book addresses critical issues of safety, security, and sustainable development, providing readers with a robust understanding of maritime transport's role in the global economy.

CRC Press
July 2026 : 302pp
Hb: 978-1-041-10300-4 : £81.99

* For full contents and more information, visit: www.routledge.com/9781041103004

Machine Learning for Data-Centric Geotechnics



Edited by **Kok-Kwang Phoon** Singapore University of Technology and Design, Singapore, **Chong Tang**, **Zi-Jun Cao**

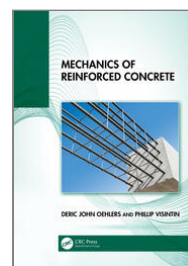
Series: Challenges in Geotechnical and Rock Engineering

Machine learning and other digital technologies fed with large datasets offer a major set of tools for practical geotechnical design. Large language models and other generative AIs can perform cognitive tasks currently undertaken by humans -- and might even predict the next event based on some time series. This collection of focused chapters from a group of specialists presents principles and broader up to date practice of machine learning, along with a number of example areas of site characterization, design and construction in geotechnics. This book is essential for sophisticated practitioners as well as graduate student.

CRC Press
June 2026 : 456pp
Hb: 978-1-032-88654-1 : £175

* For full contents and more information, visit: www.routledge.com/9781032886541

Mechanics of Reinforced Concrete



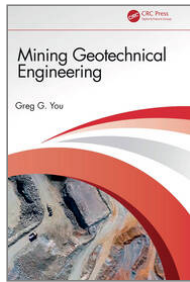
Deric John Oehlers, **Phillip Visintin**

This provides a practical foundation in the mechanical behaviour of reinforced concrete for advanced structural engineering students and practitioners. It examines RC at multiple scales, introducing strain and slip based material behaviour which can then simulate the mechanisms that control cracking and crushing. These are then applied to beam segments, explaining member deformation, crack width, flexural strength and shear strength. The behaviour at a segment can then be used to predict more complex behaviour such as moment redistribution, the behaviour of prestressed concrete members, and the behaviour of members that have been strengthened using external reinforcement.

CRC Press
September 2026 : 544pp
Hb: 978-1-041-19323-4 : £91.99

* For full contents and more information, visit: www.routledge.com/9781041193234

Mining Geotechnical Engineering



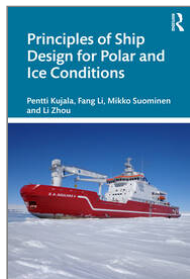
Greg G. You

This practical guide offers a comprehensive exploration of the principles and applications of geotechnical engineering in mining. It combines academic rigor with real-world insight to bridge the gap between theory and practice to enable the design of safe, efficient, and sustainable mines. By integrating fundamental theory with empirical, analytical, and numerical approaches—alongside practical design procedures and field applications—Mining Geotechnical Engineering serves as both a valuable reference for practicing professionals and a comprehensive textbook for students in mining, geotechnical, and civil engineering.

CRC Press
June 2026 : 368pp
Hb: 978-1-041-00490-5 : **£84.99**
eBook: 978-1-003-61011-3

* For full contents and more information, visit: www.routledge.com/9781041004905

Principles of Ship Design for Polar and Ice Conditions



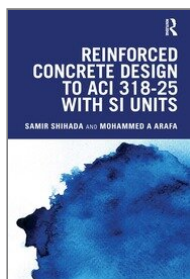
Pentti Kujala, Fang Li, Mikko Suominen, Li Zhou

Although climate change is reducing the extent of sea ice extent in the polar region, this enlarges the operation time window and enables more ships to choose routes where ice is prevalent. Global increases in maritime trade additionally factor into this. The number of polar ships and total exposure to sea ice are growing significantly. These ships need to be powerful enough to overcome the additional resistance and strong enough to bear impact with ice. The design methodology, therefore, differs from that for open-water ships. This is the first undergraduate and graduate textbook to introduce this topic, ideally for courses on polar ship technology or winter navigation.

Routledge
July 2026 : 232pp
Hb: 978-1-041-14727-5 : **£91.99**

* For full contents and more information, visit: www.routledge.com/9781041147275

Reinforced Concrete Design to ACI 318-25 with SI Units



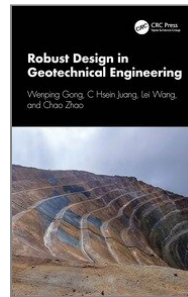
Samir Shihada, Mohammed A Arafat

This undergraduate textbook presents a comprehensive guide to the design of reinforced concrete structures in accordance with the latest edition of the American Concrete Institute code, ACI 318-25, and adopting SI units throughout. It combines fundamental theory with practical design methodology, using clear language, a logical structure, and code-based calculation procedures. As well as the core topics it includes chapters on torsion, serviceability, and staircases. It features over 70 fully worked examples, detailed reinforcement layouts, and end-of-chapter problems and learning outcomes. It highlights current code provisions, best practices in detailing, and design compliance.

Routledge
August 2026 : 272pp
Pb: 978-1-041-19657-0 : **£59.99**
Hb: 978-1-041-19715-7 : **£120**

* For full contents and more information, visit: www.routledge.com/9781041196570

Robust Design in Geotechnical Engineering



Wenping Gong, C. Hsein Juang Emeritus College, Clemson University, SC 29634, USA, **Lei Wang, Chao Zhao**

Ground variability and limited information bring uncertainties to geotechnical design practice. Data and solution models are poor, resulting in errors in construction. Consequently good design is based on the probability of failure or the reliability index obtained, and the geotechnical system is best analysed probabilistically. Various design approaches have been advanced to address uncertainties, such as reliability-based design, load and resistance factor design, and robust geotechnical design. This first full book on robust geotechnical design presents detailed methodologies and design examples which are reviewed alongside other methods to suit researchers and engineers.

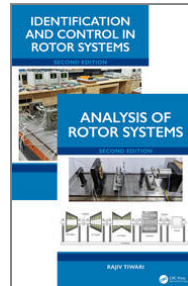
CRC Press
August 2026 : 250pp
Hb: 978-1-032-91424-4 : **£99.99**

* For full contents and more information, visit: www.routledge.com/9781032914244

2ND EDITION

Rotor System

Analysis, Identification, and Control, Two Volume Set



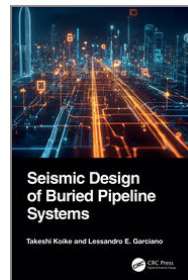
Rajiv Tiwari Department of Mechanical Engineering, Indian Institute of Technology, Guwahati, India

The second edition of Rotor Systems covers analysis and identification in rotor systems including rotor dynamic phenomena, gyroscopic effects and instabilities. It is biased towards the FEM analysis of complex rotors. Covers the unbalanced identification and bearing dynamic parameter identification algorithms, sensors and exciters used in rotor system and related signal conditioning equipment. Expanded upon rotor system control including analysis of simple and multi-DOF rotor system This book is aimed at senior undergraduate/graduate students in mechanical engineering, rotordynamics, rotating machinery/turbomachinery, and related fields.

CRC Press
September 2026 : 1792pp
Hb: 978-1-041-10361-5 : **£320**

* For full contents and more information, visit: www.routledge.com/9781041103615

Seismic Design of Buried Pipeline Systems



Takeshi Koike, Lessandro E. Garciano

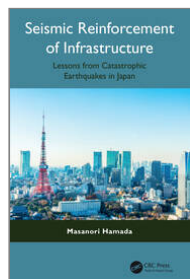
This book discusses the application of seismic design methods for lifeline earthquake engineering to buried pipelines so that readers can analyse their behaviour and structural and functional characteristics, verify the results, and apply appropriate methods to design earthquake-resistant lifelines. This book is a vital resource for practitioners and students to deepen their understanding of seismic design methods for lifelines. Researchers will also be able to use these findings as a reference for future technological development.

CRC Press
June 2026 : 280pp
Hb: 978-1-041-10528-2 : **£130**
eBook: 978-1-003-65552-7

* For full contents and more information, visit: www.routledge.com/9781041105282

Seismic Reinforcement of Infrastructure

Lessons from Catastrophic Earthquakes in Japan



Masanori Hamada

Masanori Hamada draws expertise gained throughout his four-decade career to assess the damage caused by notable earthquakes in Japan and explains how remedial design for existing structures can be used to strengthen critical infrastructure to minimize future damage and protect life. This practical guide for students and practitioners provides vital information that will enable them to design strong and safe built facilities to withstand strong ground shaking in regions of high seismic intensity.

CRC Press
July 2026 : 140pp
Hb: 978-1-041-21913-2 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041219132

Shipping and Logistics Analytics using Big Data

Automatic Identification System Data



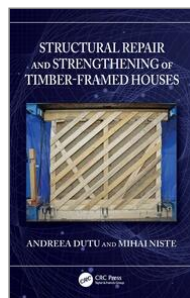
Edited by **Ryuichi Shibasaki** University of Tokyo, Japan, **Dong Yang** Hong Kong Polytechnic University, Hong Kong, **Xiwen Bai** Tsinghua University, China, **Haiying Jia** Norwegian School of Economics, Bergen, Norway

With the advancement of information and communication technology, a data-driven approach applying the tools and methodologies of big data analytics has become quite common across industry. In maritime shipping, automatic identification system (AIS) vessel movement data is reliable and improving and has been used for the detection of suspicious vessels and to support vessel navigation. However, since detailed cargo items and loading/unloading conditions cannot be directly obtained from AIS data, research using this data in the fields of logistics, shipping, and shipbuilding is still limited.

Routledge
November 2026 : 488pp
Hb: 978-1-032-50534-3 : £170

* For full contents and more information, visit: www.routledge.com/9781032505343

Structural Repair and Strengthening of Timber-Framed Houses



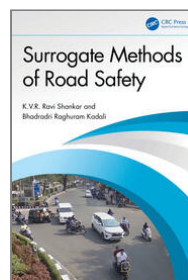
Andreea Dutu Technical University of Civil Engineering Bucharest, Romania, **Mihai Niste**

This presents structural repairs and strengthening solutions for timber framed houses with masonry infills which have been subjected to laboratory tests and translated into easy to understand and apply recommendations. This highlights common mistakes or solutions which are not appropriate to all situations. Historically work on traditional houses was done by master carpenters, who brought knowledge, techniques, and the access to materials and apprentices. And owners were also involved in the work. But now these trades and skills have almost disappeared. This book serves to set out workable methods in a robust way with scientific validation.

CRC Press
July 2026 : 122pp
Hb: 978-1-041-08778-6 : £96.99

* For full contents and more information, visit: www.routledge.com/9781041087786

Surrogate Methods of Road Safety



K.V.R. Ravi Shankar , Bhadradi Raghuram Kadali

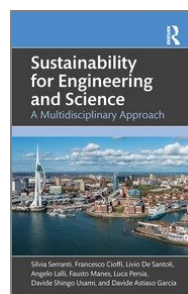
This book provides a comprehensive understanding of accident data collection, analysis, and the use of surrogate safety measures from both vehicular and pedestrian perspectives. It discusses the application of simulation tools for surrogate safety analysis, with an emphasis on risk estimation and the integration of machine learning techniques. The book also explores the use of augmented and virtual reality for road user training and assessment, as well as safety concerns related to automated and connected vehicles. Field case studies offer a realistic view of on-site assessments, safety implications, and measures for safety enhancement.

CRC Press
May 2026 : 174pp
Hb: 978-1-032-97979-3 : £110
eBook: 978-1-003-60476-1

* For full contents and more information, visit: www.routledge.com/9781032979793

Sustainability for Engineering and Science

A Multidisciplinary approach



Silvia Serranti , Francesco Cioffi , Livio De Santoli , Angelo Lalli , Fausto Manes , Luca Persia , Davide Shingo Usami , Davide Astiaso Garcia

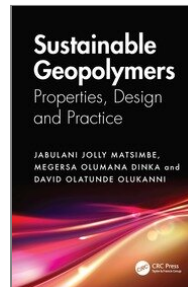
Sustainability for Engineering and Science provides a comprehensive overview of sustainability issues related to the built environment and in line with the UN's Sustainable Development Goals of the 2030 Agenda. It presents a broad interdisciplinary coverage of topics by instructors from Sapienza University of Rome, covering energy transition, sustainable use of resources and circular economy, sustainable mobility, hydroclimatology and water cycle sustainability, ecology and ecosystem services and the related legal framework.

Routledge
October 2026 : 296pp
Pb: 978-1-032-97574-0 : £44.99
Hb: 978-1-032-97837-6 : £96.99

* For full contents and more information, visit: www.routledge.com/9781032975740

Sustainable Geopolymers

Properties, Design and Practice



Jabulani Jolly Matimbe , Megersa Olumana Dinka , David Olatunde Olukanni

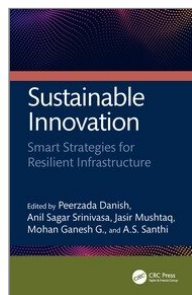
This book provides a comprehensive exploration of geopolymers, covering bibliometric analysis, preparation methods, property testing, design modeling, practical applications, and life cycle assessment. It presents advanced technical frameworks and guidelines for engineers, researchers, academics, and policymakers, promoting sustainable practices aligned with global initiatives such as the Paris Agreement, the Sustainable Development Goals (SDGs), and the African Union Agenda 2063. The chapters systematically address foundational knowledge, preparation techniques, testing methodologies, design modeling, real-world applications, and life cycle impacts of geopolymers.

CRC Press
September 2026 : 112pp
Hb: 978-1-041-30899-7 : £90.99

* For full contents and more information, visit: www.routledge.com/9781041308997

Sustainable Innovation

Smart Strategies for Resilient Infrastructure



Edited by **Peerzada Danish**, **Anil Sagar Srinivasa**, **Jasir Mushtaq**, **Mohan Ganesh G.**, **A.S. Santhi**

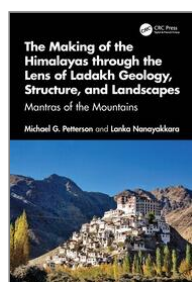
This book explores the convergence of cutting-edge engineering techniques, innovative design approaches, and fundamental ecological principles to address the challenges associated with sustainable infrastructure, including green construction, resilient urban planning, integration of smart systems, low-carbon emissions, and waste reduction. Each chapter focuses on a specific aspect of sustainable infrastructure, such as eco-friendly building materials, energy-efficient systems, and waste management practices, supported by case studies, illustrated processes, and detailed technical explanations.

CRC Press
September 2026 : 376pp
Hb: 978-1-041-12317-0 : £120

* For full contents and more information, visit: www.routledge.com/9781041123170

The Making of the Himalayas through the Lens of Ladakh Geology, Structure, and Landscapes

Mantras of the Mountains



Michael G. Petterson, **Lanka Nanayakkara**

This book provides a beautifully illustrated overview of the physical science of mountains, showcasing the evocative and highly informative terrains of Ladakh. Readers are taken across the mountains and valleys of Zaskar, the Indus Valley, and Nubra, relating a story that took millions of years to tell. This story includes the geology and tectonics of the Himalayas alongside the creation of landscapes, the people that live within them, and the scientific understanding required for minds to unravel the mysteries (mantras) of mountains. This book is intended for anyone with a curious mind about mountains, and how they are formed and shaped.

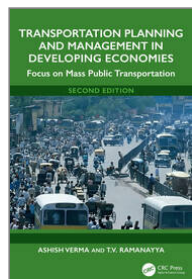
CRC Press
October 2026 : 240pp
Hb: 978-1-041-34717-0 : £96.99

* For full contents and more information, visit: www.routledge.com/9781041347170

2ND EDITION

Transportation Planning and Management in Developing Economies

Focus on Mass Public Transportation



Ashish Verma TSE, Civil Engineering, IISC, Bengaluru, India, **T.V. Ramanayya**

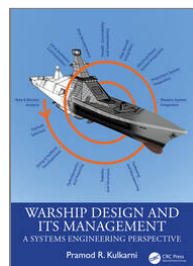
Transportation planning and management addresses mobility issues of large metropolitan cities and rural areas. This revised edition covers pertinent aspects in more detail for both urban and rural mass transportation planning and management. Each chapter contains more updated time series data as well as more practical examples to this effect. On theoretical aspects, there are added sections on transit operating elements, planning process for mass transit systems, and management methods in mass transport including technology aspects. This book is aimed at senior undergraduate and graduate students in transportation engineering and transport planners.

CRC Press
July 2026 : 312pp
Hb: 978-1-032-66199-5 : £110

* For full contents and more information, visit: www.routledge.com/9781032661995

Warship Design and its Management

A Systems Engineering Perspective



Pramod R. Kulkarni

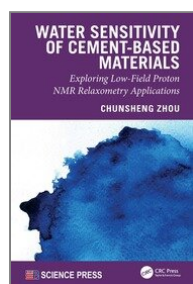
This textbook establishes the foundational engineering principles that govern warship design and describes the strategic thinking that informs the conceptualization of new warship classes. It explains the distinctive features of the warship acquisition process and develops the reader's understanding of the warship as an integrated, complex system. Coverage spans the full spectrum of activities required to take a new warship concept to operational readiness, from initial concept exploration through delivery and acceptance. It is suitable for ship design university courses and naval training programs in Warship Engineering.

CRC Press
August 2026 : 592pp
Hb: 978-1-041-08213-2 : £150

* For full contents and more information, visit: www.routledge.com/9781041082132

Water Sensitivity of Cement-Based Materials

Exploring Low-Field Proton NMR Relaxometry Applications



Chunsheng Zhou

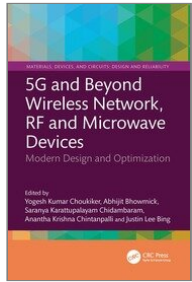
This book redefines concrete as a moisture-responsive, porous material, revealing how cement-based materials interact with water through their nanoscale pore structure. This transforms our understanding of dimensional stability, long-term durability, and other aspects of concrete science. This book will serve as an essential reference for concrete scientists, materials engineers, and researchers studying the dimensional stability and long-term durability of cement-based materials, as well as their many other moisture-regulated performances.

CRC Press
October 2026 : 472pp
Hb: 978-1-041-38199-0 : £170

* For full contents and more information, visit: www.routledge.com/9781041381990

5G and Beyond Wireless Network, RF and Microwave Devices

Modern Design and Optimization



Edited by **Yogesh Kumar Choukiker, , Abhijit Bhowmick, Saranya K C, Ananthakrishna Chintanpalli, Justin Lee Bing**

Series: Materials, Devices, and Circuits

5G and Beyond Wireless Network, RF and Microwave Devices: Modern Design and Optimization provides a thorough introduction to antenna design, 5G and B5G wireless networks, as well as cutting-edge technologies that aid in antenna/network design and development. Novel antenna design and the newest technologies for 5G and future wireless networks are discussed, including antenna design for MIMO, reconfigurable antennas, dielectric resonator antennas, metamaterials, reconfigurable intelligent surfaces, and meta-surfaces.

CRC Press
June 2026 : 336pp
Hb: 978-1-041-13014-7 : £175
eBook: 978-1-003-66765-0

* For full contents and more information, visit: www.routledge.com/9781041130147

5G Mobile Terminal Multi-Antenna Technology



Changjiang Deng, Zhenghe Feng

In response to the continuous innovation in the field driven by the rapid development of mobile communication, this book systematically explores the technologies and applications of mobile terminal antennas. This book will be an invaluable resource for R&D engineers and university students and researchers in electronic and communication engineering specializing in mobile terminal antennas. Professionals in the mobile terminal antenna industry will find it to be an authoritative training manual and reference guide.

CRC Press
June 2026 : 228pp
Hb: 978-1-041-25797-4 : £86.99
eBook: 978-1-003-77003-9

* For full contents and more information, visit: www.routledge.com/9781041257974

A Practical Guide to Logistic Regression Using Stata



Alan C. Acock

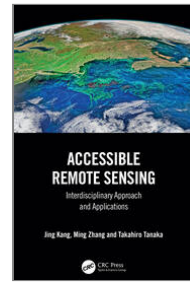
Alan Acock's book, A Practical Guide to Logistic Regression Using Stata, is for students and researchers who are new to logistic regression and who want to focus on applications, rather than theory. Readers will learn when to use logistic regression in their research and how to fit these models in Stata. Acock gives special attention to interpretation and presentation of results, focusing on how odds ratios provide meaningful information and on how to graphically present the results in a way that everyone can easily understand. The book also shows readers how to assess the fit of their logistic regression model and to evaluate the model's predictive abilities.

Stata Press
May 2026 : 196pp
Pb: 978-1-597-18415-1 : £44.99

* For full contents and more information, visit: www.routledge.com/9781597184151

Accessible Remote Sensing

Interdisciplinary Approach and Applications



Jing Kang TSE and Graduate School of Advanced Science and Engineering (IDEC), **Ming Zhang** School of Architecture, The University of Texas, USA, **Takahiro Tanaka** Graduate School of Advanced Science and Engineering, Hiroshima University, Japan.

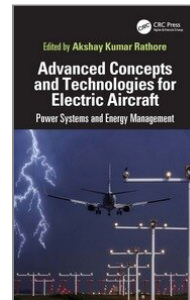
Kang, Zhang, and Tanaka's comprehensive reference work take an interdisciplinary approach to explain the principles of remote sensing, data characteristics and parameters, and data processing tools; describe the many applications of remote sensing; and explore future trends related to this process. This book is an invaluable resource for graduate students in several disciplines including urban planning, agriculture, oceanography, and more; for researchers and scientists in multiple disciplines; and for commercial and governmental practitioners working in multiple fields.

CRC Press
December 2026 : 192pp
Hb: 978-1-032-45183-1 : £89.99

* For full contents and more information, visit: www.routledge.com/9781032451831

Advanced Concepts and Technologies for Electric Aircraft

Power Systems and Energy Management



Edited by **Akshay Kumar Rathore**

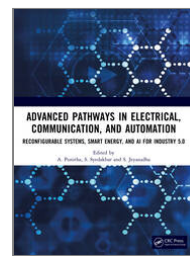
This edited volume with expert contributions addresses the critical engineering challenges in aircraft electrification. It focuses on power electronics, electric motors, insulation systems, and energy storage essential for achieving sustainable aviation and meeting global carbon reduction targets. This book is a vital resource for anyone researching the development of electric aircraft systems and sustainable aviation technologies. It is particularly useful for postgraduate students of electrical engineering, aerospace engineering, and power electronics and researchers and engineers within R&D departments in aircraft and propulsion systems manufacturers.

CRC Press
November 2026 : 328pp
Hb: 978-1-041-25760-8 : £130

* For full contents and more information, visit: www.routledge.com/9781041257608

Advanced Pathways in Electrical, Communication, and Automation

Reconfigurable Systems, Smart Energy, and AI for Industry 5.0



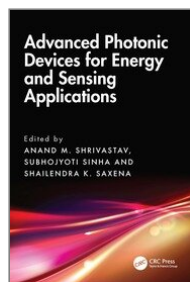
Edited by **A. Punitha, S. Syedakbar, S. Jeyasudha**

The International Conference in Pathway of Electrical, Automation, Communication, and Electronics (PEACE-2025) is a premier platform dedicated to addressing the latest advancements, trends, and challenges in these rapidly evolving fields. As industries move towards intelligent automation, sustainable energy solutions, advanced communication networks, and AI-driven electronic systems, this conference aims to bridge the gap between academic research and industrial applications.

CRC Press
May 2026 : 602pp
Pb: 978-1-041-30297-1 : £68.99
Hb: 978-1-041-29907-3 : £170
eBook: 978-1-003-77396-2

* For full contents and more information, visit: www.routledge.com/9781041302971

Advanced Photonic Devices for Energy and Sensing Applications



Edited by **Anand M. Shrivastav**, **Subhojyoti Sinha**, **Shailendra Saxena**

This book provides a systematic overview of current state of technologies and future perspectives on harnessing light for sustainable energy and advanced sensing applications. It covers the advancements in photonics and trends in photocatalysis, photovoltaics, photonic nanogenerators, quantum sensors, integrated AI/ML in optical sensors. The book aims to serve as both a reference and a source of inspiration for students, researchers and industry professionals in Electrical, Chemical Engineering, and Materials Science and Engineering that are interested in the transformative power of light for variety of applications.

CRC Press
June 2026 : 408pp
Hb: 978-1-041-10367-7 : £175
eBook: 978-1-003-65466-7

* For full contents and more information, visit: www.routledge.com/9781041103677

Advanced Smart Grid Technologies

Industry Applications and Integration Strategies



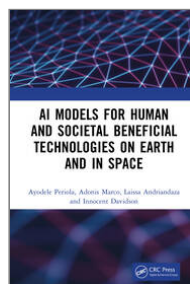
Edited by **Krishan Arora** LPU, Punjab, India, **Himanshu Sharma**, **Sanjay Kumar** University Institute of Technology, Himachal Pradesh University Shimla, India

This book offers a comprehensive exploration of the cutting-edge innovations and integration techniques shaping the future of power systems. It brings together leading researchers and industry experts to present real-world case studies, emerging technologies, and strategic frameworks that enable efficient, secure, and sustainable energy management. Covering everything from IoT, AI, and blockchain applications to grid automation, cybersecurity, and renewable energy integration, this book serves as a critical reference for professionals, academics, and policy-makers involved in the evolution of smart grid systems across global industries.

CRC Press
October 2026 : 320pp
Hb: 978-1-041-17378-6 : £120

* For full contents and more information, visit: www.routledge.com/9781041173786

AI Models for Human and Societal Beneficial Technologies on Earth and in Space



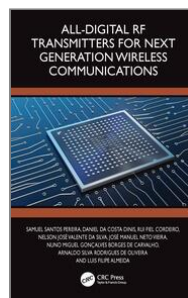
Ayodele Periola, **Adonis Marco**, **Innocent Davidson**

This book explores two converging technological frontiers: advanced conversational AI and space-based computing systems. The chatbot section examines progress in conversational AI, its implications for consciousness research, and the evolution of future communication infrastructures. The space systems section focuses on multimedia production and healthcare applications in microgravity, particularly pharmaceutical manufacturing. Together, these domains form a framework for understanding how AI and space computing can complement each other to drive sustainable technological growth and optimize resource utilization.

CRC Press
June 2026 : 440pp
Hb: 978-1-041-15216-3 : £190

* For full contents and more information, visit: www.routledge.com/9781041152163

All-Digital RF Transmitters for Next Generation Wireless Communications



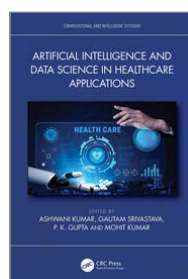
Samuel Santos Pereira, **Daniel da Costa Dinis**, **Rui Fiel Cordeiro**, **Nelson José Valente da Silva**, **José Manuel Neto Vieira**, **Nuno Miguel Gonçalves Borges de Carvalho**, **Arnaldo Silva Rodrigues de Oliveira**, **Luís Filipe Almeida**

This book introduces All-Digital Transmitters (ADTs) foundations: Delta-Sigma and Pulse-Width Modulation, focusing on research challenges and achievements. Presents architectures with implementation diagrams and figures of merit. Covers analog filtering, carrier agility, wideband modulators, and multi-band capability. Addresses applications where ADTs surpassed state-of-the-art in innovation and scalability. For RF system and digital signal design engineers in radio communication systems. Suitable for professionals and post-graduate students.

CRC Press
July 2026 : 226pp
Hb: 978-1-032-12682-1 : £96.99

* For full contents and more information, visit: www.routledge.com/9781032126821

Artificial Intelligence and Data Science in Healthcare Applications



Edited by **Ashwani Kumar**, **Gautam Srivastava**, **P. K. Gupta**, **Mohit Kumar**

Series: *Computational and Intelligent Systems*

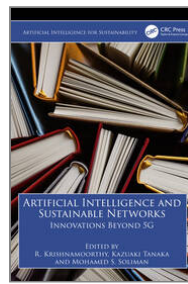
Artificial Intelligence and Data Science in Healthcare Applications provides a thorough in-depth examination of how AI and data science are transforming predictive analytics and outlier detection in every industry. With in-depth examinations of machine learning, neural networks, NLP, and ethics of AI, this book prepares readers with both theoretical principles and practical tools to create smart, scalable systems. Real-world healthcare, cybersecurity, and finance case studies exemplify real world applications, and tutorials with leading libraries serve as a starting point for implementation.

CRC Press
July 2026 : 271pp
Hb: 978-1-041-06256-1 : £120

* For full contents and more information, visit: www.routledge.com/9781041062561

Artificial Intelligence and Sustainable Networks

Innovations Beyond 5G



Edited by **R. Krishnamoorthy**, **Kazuaki Tanaka**, **Mohamed S. Soliman**

Series: *Artificial Intelligence for Sustainability*

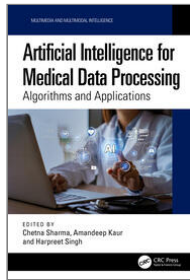
This book presents a comprehensive exploration of how artificial intelligence (AI) is revolutionizing next-generation connectivity and enabling sustainable technological growth. Covering a wide spectrum of emerging paradigms such as federated learning, Smart Agriculture, Sustainable Healthcare, energy-efficient architectures, green IoT systems, and smart city frameworks, this volume highlights innovative approaches for building resilient and eco-conscious digital ecosystems. It is primarily written for students and academic researchers in electrical engineering, electronics and communications engineering, telecommunication, computer science and engineering, and renewable energy.

CRC Press
May 2026 : 330pp
Hb: 978-1-041-07775-6 : £130
eBook: 978-1-003-64214-5

* For full contents and more information, visit: www.routledge.com/9781041077756

Artificial Intelligence for Medical Data Processing

Algorithms and Applications



Edited by **Chetna Sharma** Chitkara University, India,
Amandeep Kaur, **Harpreet Singh**

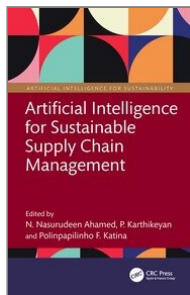
Series: *Multimedia and Multimodal Intelligence*

The text explores the intersection of artificial intelligence and medical data processing, offering a comprehensive examination of advanced artificial intelligence techniques such as machine learning, natural language processing, and reinforcement learning. It delves into diverse medical data types, including imaging data, multiple datasets, wearable sensor data, and electronic health records, addressing the challenges of their analysis and integration. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, and biomedical engineering.

CRC Press
August 2026 : 424pp
Hb: 978-1-041-15386-3 : £150

* For full contents and more information, visit: www.routledge.com/9781041153863

Artificial Intelligence for Sustainable Supply Chain Management



Edited by **N. Nasurudeen Ahamed**, **P. Karthikeyan**
Presidency University, India, **Polinapilinho F. Katina**

Series: *Artificial Intelligence for Sustainability*

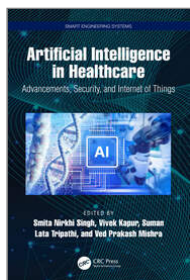
This book explores the application of AI-driven models to enhance decision-making, optimize logistics, and minimize environmental impact across various stages of the supply chain. Emphasis is placed on how machine learning, deep learning, and predictive analytics enable proactive demand forecasting, waste reduction, and resource optimization. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, supply chain management, manufacturing engineering, and industrial engineering.

CRC Press
July 2026 : 360pp
Hb: 978-1-041-11477-2 : £130

* For full contents and more information, visit: www.routledge.com/9781041114772

Artificial Intelligence in Healthcare

Advancements, Security, and Internet of Things



Edited by **Smita Nirkhi Singh**, **Vivek Kapur**, **Suman Lata Tripathi** LPU, India, **Ved Mishra** Amity University, India

Series: *Smart Engineering Systems*

The book explores the applications of artificial intelligence in healthcare systems, with a focus on its use in diagnosis, treatment, and prevention. It provides an overview of the current state of artificial intelligence in healthcare and discusses the challenges and opportunities of implementing intelligent healthcare systems. The text covers topics such as assistive technology for remote patient monitoring, and applications of explainable artificial intelligence in healthcare. It is primarily written for senior undergraduates, graduate students, and academic researchers in the fields of electrical engineering, computer engineering, and biomedical engineering.

CRC Press
October 2026 : 376pp
Hb: 978-1-032-76260-9 : £140

* For full contents and more information, visit: www.routledge.com/9781032762609

Artificial Intelligence-driven Informatics and Medical Internet of Things



Edited by **Khursheed Aurangzeb**, **Bharat Bhushan**
Sharda University, India, **Narayan C Debnath** Eastern
International Univ, Vietnam, **Sheena N** College of
Engineering and Management Punnapra, Kerala, India

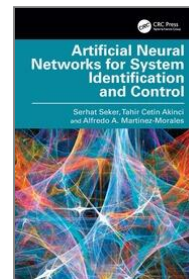
Series: *Industry 5.0*

This book presents a comprehensive exploration of this emerging paradigm. It brings together cutting-edge research, practical applications, and interdisciplinary perspectives to illustrate how intelligent algorithms and connected medical devices are reshaping modern healthcare. A key strength of this book lies in its forward-looking perspective, examining emerging trends such as agentic AI, smart healthcare infrastructures, and the future of connected medical systems.

CRC Press
November 2026 : 432pp
Hb: 978-1-041-08284-2 : £140

* For full contents and more information, visit: www.routledge.com/9781041082842

Artificial Neural Networks for System Identification and Control



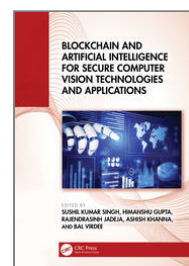
Serhat Seker, **Tahir Cetin Akinci**, **Alfredo A. Martinez-Morales**

In an age where intelligent systems are transforming engineering practice, Artificial Neural Networks for System Identification & Control offers a clear roadmap to mastering AI-driven modeling and control. From mathematical neuron models to adaptive ANN-based controllers, this book combines theory, algorithms, and hands-on coding to help readers design and analyze intelligent systems. Rich with visual examples and real-world case studies, it demonstrates how neural networks outperform traditional control methods in handling nonlinearity, uncertainty, and dynamic system behavior.

CRC Press
June 2026 : 114pp
Hb: 978-1-041-04911-1 : £96.99
eBook: 978-1-003-67397-2

* For full contents and more information, visit: www.routledge.com/9781041049111

Blockchain and Artificial Intelligence for Secure Computer Vision Technologies and Applications



Edited by **Sushil Kumar Singh** Marwadi University,
Himanshu Gupta, **Rajendrasinh B. Jadeja** Marwadi
University, **Ashish Khanna** Maharaja Agrasen Institute of
Technology, India, **Bal Virdee** London Metropolitan
University

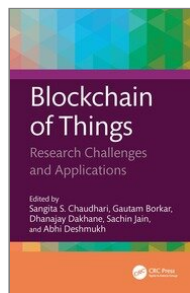
The text provides a comprehensive overview of how blockchain enhances security and transparency in artificial intelligence-driven applications, and how computer vision is pushing the boundaries of image and video analysis. It discusses the potential of integrating the Internet of Things for advancing computer vision capabilities, examining key challenges, possibilities, and emerging trends at the intersection of these two transformative technologies. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer vision, artificial intelligence, and computer engineering.

CRC Press
July 2026 : 464pp
Hb: 978-1-041-11263-1 : £130

* For full contents and more information, visit: www.routledge.com/9781041112631

Blockchain of Things

Research Challenges and Applications



Edited by **Sangita S. Chaudhari** RAIT, Mumbai, **Gautam Borkar**, **Dhanajay Dakhane**, **Sachin Jain**, **Abhi Deshmukh**

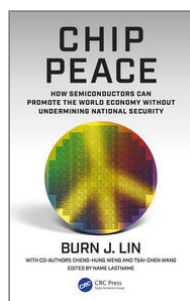
The main objective of this book is to avail academicians, researchers, and practitioners a common platform for understanding current state of art development in techniques/technologies from Blockchain and its integration with IoT. All the aspects such as theoretical and practical contributions, simulated works, review, and case studies will be available to the reader which will provide them with a comprehensive guideline to extend the state-of-the-art by developing novel methods for providing solutions for the Blockchain of things.

CRC Press
July 2026 : 302pp
Hb: 978-1-032-95408-0 : £89.99

* For full contents and more information, visit: www.routledge.com/9781032954080

Chip Peace

How Semiconductors Can Promote the World Economy Without Undermining National Security



Burn J. Lin, **Cheng-Hung Weng**, **Tsai-Chen Wang**

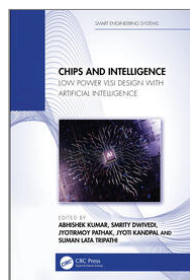
This book shows how semiconductor technology can transform from a source of global conflict into a foundation for international cooperation. Chip Peace delivers essential understanding through clear explanations of semiconductor fundamentals, supply chain analysis, and collaboration strategies. Readers gain insights into why advanced chip manufacturing requires multinational cooperation and how technology complexity makes single-nation dominance unfeasible. This book demonstrates how chip technology catalyzes economic growth and global stability while maintaining national security. Essential for policymakers, business leaders, investors, and academics.

CRC Press
October 2026 : 176pp
Pb: 978-1-041-28910-4 : £52.99
Hb: 978-1-041-28909-8 : £49.99

* For full contents and more information, visit: www.routledge.com/9781041289104

Chips and Intelligence

Low Power VLSI Design with Artificial Intelligence



Edited by **Kumar Abhishek**, **Smrity Dwivedi**, **Jyotirmoy Pathak**, **Jyoti Kandpal**, **Suman Lata Tripathi**
LPU, Punjab, India

Series: *Smart Engineering Systems*

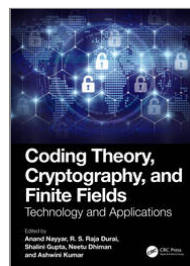
This book presents an in-depth discussion on the fundamentals of artificial intelligence and machine learning relevant to VLSI design, including neuromorphic computing principles. It presents practical insights and case studies on implementing artificial intelligence and machine learning techniques in low-power CMOS VLSI design, including semi-custom and full-custom design, simulation, layout on Cadence, TCAD, Hspice, and Microwind. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, microelectronics, VLSI design, artificial intelligence, computer science, and engineering.

CRC Press
July 2026 : 374pp
Hb: 978-1-041-17097-6 : £165

* For full contents and more information, visit: www.routledge.com/9781041170976

Coding Theory, Cryptography, and Finite Fields

Technology and Applications



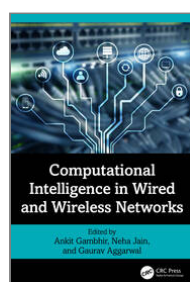
Edited by **Anand Nayyar** Duy Tan University, Vietnam, **R. S. Raja Durai**, **Shalini Gupta**, **Neetu Dhiman**, **Ashwini Kumar**

The book discusses the principles of quantum cryptography, protocols used in quantum key distribution and the methods used for protecting multimedia data. It explores various multiple error-correcting codes, which are pivotal in enhancing the reliability of data transmission and storage systems. The text highlights the synergy between abstract mathematical theory and practical implementation. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, and information technology.

CRC Press
June 2026 : 392pp
Hb: 978-1-041-07668-1 : £190

* For full contents and more information, visit: www.routledge.com/9781041076681

Computational Intelligence in Wired and Wireless Networks



Edited by **Ankit Gambhir** Delhi Technical Campus, Greater Noida, India, **Neha Jain** Delhi Technical Campus, Greater Noida, India, **Gaurav Aggarwal** Amity University Tashkent, Uzbekistan

Series: *Computational Intelligence in Signal Processing and Automation*

The text examines how computational intelligence can address the complex challenges and opportunities that arise in both wired and wireless networks. It discusses topics including fault tolerance and self-healing mechanisms, edge and fog computing, machine learning in wireless networks, quality of experience, and integration of emerging technologies. It is primarily written for senior undergraduates, graduate students, and academic researchers in the fields including electrical engineering, electronics and communication engineering, computer science and engineering, telecommunications, and information technology.

CRC Press
October 2026 : 248pp
Hb: 978-1-032-93152-4 : £110

* For full contents and more information, visit: www.routledge.com/9781032931524

Context-Aware, Real-Time Fleet Management

Next-Generation Platforms for Emergency Services



Salvatore Gariuolo, **Stefano Longo**

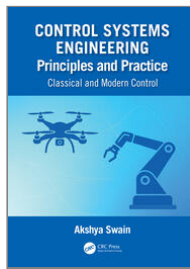
This book examines how connected vehicle platforms - the technological backbone of modern fleet management - can be designed to meet the operational requirements of emergency services. By integrating vehicle and context data in real time - covering vehicle status, staff availability, crew skills, shift schedules, traffic, and weather - these platforms enable faster and more consistent decision-making. Using the UK National Health Service ambulance fleet as a case study, the book presents a prototype system that automates ambulance dispatch, demonstrating how a thoughtfully designed platform can deliver performance and capabilities far beyond conventional fleet management systems.

CRC Press
July 2026 : 240pp
Pb: 978-1-041-17214-7 : £52.99
Hb: 978-1-041-17213-0 : £91.99

* For full contents and more information, visit: www.routledge.com/9781041172147

Control Systems Engineering Principles and Practice:

Classical and Modern Control



Akshya Swain

This book offers comprehensive exploration of control systems engineering principles and analysis techniques. It provides balanced introduction to continuous-time control, exploring time/frequency domain techniques, PID design, compensators, and state-space analysis. Physical concepts like poles, zeros, eigenvalues, controllability, and observability are thoroughly discussed. The book balances theory with practical application, integrating Matlab/Simulink simulations. Designed for undergraduate/postgraduate students and valuable for researchers and engineers.

CRC Press

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Hb: 978-1-032-94484-5 : £140

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Data-driven Decision Making and Soft Computing

Applications and Advances



Edited by **D. Nagarajan**, **Dragan Pamucar** University of Defense, Serbia, **Zarife Zararsiz** Veli University, Nevsehir, Turkey

Series: *Intelligent Data-Driven Systems and Artificial Intelligence*

This book reflects the comprehensive exploration of the intersection between fuzzy decision-making and soft computing. It delves into the theoretical foundations of fuzzy decision-making and soft computing, exploring the underlying principles, algorithms, and mathematical frameworks. The text showcases the latest methodological advances in combining fuzzy decision-making with various soft computing techniques, such as neural networks, and evolutionary computation. It is written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics, and communication engineering, computer science and engineering, and applied mathematics.

CRC Press

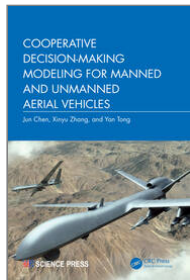
May 2026 : 334pp

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eBook: 978-1-003-63483-6

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Cooperative Decision-Making Modeling for Manned and Unmanned Aerial Vehicles



Jun Chen, **Xinyu Zhang**, **Yan Tong**

Focusing on "human-in-the-loop" and "human-on-the-loop" mechanisms, cognitive intelligent interaction, and the practical modeling, implementation, and application of limited human intervention in modern aerial systems, this book explores cooperative decision-making technologies between manned and unmanned aerial vehicles. This title will appeal to researchers, engineers, and professionals specializing in command-and-control systems and intelligent decision-making systems. It will also serve as an essential reference for students and educators in information-related disciplines.

CRC Press

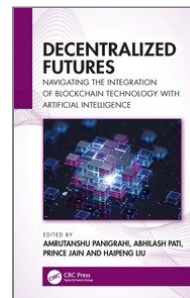
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Decentralized Futures

Navigating the Integration of Blockchain Technology with Artificial Intelligence



Edited by **Amrutanshu Panigrahi**, **Abhilash Pati**, **Prince Jain**, **Haipeng Liu**

This book provides a comprehensive grasp of blockchain technology, exploring applications, security measures, and AI integration to enhance performance. It covers blockchain characteristics, frameworks, and consensus mechanisms. The authors examine machine learning techniques for identifying fraudulent transactions, AI-based clustering and classification for data analysis, and real-world case studies. Readers learn to apply these insights to their work while exploring opportunities and challenges of AI-blockchain integration. Targeted at data scientists, engineers, researchers, academics, and students interested in cutting-edge blockchain and AI methodologies.

CRC Press

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Cross-Platform Powerhouse

Building Web, Mobile, and Desktop Apps with .NET MAUI Hybrid Blazor



Hloriso Nichell Mohale

Series: *AfricaTECH Book Series*

This book is a comprehensive guide to mastering .NET MAUI (Multi-platform App UI) and Blazor for developing cross-platform applications using a single shared codebase. It explains how to design, develop, and deploy unified applications for desktop (Windows, macOS), web, and mobile platforms (Android, iOS). The book also explores the integration of powerful third-party libraries such as DevExpress and Syncfusion to build scalable, efficient, and visually compelling applications.

CRC Press

July 2026 : 184pp

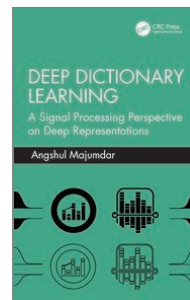
Pb: 978-1-041-12377-4 : £69.99

Hb: 978-1-041-12551-8 : £170

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Deep Dictionary Learning

A Signal Processing Perspective on Deep Representations



Angshul Majumdar Indraprastha Institute of Information Technology, Delhi, India

Deep Dictionary Learning: Synthesis and Analysis challenges the way we think about deep learning. Instead of treating models as opaque stacks of nonlinear layers, this book reveals a cleaner, more structured alternative rooted in representation and insight. It reframes "depth" not as complexity for its own sake, but as a principled way to build meaning from data—offering a perspective that is both powerful and refreshingly transparent.

CRC Press

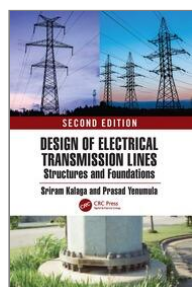
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2ND EDITION

Design of Electrical Transmission Lines, Structures, and Foundations



Sriram Kalaga , Prasad Yenumula

This book covers line modelling, structural and foundation systems used in high-voltage transmission lines, conductors, insulators, hardware and component assembly. The term "transmission structures" includes a vast range of structural systems and configurations of various materials. It discusses those systems along with associated topics such as structure functions and configurations, load cases for design, analysis techniques, line, structure and foundation modeling, design deliverables and latest advances in the field. In the foundations section, theories related to direct embedment, drilled shafts, spread foundations, vibratory caissons, micro-piles and anchors are discussed.

CRC Press

July 2026 : 522pp

Hb: 978-1-032-88187-4 : £120

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Digital Twin for Gear Wear Monitoring and Prediction



Ke Feng , Qing Ni , Hanbin Zhou

This book presents recent research developments and integrated methodologies for digital twin gear wear monitoring and remaining useful life prediction for rotating machinery.

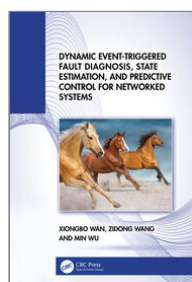
CRC Press

August 2026 : 184pp

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Dynamic Event-Triggered Fault Diagnosis, State Estimation, and Predictive Control for Networked Systems



Xiongbo Wan , Zidong Wang Brunel Uni, UK, Min Wu

This book introduces four novel Dynamic Event-Triggered Mechanisms (DETM) for complex networked systems that optimize resource utilization while preserving system performance. These include hybrid dynamic variables-dependent ETMs, hybrid adjusting variables-dependent ETMs, bounded dynamic variable/time-varying threshold-dependent ETMs and terminal constraint set-dependent mixed time/event-triggered mechanisms. It explores applications across fault diagnosis in networked systems, finite-time state estimation for complex dynamical networks, and MPC implementation. This book is aimed at graduate students and researchers in control systems, computer sciences, and signal processing.

CRC Press

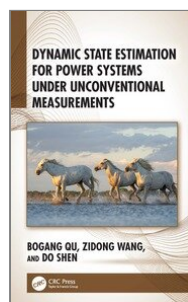
May 2026 : 274pp

Hb: 978-1-041-16537-8 : £190

eBook: 978-1-003-68580-7

* For full contents and more information, visit: www.routledge.com/9781041165378

Dynamic State Estimation for Power Systems under Unconventional Measurements



Bogang Qu , Zidong Wang Brunel Uni, UK, Do Shen

This book presents advanced Dynamic State Estimation (DSE) methodologies across three power system classes: quasi-steady power systems, synchronous-generator-based multi-machine systems and renewable energy microgrids. The work tackles unconventional measurements including time-delays, multi-rate measurements, event-triggered transmissions, outliers, and sensor saturations including complex factors. The nine-chapter structure progresses from fundamentals through specific applications to future research directions. This book is aimed at graduate students and researchers in electrical engineering, power systems, control systems, and signal processing.

CRC Press

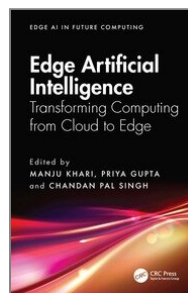
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Edge Artificial Intelligence

Transforming Computing from Cloud to Edge



Edited by **Manju Khari , Priya Gupta , Chandan Pal Singh**

Series: Edge AI in Future Computing

This book highlights the latest advancements and emerging trends in edge artificial intelligence, such as federated learning and blockchain's potential impact, while also addressing critical issues of security and privacy with best practices and privacy-preserving techniques. It covers a wider range of applications, such as smart cities, industrial manufacturing, healthcare, retail, and agriculture. It is written for senior undergraduate students, graduate students, and academic researchers in the fields of electrical engineering, electronics and communications engineering, computer science and engineering, and information technology.

CRC Press

September 2026 : 400pp

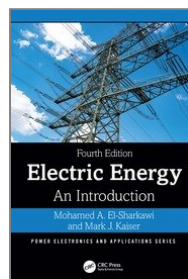
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4TH EDITION

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An Introduction



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Series: Power Electronics and Applications Series

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CRC Press

July 2026 : 844pp

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Electric Vehicles

Advanced Technologies, Case Studies, and Applications



Dolly Thankachan, S. Sangeetha, Shweta B. Thomas

This book offers a thorough exploration of electric vehicle (EV) technology, spanning from its historical roots to its current state and prospects. It provides a comprehensive overview of the various aspects surrounding electric vehicles, aiming to educate readers on the technology, environmental impact, market trends, challenges, and potential solutions within the realm of electric transportation. It is primarily written for graduate students and academic researchers in electrical engineering, electronics, and communication engineering, automobile engineering, and energy engineering.

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Edited by **Paul G. Slade**

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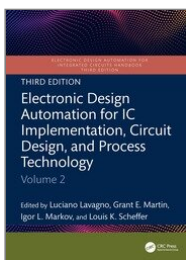
CRC Press
November 2026 : 1432pp
Hb: 978-1-032-80080-6 : **£120**

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3RD EDITION

Electronic Design Automation for IC Implementation, Circuit Design, and Process Technology

Volume 2



Edited by **Luciano Lavagno** Politecnico di Torino, Italy, **Grant Martin** Cadence Design Systems, Inc., San Jose, California, USA, **Igor L. Markov** University of Michigan, Ann Arbor, USA, **Louis K. Scheffer** Howard Hughes Medical Institute, Ashburn, Virginia, USA

Electronic Design Automation for IC Implementation, Circuit Design, and Process Technology thoroughly examines real-time logic (RTL) to GDSII generation, analog/mixed-signal design, physical verification, and technology computer-aided design (TCAD). The new edition includes new coverage of cutting-edge applications and approaches, including the impact of new analog layout methods, chiplet integration, and power-optimized design. Offering improved depth and modernity, this book provides a valuable, state-of-the-art reference for electronic design automation (EDA) students, researchers, and professionals.

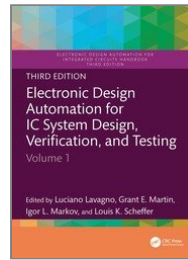
CRC Press
June 2026 : 797pp
Hb: 978-1-032-93570-6 : **£245**

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3RD EDITION

Electronic Design Automation for Integrated Circuits Handbook

Volume 1



Edited by **Luciano Lavagno** Politecnico di Torino, Italy, **Grant E. Martin** Cadence Design Systems, Inc., San Jose, California, USA, **Igor L. Markov** University of Michigan, Ann Arbor, USA, **Louis K. Scheffer** Howard Hughes Medical Institute, Ashburn, Virginia, USA

Electronic Design Automation for IC System Design, Verification, and Testing thoroughly examines system-level design, microarchitectural design, logic verification, and testing. Chapters contributed by leading experts authoritatively discuss processor modeling and design tools, using performance metrics to select microprocessor cores for integrated circuit (IC) designs, design and verification languages, hardware acceleration and emulation, and much more. Offering improved depth and modernity, this book provides a valuable, state-of-the-art reference for electronic design automation (EDA) students, researchers, and professionals.

CRC Press
June 2026 : 703pp
Hb: 978-1-041-00213-0 : **£175**
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3RD EDITION

Electronic Design Automation for Integrated Circuits Handbook, Two Volume Set, Third Edition



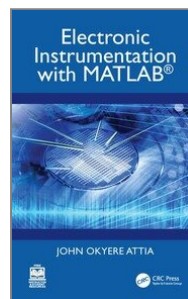
Edited by **Luciano Lavagno** Politecnico di Torino, Italy, **Grant Martin** Cadence Design Systems, Inc., San Jose, California, USA, **Igor L. Markov** University of Michigan, Ann Arbor, USA, **Louis K. Scheffer** Howard Hughes Medical Institute, Ashburn, Virginia, USA

Comprised of two volumes, Electronic Design Automation for Integrated Circuits Handbook, Third Edition addresses all major areas of EDA for integrated circuits (ICs). The new edition includes new coverage of cutting-edge applications and approaches, including the impact of AI/ML and new analog layout methods, new high-level synthesis algorithms, and power-optimized design. Offering improved depth and modernity, Electronic Design Automation for Integrated Circuits Handbook, Third Edition – Two-Volume Set provides a valuable, state-of-the-art reference for EDA students, researchers, and professionals.

CRC Press
June 2026 : 1500pp
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Electronic Instrumentation with MATLAB®



John Okyere Attia Prairie View A&M University, Texas, USA

Electronic Instrumentation systems are electronic systems for implementing specific desired functions such as measurement, control and monitoring. This book discusses sensors and conditioning circuits for electronic instrumentation. The book is unique. It is the first time MATLAB computational powers are being used to describe and explore various aspects of electronic instrumentation (electronic signal conditioning circuits and instrumentation sensors). In addition, it is first time an electronic instrumentation system is written to introduce the Internet-of-Things (IoT), and the popular sensors for IoT applications.

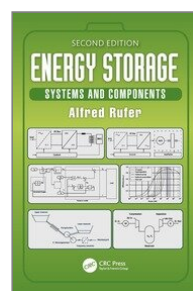
CRC Press
August 2026 : 496pp
Hb: 978-1-041-28616-5 : **£84.99**

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2ND EDITION

Energy Storage

Systems and Components

**Alfred Rufer**

This updated edition explores energy storage technologies in today's evolving energy landscape, serving as an essential reference for various storage methods in renewable energy integration. It provides thorough examination of current technologies and analytical frameworks, covering electrochemical transformations, batteries, fuel cells, hydrogen storage, and physical systems like gravitational forces, air compression, and kinetic energy. The book includes expanded sections on e-methanol production, synfuels, dry gravitational technology, and Ragone plot theory for evaluating energy release potential.

CRC Press
June 2026 : 340pp
Hb: 978-1-041-23319-0 : £130
eBook: 978-1-003-73648-6

* For full contents and more information, visit: www.routledge.com/9781041233190

Green Bytes

Mitigating the Environmental Impact of Digital Technologies



Edited by **Mudassir Khan** Assistant Professor, Department of Computer Science, King Khalid University, Abha, King Faisal, Tanumah, Asir, Saudi Arabia 62715, **Jehad Ali**, **Mazhar Malik**, **Surajit Mondal** Univ of Petroleum & Energy Stud, India

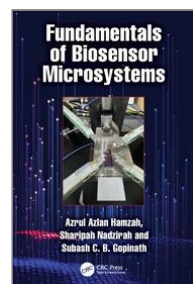
Series: *Communication Networks and Smart Techniques for 5G and beyond*

The text discusses comprehensive strategies and technologies for improving energy efficiency, integrating renewable energy, and optimizing cooling and power management. It offers case studies on green-powered data centers and cutting-edge cooling innovations. It covers emerging green technologies and the role of artificial intelligence and the Internet of Things in sustainability, and predictions for future innovations. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electrical and communications engineering, computer science, and engineering, environmental engineering, and information technology.

CRC Press
November 2026 : 592pp
Hb: 978-1-041-16093-9 : £175

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Fundamentals of Biosensor Microsystems



Azrul Azlan Hamzah, **Sharipah Nadzirah**, **Subash C. B. Gopinath**

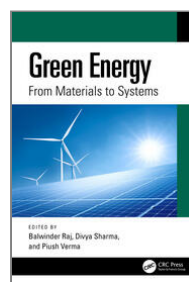
This book covers microsystem integration aspects of biosensors, examining how they function within diagnostic systems and providing foundations in biological and engineering principles. It introduces biomolecules as bioreceptors, extraction techniques, surface modification, immobilization, and functionalization. Various biosensor types are detailed: electrochemical, electrode-based, chemical, mass-sensitive, micromechanical, microfluidic, DEP, magnetic, and thermal. It connects readers with emerging technologies like point-of-care via lab-on-chip and IoT. Intended for senior undergraduates, postgraduates, researchers, engineers, and medical practitioners in biosensors & microsystems.

CRC Press
October 2026 : 368pp
Hb: 978-1-032-58561-1 : £110

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Green Energy

From Materials to Systems



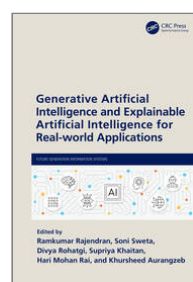
Edited by **Balwinder Raj** NIITR, India, **Divya Sharma**, **Piush Verma**

This book highlights developments in wind turbine design, solar panel efficiency, and energy storage technologies like hydrogen and batteries. It discusses how digital technologies, and smart grids can be combined to maximize energy usage and distribution. It highlights the materials that are frequently used in solar cells (silicon, III-V compound, perovskite, etc.) and the ongoing research into new, more affordable, or more effective materials. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, energy engineering, renewable energy, clean technologies, and nanotechnology.

CRC Press
September 2026 : 480pp
Hb: 978-1-041-14003-0 : £180

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Generative Artificial Intelligence and Explainable Artificial Intelligence for Real-world Applications



Edited by **Ramkumar Rajendran**, **Soni Sweta**, **Divya Rohatgi**, **Supriya Khaitan** GCET, **Hari Mohan Rai**, **Khursheed Aurangzeb**

Series: *Future Generation Information Systems*

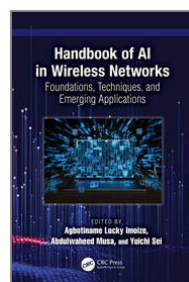
This reference text offers an in-depth examination of generative artificial intelligence, covering cutting-edge advancements in generative models like GANs, VAEs, and transformer-based architectures. It elucidates the underlying mathematics and algorithms, providing a robust foundation for understanding how these models generate new data, images, and text. It explores explainable artificial intelligence techniques, including feature importance, SHAP values, and counterfactual explanations. It is written for graduate students and academic researchers in electrical engineering, electronics, and communication engineering, computer science and engineering, and biomedical engineering.

CRC Press
October 2026 : 512pp
Hb: 978-1-041-06876-1 : £190

* For full contents and more information, visit: www.routledge.com/9781041068761

Handbook of AI in Wireless Networks

Foundations, Techniques, and Emerging Applications



Edited by **Agbotiname Lucky Imoize**, **Abdulwaheed Musa**, **Yuichi Sei**

This handbook bridges theory and practical applications, providing foundational knowledge for AI in future wireless networks. It's a comprehensive guide to developing, deploying, and managing intelligent wireless systems. The book explores AI's intersection with wireless communication, covering emerging trends like integrated sensing, intelligent spectrum management, traffic scheduling, energy efficiency, and security. Written for researchers, academics, industry professionals, and students in wireless communications, AI, and network systems.

CRC Press
July 2026 : 774pp
Hb: 978-1-041-13036-9 : £175

* For full contents and more information, visit: www.routledge.com/9781041130369

Handbook of Artificial Intelligence in Green 6G Wireless Communications

Cover Image
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Edited by **Agbotiname Lucky Imoize** Faculty of Eng., UNILAG, NG, **Abdulwaheed Musa**, **Yuichi Sei**, **Cristian Randieri** eCampus University, Novedrate, Lombardy, Italy

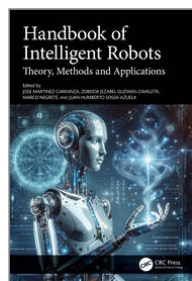
The book begins by exploring the fundamentals of green wireless communication systems, providing a detailed overview of the core principles and candidate enabling technologies for 6G. It then discusses innovative technologies and the integration of artificial intelligence (AI)-empowered algorithms into wireless networks to promote green, sustainable environments. Additionally, the handbook presents interdisciplinary approaches and emphasizes the need for hybrid solutions to develop green and secure 6G network infrastructure.

CRC Press
November 2026 : 464pp
Hb: 978-1-041-36414-6 : £175

* For full contents and more information, visit: www.routledge.com/9781041364146

Handbook of Intelligent Robots

Theory, Methods and Applications



Edited by **Jose Martinez-Carranza** Instituto Nacional de Astrofisica Optica y Electronica, Mexico, **Zobeida Jezabel Guzman-Zavaleta**, **Marco Antonio Negrete-Villanueva**, **Humberto Sossa-Azuella**

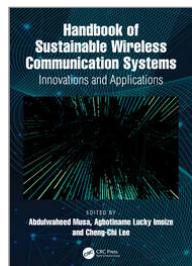
This book is intended for electrical, computer and mechanical engineers interested in robotics and AI as well as those interested in robots deployed in real life scenarios. It will be useful to postgraduate students seeking reviews of the state of the art regarding AI methods for robotics such as visual SLAM, continual learning, neural networks, and transformers.

CRC Press
July 2026 : 566pp
Hb: 978-1-041-07979-8 : £175

* For full contents and more information, visit: www.routledge.com/9781041079798

Handbook of Sustainable Wireless Communication Systems

Innovations and Applications



Edited by **Abdulwaheed Musa**, **Agbotiname Lucky Imoize** Faculty of Eng., UNILAG, NG, **Cheng-Chi Lee**

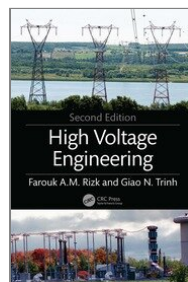
The book begins by exploring the foundations of wireless communication systems, providing a detailed overview of the principles, protocols, and technologies that underpin modern wireless networks. It then progresses to discuss emerging trends and technologies, such as 5G and 6G networks, the Internet of Things (IoT), and Artificial Intelligence (AI), and their potential contributions to green environments. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, telecommunication, wireless communication, and environmental engineering.

CRC Press
June 2026 : 348pp
Hb: 978-1-041-07660-5 : £160
eBook: 978-1-003-64160-5

* For full contents and more information, visit: www.routledge.com/9781041076605

2ND EDITION

High Voltage Engineering



Farouk A.M. Rizk EXPODEV, Quebec, Canada, **Giao N. Trinh**

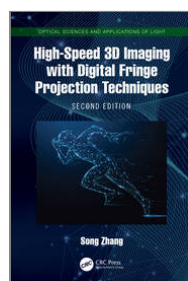
Inspired by a new revival of worldwide interest in extra-high-voltage (EHV) and ultra-high-voltage (UHV) transmission, High Voltage Engineering merges the latest research with the extensive experience of the best in the field to deliver a comprehensive treatment of electrical insulation systems for the next generation of utility engineers and electric power professionals. The book offers extensive coverage of the physical basis of high-voltage engineering, from insulation stress and strength to lightning attachment and protection and beyond.

CRC Press
May 2026 : 892pp
Hb: 978-1-032-96942-8 : £245
eBook: 978-1-003-59150-4

* For full contents and more information, visit: www.routledge.com/9781032969428

2ND EDITION

High-Speed 3D Imaging with Digital Fringe Projection Techniques



Song Zhang Purdue University, West Lafayette, Indiana, USA

Series: *Optical Sciences and Applications of Light*

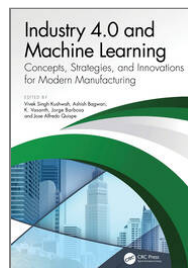
This comprehensive guide presents the latest advancements in Digital Fringe Projection (DFP) technology for non-contact 3D shape measurement. Building upon the foundational knowledge in the first edition, this expanded volume incorporates significant technological developments from nearly two decades of the author's research. This book is ideal for researchers, engineers, and graduate students working in optical metrology, computer vision, mechanical engineering, and industrial quality control. Professionals seeking to implement high-speed, high-accuracy 3D measurement systems will find particular value in the practical calibration methods and system optimization techniques.

CRC Press
July 2026 : 290pp
Hb: 978-1-041-19139-1 : £120

* For full contents and more information, visit: www.routledge.com/9781041191391

Industry 4.0 and Machine Learning

Concepts, Strategies, and Innovations for Modern Manufacturing



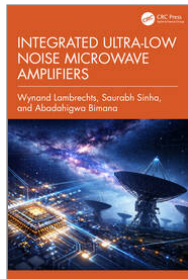
Edited by **Vivek Singh Kushwah**, **Ashish Bagwari** Women's Institute of Technology, Dehradun, India, **K. Vasanth**, **Jorge Luis Barbosa**, **Jose Alfredo Quispe**

The book is a comprehensive exploration of the latest innovations and developments in the intersection of Industry 4.0 and machine learning. It explains the principles and technologies that underpin Industry 4.0, such as the Internet of Things (IoT), cyber-physical systems, and smart manufacturing. It provides a comprehensive overview of machine learning, including various algorithms, data processing techniques, and model evaluation methods. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communication engineering, computer science and engineering, manufacturing, and industrial engineering.

CRC Press
September 2026 : 432pp
Hb: 978-1-041-10088-1 : £175

* For full contents and more information, visit: www.routledge.com/9781041100881

Integrated Ultra-Low Noise Microwave Amplifiers



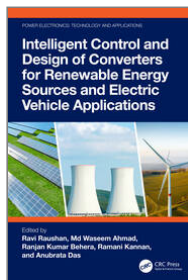
Wynand Lambrechts, Saurabh Sinha, Abadahigwa Bimana

This book presents the theoretical foundations of low-noise amplifier (LNA) design, with a particular focus on ultra-low-noise amplifiers. It introduces various noise types and sources in semiconductors, examines semiconductor processes (SiGe, HEMT, MOSFET, SOI, MMIC) for both passive and active components, and explains noise and impedance matching techniques, noise measurement methods, possible topologies for ultra-low-noise amplifiers, design and optimization approaches, and relevant design tools. The proposed methodologies are supported by detailed design examples and case studies, including applications for the SKA.

CRC Press
July 2026 : 392pp
Hb: 978-1-032-52793-2 : £110

* For full contents and more information, visit: www.routledge.com/9781032527932

Intelligent Control and Design of Converters for Renewable Energy Sources and Electric Vehicle Applications



Edited by **Ravi Raushan** EEE Department, National Institute of Technology, Surathkal, Karnataka, India, **Md Waseem Ahmad** EEE, National Institute of Technology, Surathkal, Karnataka, India, **Ranjan Kumar Behera**, **Ramani Kannan** Universiti Teknologi PETRONAS, Malaysia, **Anubrata Das** Dept. of Electrical and Computer Science, University of Tennessee Knoxville, USA

Series: Power Electronics

The book discusses aspects such as converter design, control techniques, and other functionality augmented in the controllers mandated by the grid. It further explains how the power from renewable energy is converted to electrical energy and integrated into the grid smoothly. It showcases how an electrical motor powered by a battery is controlled in electric vehicles. It is primarily written for senior undergraduates, graduate students, and academic researchers in the fields of electrical engineering, electronics and communication engineering, computer science and engineering, and automotive engineering.

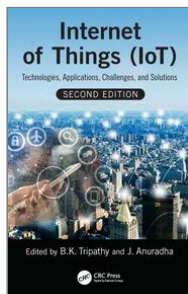
CRC Press
May 2026 : 272pp
Hb: 978-1-032-84959-1 : £130
eBook: 978-1-003-51580-7

* For full contents and more information, visit: www.routledge.com/9781032849591

2ND EDITION

Internet of Things (IoT)

Technologies, Applications, Challenges and Solutions



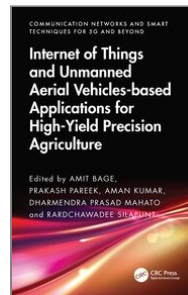
Edited by **BK Tripathy** School of Computing Science and Engineering, VIT University, Vellore, INDIA, **J Anuradha** School of Computing Science and Engineering, VIT University, Vellore, INDIA

IoT has multi-directional growth not limited to sensor technology, communication, security, data engineering, analytics, embedded technology and automation. Second edition of this book focusses on topics like energy efficient IoT models, generative AI in IoT, harnessing contextual intelligence of smart devices, security and privacy management in IoT devices, application of machine learning and deep learning models in IoT systems, IoT applications in health care, smart home, smart city covering all domains of individual, industries and government applications. This book is aimed at researchers and graduate students in networking, communication systems, electrical engineering, and IoT.

CRC Press
October 2026 : 360pp
Hb: 978-1-041-09673-3 : £140

* For full contents and more information, visit: www.routledge.com/9781041096733

Internet of Things and Unmanned Aerial Vehicles-based Applications for High-Yield Precision Agriculture



Edited by **Amit Bage, Prakash Pareek, Aman Kumar, Dharmendra Prasad Mahato** National Institute of Technology, India, **Rardchawadee Silapunt**

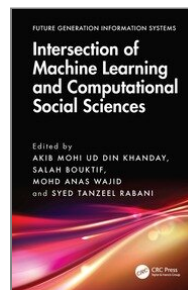
Series: Communication Networks and Smart Techniques for 5G and beyond

The text focuses on the basic algorithms used for hard problems or multi-objective problems in precision agriculture. It comprehensively discusses precision agriculture techniques such as the use of global positioning systems, crop sensors, geographic information systems, remote sensing, and Soil sampling. It is primarily written for senior undergraduates, graduate students, and academic researchers in the fields of electrical engineering, electrical and communications engineering, computer science and engineering, agricultural science and engineering, and information technology.

CRC Press
October 2026 : 296pp
Hb: 978-1-032-96496-6 : £110

* For full contents and more information, visit: www.routledge.com/9781032964966

Intersection of Machine Learning and Computational Social Sciences



Edited by **Akib Mohi Ud Din Khanday, Salah Bouktif, Mohd Anas Wajid, Syed Tanzeel Rabani**

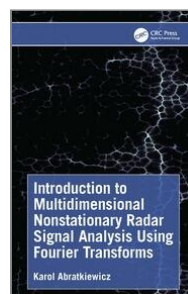
Series: Future Generation Information Systems

The book emphasizes the practical aspects of using machine learning tools and techniques to analyze social data and make predictions. It discusses the application of machine learning techniques in the field of computational social science. It focuses on how machine learning algorithms and data-driven approaches can be used to analyze social data, model social phenomena, and make predictions in social contexts. It is primarily written for senior undergraduates, graduate students, and academic researchers in the fields of electrical engineering, electronics and communications engineering, computer science and engineering, and biomedical engineering.

CRC Press
June 2026 : 368pp
Hb: 978-1-032-82117-7 : £175
eBook: 978-1-003-76690-2

* For full contents and more information, visit: www.routledge.com/9781032821177

Introduction to Multidimensional Nonstationary Radar Signal Analysis Using Fourier Transforms



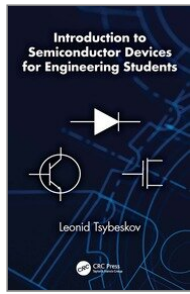
Karol Abratkiewicz

This book bridges theoretical signal processing and practical radar applications, presenting Fourier-based methods for analyzing complex radar signals. It offers comprehensive treatment of time-frequency analysis for radar, featuring proprietary algorithms and advanced techniques like W2DFT. Includes real-world examples, MATLAB toolbox, and combines classical methods with recent advances. Designed for students and engineers in electrical engineering, signal processing, and radar applications.

CRC Press
August 2026 : 304pp
Hb: 978-1-041-28649-3 : £91.99

* For full contents and more information, visit: www.routledge.com/9781041286493

Introduction to Semiconductor Devices for Engineering Students



Leonid Tsybeskov

This textbook provides focused overview of semiconductor physics and materials science for engineering students. Covers energy band diagrams, semiconductor properties, and device operations including diodes, solar cells, LEDs, transistors, and MOSFETs. Features detailed calculations with proper units and constants. Builds required knowledge without complex quantum mechanics. Intended for one-semester undergraduate course in electrical engineering and materials science programs. Solutions manual and slides available for professors.

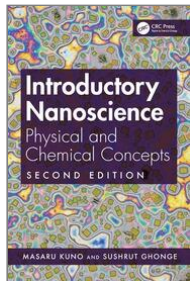
CRC Press
August 2026 : 250pp
Pb: 978-1-041-03685-2 : **£68.99**
Hb: 978-1-041-03686-9 : **£170**

* For full contents and more information, visit: www.routledge.com/9781041036852

2ND EDITION

Introductory Nanoscience

Physical and Chemical Concepts



Masaru Kuno, Sushrut Ghongre

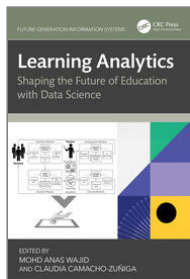
This comprehensive second edition provides a pedagogical introduction to nanoscience with quantitative descriptions and solved examples. It demonstrates how scale-dependent property changes predict nanomaterial behavior. The book explores how optical/electrical properties depend on size, shape, and morphology, plus nanometer-sized object construction. Updated with new examples and an electricity/magnetism chapter covering nanomaterial responses to fields. Features complete equation derivations, end-of-chapter problems, and historical overview for upper-level students.

Garland Science
July 2026 : 464pp
Pb: 978-1-032-90981-3 : **£120**
Hb: 978-1-032-91082-6 : **£89.99**

* For full contents and more information, visit: www.routledge.com/9781032909813

Learning Analytics

Shaping the Future of Education with Data Science



Edited by **Mohd Anas Wajid, Claudia Camacho-Zuñiga**

Series: Future Generation Information Systems

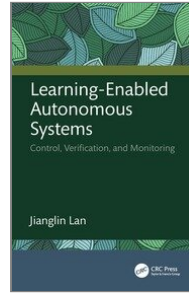
This new edition provides detailed descriptions of nonlinear optical phenomena starting from basic principles to state of the art applications. The content is balanced between description of nonlinear optical properties of various photonic materials as well as a description of application of nonlinear phenomena in free space optics and in waveguides. This book is an essential resource for advanced undergraduate and graduate students, researchers, and professionals working in photonics, optical engineering, and laser physics as well as for practicing engineers and scientists developing optical communication systems, laser technologies, and quantum optical devices.

CRC Press
June 2026 : 298pp
Hb: 978-1-041-15193-7 : **£105**

* For full contents and more information, visit: www.routledge.com/9781041151937

Learning-Enabled Autonomous Systems

Control, Verification, and Monitoring



Jianglin Lan

This book examines designing intelligent systems that are adaptive, safe, and reliable, bridging traditional control theory and modern data-driven learning. It introduces data-driven control methods enabling systems to learn from real-world data while maintaining mathematical rigor. The book explores advanced control strategies for nonlinear systems, verification techniques for neural network controllers, and runtime monitoring frameworks. Tailored for graduate students, researchers, and practitioners in control systems, robotics, AI, and systems engineering.

CRC Press
September 2026 : 208pp
Hb: 978-1-041-30277-3 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041302773

LIFE 4.0

Human Life in the Age of Artificial Intelligence



Ali Soofastaei The University of Queensland, Australia

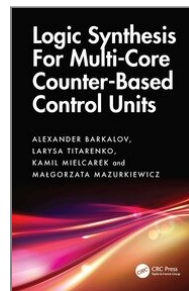
This book explains what artificial intelligence is, explores its use cases and applications, and helps readers understand key AI concepts and terms such as machine learning, deep learning, and neural networks. It also examines various issues and concerns surrounding AI, including ethics, bias, and the impact on jobs. In addition, it guides readers on learning AI and starting a career in the field. It is designed for both technical and non-technical audiences, this book introduces the fundamentals of AI in an accessible and practical way.

CRC Press
July 2026 : 326pp
Hb: 978-1-032-53346-9 : **£120**

* For full contents and more information, visit: www.routledge.com/9781032533469

Logic Synthesis for Multi-Core Counter-Based Control Units

Structural Decomposition in Logic Design



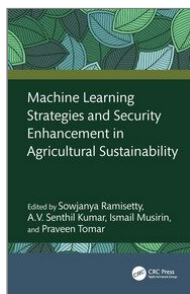
Alexander Barkalov, Larysa Titarenko, Kamil Mielcarek, Małgorzata Mazurkiewicz

This book focuses on logic synthesis of FPGA-based counter-based control units and FSMs, introducing new architectures for compositional microprogram control units that optimize hardware resources, performance, and power consumption. It presents structural decomposition methods that create circuits with fewer logic levels and more regular interconnections. The book details state assignment methods and explores transitions from single-core to multi-core architectures with practical examples and step-by-step synthesis methods. Tailored for students, researchers, and professionals in computer science, electronics, telecommunications, reconfigurable systems, and embedded systems.

CRC Press
September 2026 : 232pp
Hb: 978-1-041-33622-8 : **£115**

* For full contents and more information, visit: www.routledge.com/9781041336228

Machine Learning Strategies and Security Enhancement in Agricultural Sustainability



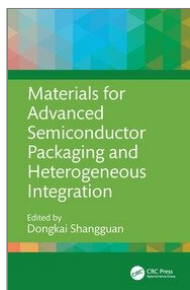
Edited by **Sowjanya Ramisetty , A.V. Senthil Kumar , Ismail Musirin , Praveen Tomar**

The text showcases how machine learning techniques can be used in several elements of farming, like more efficient management of resources like water and fertilizer, crop health monitoring, and yield prediction, through case studies and real-world examples. It will help the readers learn about the most recent trends and directions in agricultural research. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, agricultural science, and information technology.

CRC Press
October 2026 : 368pp
Hb: 978-1-041-06325-4 : **£120**

* For full contents and more information, visit: www.routledge.com/9781041063254

Materials for Advanced Semiconductor Packaging and Heterogeneous Integration



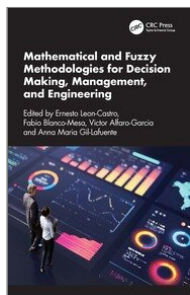
Edited by **Dongkai Shangguan**

This book is aimed at academic and industry researchers, as well as industry practitioners. It covers fundamental aspects as well as practical considerations, and it will serve as a comprehensive source of the most up-to-date knowledge, and a review of the state of the art of the technology and applications, for innovative materials for advanced semiconductor packaging and heterogeneous integration.

CRC Press
October 2026 : 516pp
Hb: 978-1-032-95943-6 : **£130**

* For full contents and more information, visit: www.routledge.com/9781032959436

Mathematical and Fuzzy Methodologies for Decision Making, Management, and Engineering



Edited by **Ernesto Leon-Castro , Fabio Blanco-Mesa , Victor Alfaro-Garcia , Anna Maria Gil-Lafuente**

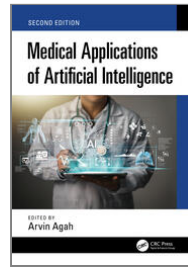
This guide bridges theoretical fuzzy logic and practical applications in decision-making, management, and engineering. It equips readers with actionable frameworks for applying mathematical and fuzzy methodologies to real business and engineering cases, addressing uncertainties that traditional methods cannot handle. The book explores diverse methodologies through step-by-step implementations and case studies from multiple countries and industries. Each chapter demonstrates how these techniques improve organizational outcomes with broad applicability across contexts. Intended for graduate students, professors, researchers, and industry professionals.

CRC Press
September 2026 : 184pp
Hb: 978-1-041-20929-4 : **£96.99**

* For full contents and more information, visit: www.routledge.com/9781041209294

2ND EDITION

Medical Applications of Artificial Intelligence



Edited by **Arvin Agah** University of Kansas, Lawrence, USA

This new edition examines AI's role in medicine, showcasing how it makes healthcare more accurate, affordable, accessible, and efficient. It covers foundational principles to advanced applications across disease detection, medical imaging, surgery, drug development, personalized medicine, telehealth, and patient monitoring. It explains AI techniques like deep learning and decision trees accessibly, emphasizes AI as a tool to assist—not replace—medical professionals, and includes expanded resources on journals, conferences, and academic programs. Ideal for AI experts interested in medicine and medical professionals seeking to enhance their work with AI.

CRC Press
November 2026 : 632pp
Hb: 978-1-041-21518-9 : **£160**

* For full contents and more information, visit: www.routledge.com/9781041215189

Meta-Photonic Devices for Polarization Manipulation

Disruption and Revolution



Jitao Li

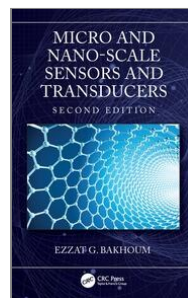
Polarized light is vital in advanced manufacturing, medical imaging, communication, and fundamental physics, making polarization manipulation central to photonics. This book examines the theory and design of meta-photonic devices, presenting innovative methods for controlling polarization with precision and efficiency. Targeted at researchers and engineers in photonics and electromagnetic wave studies, the book provides universal principles applicable across the electromagnetic spectrum, delivering practical insights into the transformative potential of meta-photonic polarization devices.

CRC Press
October 2026 : 240pp
Hb: 978-1-041-32788-2 : **£86.99**

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2ND EDITION

Micro- and Nano-Scale Sensors and Transducers



Ezzat G. Bakhoun University of West Florida, USA

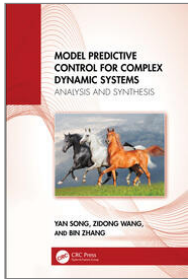
The rapidly emerging fields of nanotechnology and nanofabrication have enabled the creation of new sensors with dramatic improvements in sensitivity and range, along with substantial miniaturization. This book summarizes the state of the art in sensor and transducer technology. It teaches how to make more informed selections of sensors or transducers for particular applications, describes the differences between new sensor and transducer technologies based on nanotechnology and nanofabrication and older or classical sensor technologies.

CRC Press
August 2026 : 416pp
Pb: 978-1-032-95903-0 : **£52.99**
Hb: 978-1-032-95518-6 : **£135**

* For full contents and more information, visit: www.routledge.com/9781032959030

Model Predictive Control for Complex Dynamic Systems

Analysis and Synthesis



Yan Song, Zidong Wang Brunel Uni, UK, **Bin Zhang**

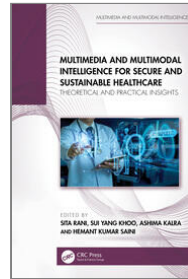
Model Predictive Control (MPC) has advanced as a robust method for managing complex dynamic systems, surpassing traditional control strategies in performance and constraint handling. This book explores MPC theory and applications, focusing on robust MPC (RMPC) for systems with uncertainties. It examines three system types: networked systems, stochastic switching systems, and nonlinear hybrid systems. It addresses challenges in networked interventions, Markovian jump systems, and nonlinear systems under communication constraints. This book is aimed at graduate students and researchers in networks, signal processing, controls, dynamic complex systems.

CRC Press
June 2026 : 256pp
Hb: 978-1-041-17440-0 : £150
eBook: 978-1-003-68988-1

* For full contents and more information, visit: www.routledge.com/9781041174400

Multimedia and Multimodal Intelligence for Secure and Sustainable Healthcare

Theoretical and Practical Insights



Edited by **Sita Rani** GNDEC, Ludhiana, **Sui Yang Khoo**, **Ashima Kalra** Chandigarh Engineering College, India, **Hemant Kumar Saini**

Series: Multimedia and Multimodal Intelligence

This book provides a comprehensive examination of artificial intelligence techniques that integrate heterogeneous healthcare data to support intelligent, secure, and sustainable healthcare systems. It presents both theoretical foundations and practical methodologies for multimodal data fusion, representation learning, and decision-making using medical images, bio signals, electronic health records, wearable sensors, text, and multimedia data. The text is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, and biomedical engineering.

CRC Press
September 2026 : 320pp
Hb: 978-1-041-12600-3 : £120

* For full contents and more information, visit: www.routledge.com/9781041126003

Modern Power Systems Engineering

Planning, Control and Operational Optimization



Mostafa Eidiani, Kumars Rouzbehi

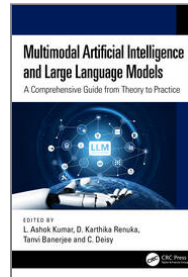
Ready to elevate your power systems expertise from advanced theory to industry-leading practice? This book is your essential next step, building upon foundational concepts to tackle the specialized and complex challenges facing modern power grids. Moving beyond dense academic papers, it offers a concise, practical, and condensed learning experience, directly integrating advanced theories with the industry-standard DlgSILENT PowerFactory software.

CRC Press
October 2026 : 232pp
Hb: 978-1-041-14521-9 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041145219

Multimodal Artificial Intelligence and Large Language Models

A Comprehensive Guide from Theory to Practice



Edited by **L. Ashok Kumar** PSG College of Technology, India, **D. Karthika Renuka** PSG COLLEGE OF TECHNOLOGY, TN, INDIA, **Tanvi Banerjee, C. Deisy**

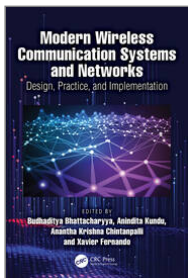
The book explains a thorough examination of multimodal artificial intelligence, which includes the theoretical foundations as well as the technical ground for the real-world applications that combine text, image, audio, and video modalities. It offers comprehensive coverage of cross-modal representation learning, real-time processing architectures, and large language model integration patterns. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, and information technology.

CRC Press
September 2026 : 376pp
Hb: 978-1-041-15213-2 : £140

* For full contents and more information, visit: www.routledge.com/9781041152132

Modern Wireless Communication Systems and Networks

Design, Practice, and Implementation



Edited by **Budhaditya Bhattacharyya, Anindita Kundu, Anantha Krishna Chintanpalli, Xavier Fernando**

This book examines real-world applications, including mobile communication, the Internet of Things (IoT), and wireless sensor networks, emphasizing practical deployment. It further discusses device-to-device communication protocols, wireless personal area networks, and wireless body area networks. The book highlights opportunities and challenges with experimental software defined radio networks. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, wireless communications, networking communications, telecommunications, and communications system design.

CRC Press
August 2026 : 394pp
Hb: 978-1-041-11274-7 : £150

* For full contents and more information, visit: www.routledge.com/9781041112747

Multimodal Artificial Intelligence in Precision Agriculture

Practices, Challenges, and Applications



Edited by **Abhilasha Sharma, Vishwas Rathi, Anupam Biswas, Anil Singh, Omer Rana**

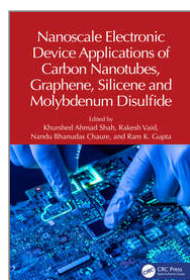
Series: Multimedia and Multimodal Intelligence

The text explores the impact of artificial intelligence, machine learning, and deep learning over multimedia and multimodal data for agricultural automation. It focuses on identifying key challenges in utilizing artificial intelligence and addresses the challenges of using diverse data sources in precision farming applications. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, agricultural engineering, and information technology.

CRC Press
May 2026 : 340pp
Hb: 978-1-041-06827-3 : £130
eBook: 978-1-003-63726-4

* For full contents and more information, visit: www.routledge.com/9781041068273

Nanoscale Electronic Device Applications of Carbon Nanotubes, Graphene, Silicene and Molybdenum Disulfide



Edited by **Khurshed Ahmad Shah** Cluster University Srinagar, India, **Rakesh Vaid**, **Nandu Bhanudas Chaur**, **Ram K. Gupta**

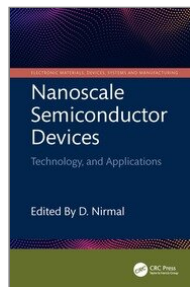
The book covers the latest advancements in the field of nanoelectronics using most popular low-dimensional materials namely carbon nanotubes, graphene, silicene, and molybdenum disulfide, that demonstrate how high electron mobility, quantum confinement effects, and low power consumption make them as essential substitutes for traditional silicon-based devices in applications ranging from logic gates and memories to sensors and energy storage. Furthermore, the concepts discussed herein are crucial for realizing cutting-edge fields like nanophotonics, nanoscale circuit design, and the hardware implementation of future technologies.

CRC Press
August 2026 : 438pp
Hb: 978-1-032-63411-1 : **£150**

* For full contents and more information, visit: www.routledge.com/9781032634111

Nanoscale Semiconductor Devices

Technology and Applications



Edited by **D. Nirmal** Karunya University, India
Series: Electronic Materials, Devices, Systems and Manufacturing

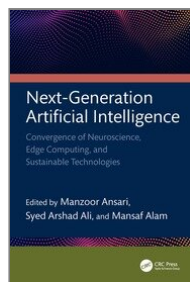
The book provides a comprehensive understanding of nanoscale devices, from their theoretical foundations to their real-world applications. It explores nanoscale devices, covering fundamental building blocks like nanoscale field-effect transistors (FETs) and their 2D materials. It also addresses energy concerns, discussing nano energy harvesting, storage devices, and light emission technologies like light-emitting diodes and piezoelectric nanogenerators. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics, and communications engineering.

CRC Press
September 2026 : 400pp
Hb: 978-1-041-06371-1 : **£140**

* For full contents and more information, visit: www.routledge.com/9781041063711

Next-Generation Artificial Intelligence

Convergence of Neuroscience, Edge Computing, and Sustainable Technologies



Edited by **Manzoor Ansari**, **Syed Arshad Ali**, **Mansaf Alam** Jamia Millia Islamia University, New Delhi

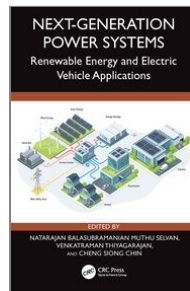
This book combines cutting-edge advancements in neuroscience-inspired artificial intelligence, edge computing, and sustainable practices, presenting a compelling narrative for researchers, industry professionals, and policymakers alike. It discusses the principles of neuroscience that inspire artificial intelligence development, including neural dynamics, spiking neural networks, and the role of biological intelligence in creating adaptive systems. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, and environmental engineering.

CRC Press
July 2026 : 366pp
Hb: 978-1-041-16546-0 : **£140**

* For full contents and more information, visit: www.routledge.com/9781041165460

Next-Generation Power Systems

Renewable Energy and Electric Vehicle Applications



Edited by **Natarajan Balasubramanian Muthu Selvan**, **Venkatraman Thiagarajan**, **Cheng Siong Chin** Newcastle University, Singapore.

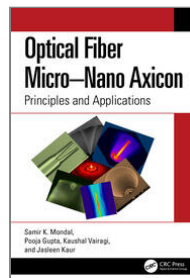
Next-Generation Power Systems: Renewable Energy and Electric Vehicle Applications is a comprehensive resource that addresses emerging issues facing the power system industry in their drive toward more sustainable, reliable, and flexible power generation. It discusses technical, operational and grid integration challenges and solutions for large-scale renewable energy and electric power transmission and generation, including issues related to system stability, reliability, efficiency and capacity.

CRC Press
August 2026 : 592pp
Hb: 978-1-032-95077-8 : **£140**

* For full contents and more information, visit: www.routledge.com/9781032950778

Optical Fiber Micro–Nano Axicon

Principles and Applications



Samir K. Mondal, **Pooja Gupta**, **Kaushal Vairagi**, **Jasleen Kaur**

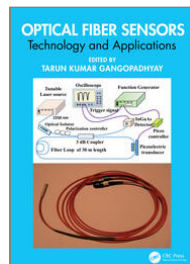
The book highlights the development of negative and positive axicons at the optical fiber tip, presenting their optical behavior with theoretical support and demonstrating applications across various domains. It also outlines recent advancements, including novel micro- and nano-scale negative and positive axicon lens designs on optical fiber tips, enabling readers to evaluate whether this approach meets their requirements in terms of fabrication ease and practical utility.

CRC Press
September 2026 : 480pp
Hb: 978-1-041-08518-8 : **£140**

* For full contents and more information, visit: www.routledge.com/9781041085188

Optical Fiber Sensors

Technology and Applications



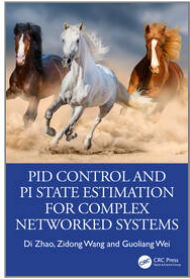
Edited by **Tarun Kumar Gangopadhyay**

This book describes optical phenomena, types of optical fiber, fiber-optic sensing system, types of laser sources used in sensor and the development of some novel mechanisms pertaining to fiber optic sensors. It describes several kinds of laser and fiber-based device including mathematical simulations for the development of fiber-sensor and results of measurements of the performance of the latest sensors developed. It also covers properties of photonic crystal fiber (PCF), different applications of PCF-based sensors, Surface Plasmon Resonance, and hybrid plasmonic waveguide. This book is aimed at researchers and graduate students in optics, sensors, and optoelectronics.

CRC Press
July 2026 : 410pp
Hb: 978-1-032-44661-5 : **£175**

* For full contents and more information, visit: www.routledge.com/9781032446615

PID Control and PI State Estimation for Complex Networked Systems



Di Zhao, Zidong Wang Brunel Uni, UK, **Guoliang Wei** Univof Shanghai for Sci & Tech, China

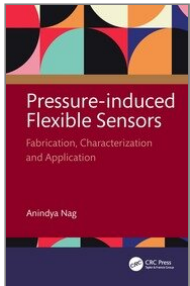
This book explores PID control and PI state estimation for complex networked systems facing network-enhanced challenges including fading measurements, time-delays, packet dropouts, and cyber-attacks including PID control problems, PI state estimation and neural networks.

CRC Press
September 2026 : 288pp
Hb: 978-1-041-16812-6 : £175

* For full contents and more information, visit: www.routledge.com/9781041168126

Pressure-Induced Flexible Sensors

Fabrication, Characterization and Application



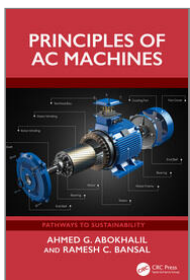
Edited by **Anindya Nag**

Pressure sensors are pivotal in sensing technology due to their high accuracy, low power consumption & fast response time. This book highlights research on fabricating and implementing pressure-induced flexible sensors across healthcare, industrial, and environmental sectors. It covers the entire spectrum from fabrication to application, categorizing sensors by operating mechanisms. The authors showcase breakthrough developments in multimodal and biodegradable sensing while examining current challenges & solutions. Aimed at graduate students and researchers in electrical and materials science engineering interested in sensor technology for industrial, biomed, and related applications.

CRC Press
November 2026 : 384pp
Hb: 978-1-041-02375-3 : £175

* For full contents and more information, visit: www.routledge.com/9781041023753

Principles of AC Machines



Ahmed G. Abokhalil, Ramesh C. Bansal

Series: Pathways to Sustainability

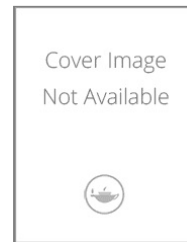
This book offers a clear and concise introduction to the theory and applications of alternating current (AC) electrical machines. It explores electromechanical systems, focusing on basics concepts of electromagnetic fields and magnetic materials, delving into the governing laws and forces of magnetism. This book is designed for undergraduate and beginning graduate students in electrical engineering, renewable energy engineering, and related disciplines. It is also a practical reference for professionals working in the power systems, automation, and energy sectors.

CRC Press
August 2026 : 208pp
Hb: 978-1-032-85318-5 : £110

* For full contents and more information, visit: www.routledge.com/9781032853185

Quantum Searching and Optimization Algorithms

A Comprehensive Guide



Pawan Kumar Verma Sharda University, Greater Noida, India, **Mohit Kumar, Saurabh Singhal** GLA University, Mathura, India, **Anand Nayyar** Duy Tan University, Vietnam

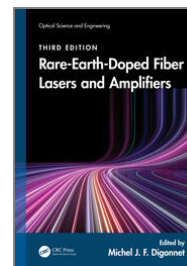
This book offers a rigorous and forward-looking exploration of one of the most consequential frontiers in modern computation: the use of quantum mechanics to accelerate search, optimization, learning, simulation, and secure information processing. It begins by establishing the conceptual and mathematical foundations of quantum computation, including quantum gates, circuit design, quantum parallelism, and the distinctions between classical and quantum models of information processing. It then develops the algorithmic core of the field, examining how quantum principles can be systematically translated into high-impact procedures for searching structured and unstructured spaces.

CRC Press
November 2026 : 408pp
Hb: 978-1-032-88147-8 : £140

* For full contents and more information, visit: www.routledge.com/9781032881478

3RD EDITION

Rare-Earth-Doped Fiber Lasers and Amplifiers



Edited by **Michel J.F. Digonnet**

Series: Optical Science and Engineering

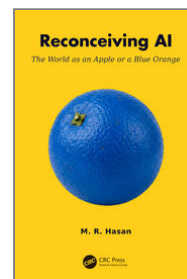
This book covers main fiber lasers and amplifier devices based on rare-earth-doped silica and fluoroaluminate fibers. It describes the erbium-doped fiber amplifier and its role as foundational in optical communication systems. This new edition is fully revised including new material on visible fluoride fiber lasers, single-frequency fiber lasers, broadband fiber sources, Q-switch fiber lasers, and rare-earth doped infrared-transmitting glass fibers. Three brand new chapters include high-power Yb-doped fiber lasers, Tm-doped mode-locked fiber lasers at 2µm, and Ho-doped mode-locked fiber lasers.

CRC Press
May 2026 : 764pp
Hb: 978-1-498-71701-4 : £275
eBook: 978-1-003-52837-1

* For full contents and more information, visit: www.routledge.com/9781498717014

Reconceiving AI

The World as an Apple or a Blue Orange



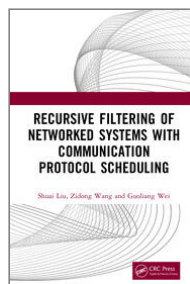
M. R. Hasan

This book offers a fresh perspective on intelligence, AI alignment, and our collective future. Reconceiving AI: The World as an Apple or a Blue Orange explores intelligence across three stages—external, internal, and societal AI. It examines neurotypical emotions and moral imperatives, proposing neurodivergent intelligence aligned with human society. Drawing on Cézanne's paintings and Éluard's poetry, it explores creative AI perception. The book analyzes moral dilemmas from Rohmer and Kieślowski films, plus generative AI technologies and large language models. Provides accessible exploration of AI's evolution for developers, researchers, students, and general readers.

CRC Press
August 2026 : 220pp
Pb: 978-1-041-03341-7 : £38.99
Hb: 978-1-041-03342-4 : £38.99

* For full contents and more information, visit: www.routledge.com/9781041033417

Recursive Filtering of Networked Systems with Communication Protocol Scheduling



Shuai Liu, Zidong Wang Brunel Uni, UK, **Guoliang Wei** Univof Shanghai for Sci & Tech, China

Recursive Filtering of Networked Systems with Communication Protocol Scheduling explores protocol-based state estimation for complex networked systems including Kalman filtering for nonlinear systems under RR and MEF-TOD protocols, finite-horizon robust state estimation under FlexRay protocol, robust filtering for multi-rate systems under Round-Robin and stochastic communication protocols, and state estimation under event-triggering protocol and redundant channel for neural networks.

CRC Press
September 2026 : 216pp
Hb: 978-1-041-16317-6 : £175

* For full contents and more information, visit: www.routledge.com/9781041163176

Recursive State Estimation



Yuriy S. Shmaliy

This book attempts to do this by describing 53 pseudo codes and other forms of optimal, suboptimal, and robust recursive state estimation algorithms.

CRC Press
November 2026 : 560pp
Hb: 978-1-041-28613-4 : £89.99

* For full contents and more information, visit: www.routledge.com/9781041286134

Renewable Energy Integration in Electrical Utility Systems



Dipu Sarkar National Institute of Technology Nagaland, India, **Yanrenthung Odyuo** National Institute of Technology Nagaland, India, **Abraham Lomi** National Institute of Technology Malang, Indonesia

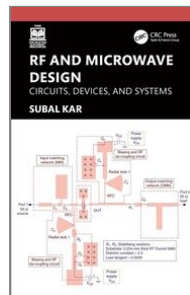
This book will help the readers understand the dynamic interaction between the grid and renewable energy, distributed generation integration concerning grid behavior with distributed generation or renewable energy integration, optimal distributed generation placement and sizing, and planning of distribution networks to accommodate increased penetration of alternative generation sources. machine learning techniques for distributed generation siting and sizing.

CRC Press
November 2026 : 240pp
Hb: 978-1-041-06310-0 : £110

* For full contents and more information, visit: www.routledge.com/9781041063100

RF and Microwave Design

Circuits, Devices, and Systems



Subal Kar

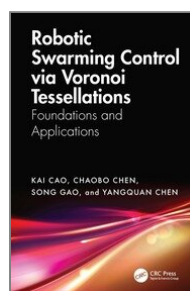
This book deals with the design of circuits, devices, and systems at RF (radio frequency) and microwave frequencies using both the analytical technique and also the EDA (electronic design automation) software tools. EDA-based design technique is now used extensively that helps to translate the optimally designed structures directly to actual fabrication. It is primarily written for senior undergraduates, graduate students, including academic researchers and professionals engaged in electrical engineering, electronics and communication engineering, RF and microwave design, nanoelectronics, and physics studies.

CRC Press
September 2026 : 432pp
Hb: 978-1-041-21979-8 : £150

* For full contents and more information, visit: www.routledge.com/9781041219798

Robotic Swarming Control via Voronoi Tessellations

Foundations and Applications



Kai Cao, ChaoBo Chen, Song Gao, YangQuan Chen University of California Merced, USA

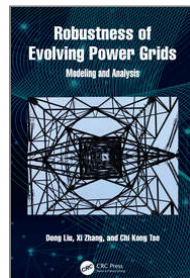
With the help of a Voronoi diagram, this book systematically discusses how to solve the core cooperative control problem in a multi-robot system. From basic theory to cutting-edge applications, the book provides a comprehensive overview of the subject matter, offering readers a rigorous and practical knowledge system. This book will be invaluable to scholars and students of robotics, automation, control engineering, and computer science.

CRC Press
July 2026 : 288pp
Hb: 978-1-041-19913-7 : £130

* For full contents and more information, visit: www.routledge.com/9781041199137

Robustness of Evolving Power Grids

Modeling and Analysis



Dong Liu City University of Hong Kong, **Xi Zhang** School of Automation, Beijing Institute of Technology, **Chi Kong Tse** City University of Hong Kong

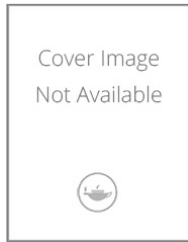
Tse and co-authors take a multidisciplinary approach to address the complex issues facing the sustainable and robust management of modern power grids – particularly the integration of renewable energy, artificial intelligence, and cyber networks – and the resulting necessity for enhanced resilience. This is a vital and cutting-edge resource for research students, undergraduate students, and researchers in power engineering. Engineers and policymakers will also find valuable recommendations and methodologies to enhance robustness and mitigate risks.

CRC Press
May 2026 : 292pp
Hb: 978-1-041-03074-4 : £120

eBook: 978-1-003-62213-0
* For full contents and more information, visit: www.routledge.com/9781041030744

Semiconductor Integrated Circuit

Device Design, Modeling, Simulation, and Application



Edited by **Suman Lata Tripathi**, **Shekhar Verma**, **Vishal Narula**, **GaganPreet Kour Marwah**, **Inung Wijayanto**

This book covers advanced techniques and tools for electronic design automation, low-power integrated circuit design techniques, Internet of Things-enabled energy systems, and analog and radio frequency applications. The text is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communication engineering, integrated circuits, semiconductor devices, and computer engineering.

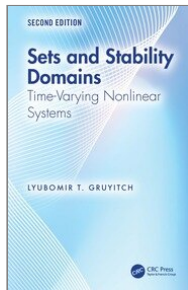
CRC Press
November 2026 : 424pp
Hb: 978-1-041-08218-7 : £180

* For full contents and more information, visit: www.routledge.com/9781041082187

2ND EDITION

Sets and Stability Domains

Time-Varying Nonlinear Systems



Lyubomir T. Gruyitch University of Technology of Belfort–Montbéliard, France (Retired)

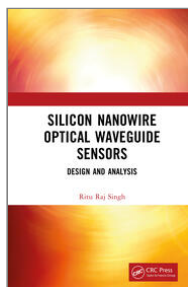
The book establishes a unified stability theory for general time-varying nonlinear systems, based on the consistent stability methodology. This theoretical work broadens and generalizes stability theory beyond the existing Lyapunov stability framework, permitting the dependence of stability properties on the initial instant of the system. The book focuses on the stability domains of positive invariant sets, which can include equilibrium states, limit cycles, or any positive invariant set of the system.

CRC Press
July 2026 : 248pp
Hb: 978-1-041-25144-6 : £89.99

* For full contents and more information, visit: www.routledge.com/9781041251446

Silicon Nanowire Optical Waveguide Sensors

Design and Analysis



Ritu Raj Singh

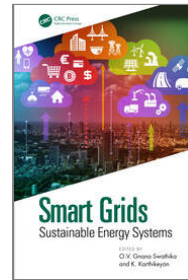
This book addresses silicon on insulator waveguide technology advancements through theoretical analysis and practical sensing applications. The comprehensive study covers nanowire configurations, ring resonator systems, and biomedical diagnostic implementations crucial for understanding modern integrated photonic sensing platforms and optical detection methodologies. This title has been co-published with Manakin Press. T&F does not sell or distribute the print editions in Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka.

CRC Press
May 2026 : 166pp
Hb: 978-1-041-29478-8 : £96.99
eBook: 978-1-003-78358-9

* For full contents and more information, visit: www.routledge.com/9781041294788

Smart Grids

Sustainable Energy Systems



Edited by **O.V. Gnana Swathika** VIT Chennai, Chennai, India., **K. Karthikeyan** Larsen and Toubro, Chennai, India.

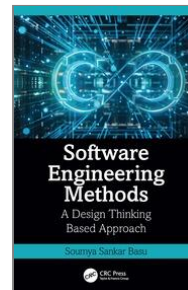
This reference text presents a threat to IoT Security and their Mitigation Strategies in Smart Grid. It further discusses aspects of adaptive demand response management, multiport converter topology and voltage stability in smart grid. Internet of Things-based prioritized load management technique for PV battery-powered buildings is illustrated. Importance of Zero energy buildings, sustainable farming and E-vehicles are discussed. Case Studies on Optimal DG Planning are presented.

CRC Press
May 2026 : 426pp
Hb: 978-1-032-77494-7 : £175
eBook: 978-1-003-53787-8

* For full contents and more information, visit: www.routledge.com/9781032774947

Software Engineering Methods

A Design Thinking Based Approach



Soumya Sankar Basu

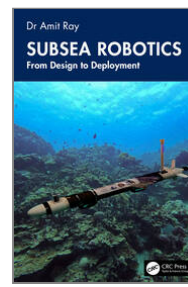
The book introduces software engineering methodology and how it augments software development lifecycle. It highlights various influencers of software engineering method. This book will help readers defining the software engineering methodology for their software development organization/project. The target readers are students, professionals working for different kind of organizations developing software. It will also be helpful for start-up organizations and IT inexperienced organizations developing a software application to arrive at their software engineering method.

CRC Press
August 2026 : 144pp
Pb: 978-1-032-42292-3 : £34.99
Hb: 978-1-032-42099-8 : £84.99

* For full contents and more information, visit: www.routledge.com/9781032422923

Subsea Robotics

From Design to Deployment



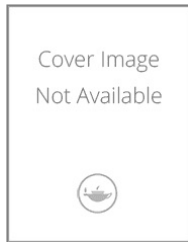
Amit Ray

Subsea Robotics address complex challenges in oceanographic data collection, submerged infrastructure inspection, and defense missions. This book offers a comprehensive, system-level perspective on Subsea Robotics by integrating engineering fundamentals with real-world deployment practices. It covers design, propulsion, autonomy, navigation, communication, and operational standards. By combining core engineering principles with deployment realities, the book shows how subsea robots are designed and built to meet real-world constraints.

CRC Press
October 2026 : 296pp
Hb: 978-1-041-23381-7 : £110

* For full contents and more information, visit: www.routledge.com/9781041233817

Target Tracking by Airborne Radar Systems (Two Volume Set)



Vyacheslav Tuzlukov

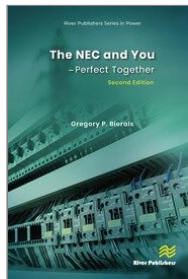
Automated target tracking is a necessary function of the airborne radar and radio control systems. At the present time, there is no a classified approach to designing and construction principles, functioning features, methods, algorithms and procedures of synthesis and analysis of the airborne radar target tracking systems by the target range, velocity and azimuth satisfying all long-term requirements. Volume 1 "Air-borne Radar Systems and Single Target Tracking" and Volume 2 "Fundamentals of Multitarget Tracking" of the two-volumes book "Target Tracking by Airborne Radar Systems" is intended to cover demands of this uncertainty.

CRC Press
June 2026 : 880pp
Hb: 978-1-032-52858-8 : £350

* For full contents and more information, visit: www.routledge.com/9781032528588

2ND EDITION

The NEC and You Perfect Together



Gregory P. Bierals

Series: River Publishers Series in Power

This second edition has been expanded to include detailed examples of electrical calculations, explanations of Article 100 definitions, and a 300 question and answer evaluation of the entire subject matter. The most important aspect of this book is the use of the electrical terms in Article 100 and the means of connecting these terms to the appropriate NEC Sections from Chapters 2 through 8, with detailed explanations and examples that include many references to other electrical standards. The end result will be a comprehensive understanding of this most important publication.

River Publishers
July 2026 : 282pp
Hb: 978-8-743-81094-0 : £105

* For full contents and more information, visit: www.routledge.com/9788743810940

Thermal Imaging and Computational Intelligence Techniques in Disease Detection



Edited by **Neha Singh** Manipal University Jaipur, India, **Shashi Kant Dargar**, **Shilpi Birla** Manipal University Jaipur, India, **Josephine Selle Jeyanathan** Kalasalingam Academy of Research and Education, India

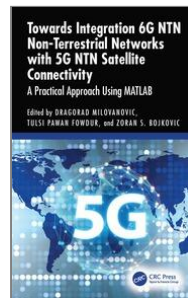
The text presents a compilation of research and methodologies at the intersection of thermal imaging, medical diagnostics, and artificial intelligence for non-invasive early disease detection, diagnosis, and monitoring across a spectrum of medical conditions. It highlights the importance of using the latest technologies to improve performance, productivity, efficiency, and security in healthcare without sacrificing reliability or accessibility.

CRC Press
October 2026 : 336pp
Hb: 978-1-032-95512-4 : £120

* For full contents and more information, visit: www.routledge.com/9781032955124

Towards Integration 6G NTN Non-Terrestrial Networks with 5G NTN Satellite Connectivity

A Practical Approach Using MATLAB®



Edited by **Dragorad Milovanovic**, **Tushi Pawan Fowdur** University of Mauritius, Mauritius, **Zoran S. Bojkovic** University of Belgrade, Serbia.

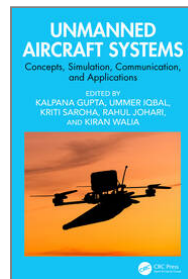
The aim of the book Towards integration 6G NTN non-terrestrial networks with 5G satellite connectivity: A practical approach using MATLAB is to provide fundamental motivation, trends and benefits in convergence of terrestrial and satellite technology, standardization timeline and requirements of integration NTN in 5G, use cases, system architecture, design aspects, enabling technologies, challenges and opportunities. It gives an in-depth coverage of ITU-R and 3GPP standardization process of 5G-Advanced as well as initial 6G NTN study items.

CRC Press
October 2026 : 576pp
Hb: 978-1-041-14510-3 : £165

* For full contents and more information, visit: www.routledge.com/9781041145103

Unmanned Aircraft Systems

Concepts, Simulation, Communication, and Applications



Edited by **Kalpana Gupta**, **Ummer Iqbal**, **Kriti Saroha**, **Rahul Johari**, **Kiran Wallia**

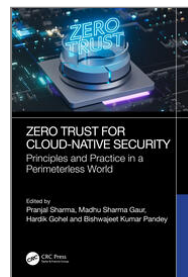
The text discusses practical aspects of unmanned aerial vehicle technology using open-source software including Ardupilot, and Mission Planner. It further explains the regulatory landscape and ethical considerations, robot operating simulation, swarm intelligence, unmanned aerial vehicle communication, and sensor technologies in unmanned aerial vehicle operations. It is primarily written for senior undergraduates, graduate students, and academic researchers in electrical engineering, electronics and communications engineering, computer science and engineering, aerospace engineering, and information technology.

CRC Press
September 2026 : 426pp
Hb: 978-1-032-98386-8 : £120

* For full contents and more information, visit: www.routledge.com/9781032983868

Zero Trust for Cloud-Native Security

Principles and Practice in a Perimeterless World



Edited by **Pranjal Sharma** Independent Researcher in Cloud Security and Cybersecurity, USA, **Madhu Sharma Gaur** GL Bajaj Institute of Technology and Management, Greater Noida, India, **Hardik Gohel** University of Houston, Victoria Campus, USA, **Bishwajeet Kumar Pandey** Jain University, India

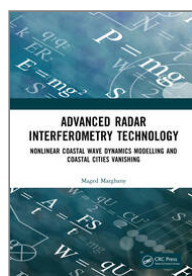
The text offers practical insights, real-world examples, and actionable steps to implement Zero Trust principles effectively in cloud infrastructure. It covers key regulatory frameworks such as GDPR, HIPAA, and NIST 800-207, highlighting how Zero Trust aligns with compliance requirements. The book will provide readers with hands-on implementation walkthroughs tailored for major cloud providers, including AWS, Azure, Google Cloud, and Oracle Cloud.

CRC Press
September 2026 : 384pp
Hb: 978-1-041-34210-6 : £140

* For full contents and more information, visit: www.routledge.com/9781041342106

Advanced Radar Interferometry Technology

Nonlinear Coastal Wave Dynamics Modelling and Coastal Cities Vanishing



Maged Marghany

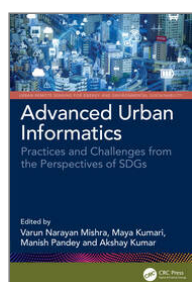
Interferometric Synthetic Aperture Radar (InSAR) technology is an operational tool for measuring and monitoring coastal urban stabilities including vanishing of coastal cities. This book provides a broad understanding of tracking climate change impacts on the coastal dynamics and their impacts on coastal geomorphological changing. Advanced InSAR techniques are discussed including a case study focussing on the coastal urban of Alexandria city in Egypt and Singaporean urban zone and other possible coastal cities. This book is aimed at Graduate students and researchers in coastal engineering, environmental sciences, remote sensing, computer modelling, and image/signal processing.

CRC Press
May 2026 : 466pp
Hb: 978-1-032-45887-8 : £175
eBook: 978-1-003-44111-3

* For full contents and more information, visit: www.routledge.com/9781032458878

Advanced Urban Informatics

Practices and Challenges from the Perspectives of SDGs



Edited by Varun Narayan Mishra, Maya Kumari, Manish Pandey, Akshay Kumar

Series: Urban Remote Sensing for Energy and Environmental Sustainability

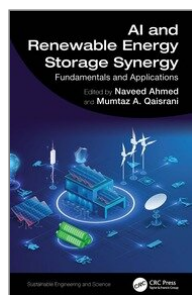
Urban informatics is an interdisciplinary approach to understanding, managing, and designing cities using methods based on advanced geospatial methods, computer-based information technologies and other emerging tools. This book provides understanding of developments in geospatial and computational techniques, focusing on the growth/pattern of cities and its implications for the development of smart and sustainable cities from the SDGs perspectives. It covers sustainable development, land use patterns, urban growth analysis, environmental impacts, infrastructure management, and policy. This book is aimed at graduate students and researchers in environmental engineering.

CRC Press
September 2026 : 440pp
Hb: 978-1-032-95506-3 : £150

* For full contents and more information, visit: www.routledge.com/9781032955063

AI and Renewable Energy Storage Synergy

Fundamentals and Applications



Edited by Naveed Ahmed US–Pakistan Centre for Advanced Studies in Energy (USPCASE), National University of Sciences & Technology (NUST), Pakistan, **Mumtaz A. Qaisrani** Institute of Mechanical and Manufacturing Engineering, Khwaja Fareed University of Engineering and Information Technology, Pakistan

Series: Sustainable Engineering and Science

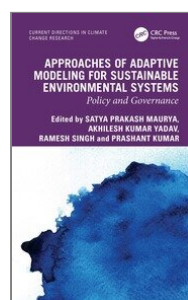
Renewable energy generation is crucial for sustainability but its inconsistency in availability requires better storage solutions. The fusion of renewable energy technologies with AI can yield positive outcomes, such as increased energy efficiency, reduced carbon emissions, improved grid stability, and optimized storage techniques and methods. This book provides a state-of-the-art perspective on thermal energy storage (TES) technologies integrated with renewable energy technologies and Artificial Intelligence (AI). It includes case studies and practical applications that offer actionable insights for professionals and researchers in the field and addresses real-world challenges.

CRC Press
July 2026 : 184pp
Hb: 978-1-032-85018-4 : £96.99

* For full contents and more information, visit: www.routledge.com/9781032850184

Approaches of Adaptive Modeling for Sustainable Environmental System

Policy and Governance



Edited by Satya Prakash Maurya, Akhilesh Kumar Yadav IIT (BHU), Varanasi, India, **Ramesh Singh, Prashant Kumar**

Series: Current Directions in Climate Change Research

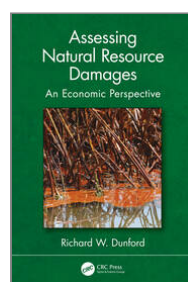
This book provides a comprehensive overview of adaptive modeling techniques and explores various modeling approaches, including system dynamics, agent-based modeling, and integrated assessment modeling, with a focus on key environmental challenges.

CRC Press
September 2026 : 224pp
Hb: 978-1-032-86647-5 : £96.99

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Assessing Natural Resource Damages

An Economic Perspective



Richard Dunford

Assessing Natural Resource Damages: An Economic Perspective serves as a comprehensive guide to assessing environmental damages resulting from oil spills and hazardous-substance releases. With more than 2,000 oil spills annually into US navigable waters, new Natural Resource Damages (NRD) claims arise each year. Most of the over 1,100 hazardous-waste sites listed as Superfund sites in the US have NRD claims underway or will eventually face such claims.

CRC Press
September 2026 : 360pp
Hb: 978-1-032-87999-4 : £120

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Biological Treatment Technologies for Petroleum Hydrocarbon Contaminated Environment



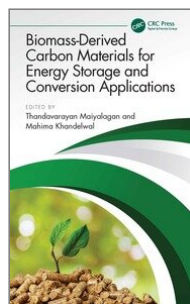
Edited by Ipsita Dipamitra Behera, Alok Prasad Das

This book summarizes diverse biological treatment technologies employed in the remediation of hazardous petroleum hydrocarbon-contaminated sites, explaining wide range of approaches, including bioremediation, biostimulation, bioaugmentation, bioattenuation, bioventing, biosparging, phytoremediation, mycoremediation, Phycoremediation, electrobioremediation, nano-remediation, trichoremediation and more. It describes management of hydrocarbon waste through circular economy approaches and the successful degradation of contaminant sites using a zero-waste approach. This book is aimed at those interested in chemical, environmental, biochemical and bioengineering.

CRC Press
September 2026 : 422pp
Hb: 978-1-032-82432-1 : £135

* For full contents and more information, visit: www.routledge.com/9781032824321

Biomass-Derived Carbon Materials for Energy Storage and Conversion Applications



Edited by **Thandavarayan Maiyalagan** SRM University, India, **Mahima Khandelwal**

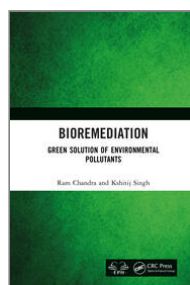
Biomass-Derived Carbon Materials for Energy Storage and Conversion Applications delves into this burgeoning field and addresses the pressing need for sustainable and cost-effective carbon sources. Highlighting biomass's unique advantages of cost-effectiveness, sustainability, and adjustable properties, it explores the various applications of carbon nanomaterials in energy storage and conversion.

CRC Press
August 2026 : 392pp
Hb: 978-1-032-86525-6 : £165

* For full contents and more information, visit: www.routledge.com/9781032865256

Bioremediation

Green Solution of Environmental Pollutants



Ram Chandra , Kshitij Singh

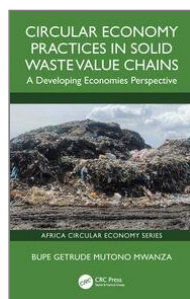
This book addresses bioremediation technology advancements through comprehensive analysis of environmental pollutant treatment processes. The study covers phytoremediation mechanisms, heavy metal detoxification, and nanobioremediation applications crucial for understanding modern environmental restoration methodologies and sustainable pollution management strategies. This title has been co-published with Elite Publishing House. T&F does not sell or distribute the print versions in India.

CRC Press
May 2026 : 252pp
Hb: 978-1-041-33116-2 : £96.99
eBook: 978-1-003-78754-9

* For full contents and more information, visit: www.routledge.com/9781041331162

Circular Economy Practices in Solid Waste Value Chains

A Developing Economies Perspective



Bupe Getrude Mutono-Mwanza

Series: Africa Circular Economy Series

This book presents a detailed analysis of the potential of the circular economy (CE) to revolutionize solid waste management (SWM) in developing economies. It bridges the gap between theory and practice by offering real-world, actionable insights and examples to support the development of sustainable and resilient SWM systems. The book focuses on developing economies across several regions, including (but not limited to) Sub-Saharan Africa, South and Southeast Asia, Latin America and the Caribbean, and the Middle East and North Africa, and includes relevant case studies.

CRC Press
September 2026 : 184pp
Hb: 978-1-032-95891-0 : £90

* For full contents and more information, visit: www.routledge.com/9781032958910

Circular Strategies for Waste Management



Edited by **Jayakrishna Kandasamy** VIT University Vellore, India, **Rajyalakshmi G** VIT Vellore, India

Series: Industrial Engineering, Systems, and Management

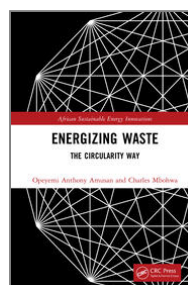
This book encapsulates the understanding of the concept of a circular economy and how it can be applied to waste management. It provides an overview of the different technical approaches that can be used to implement circular strategies for waste management. It discusses the benefits of circular waste management, such as reduced environmental impact, increased resource efficiency, and economic benefits. It provides guidance on how to implement circular waste management strategies in your own community or organization. This book is aimed at researchers and graduate students in waste management, circular economy, and sustainability.

CRC Press
September 2026 : 370pp
Hb: 978-1-032-81425-4 : £96.99

* For full contents and more information, visit: www.routledge.com/9781032814254

Energizing Waste

The Circularity Way



Opeyemi Anthony Amusan , Charles Mbohwa

University of Johannesburg, South Africa

Series: African Sustainable Energy Innovations

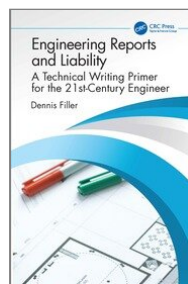
Energizing Waste: The Circularity Way explores innovative waste-to-energy (WtE) solutions that transform non-recyclable waste into clean energy while reducing operational costs. Featuring ReGen technology, which delivers 332 kW of net energy per ton of waste at a cost of under \$1/kWh with a 6–8-year payback period, the book is grounded in the 10Rs principles of circular economy. It establishes strong linkages among waste-to-energy (WtE), environmental quality (EQ), and sustainable development (SD), offering scalable, evidence-based strategies for stakeholders to advance circular economy practices.

CRC Press
September 2026 : 184pp
Hb: 978-1-041-25440-9 : £180

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Engineering Reports and Liability

A Technical Writing Primer for the 21st-Century Engineer



Dennis Filler

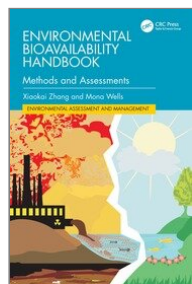
Engineering Reports and Liability: A Technical Writing Primer for the 21st-Century Engineer teaches engineers how to create effective technical documentation while minimizing legal risks. With one in every two-to-three engineering firms facing lawsuits within their first five years, and many engineering failures traced to documentation errors, understanding communication liability is essential for today's professionals.

CRC Press
August 2026 : 168pp
Hb: 978-1-041-09493-7 : £96.99

* For full contents and more information, visit: www.routledge.com/9781041094937

Environmental Bioavailability Handbook

Methods and Assessments



Xiaokai Zhang, Mona Wells Ronin Institute, USA

Series: Environmental Assessment and Management

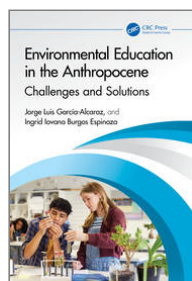
This practical guide on environmental bioavailability explains the importance of its use and includes specific methods for testing bioavailability of pollutants in water, soils, and sediments. Detailed methods and techniques are given to measure and assess bioavailability using biotic methods, abiotic methods, and modeling. A case study for each approach will help environmental researchers and practitioners understand the applications of bioavailability in the field and laboratory. It is also an excellent resource for students looking for a foundational text on environmental bioavailability.

CRC Press
May 2026 : 390pp
Hb: 978-1-032-40472-1 : £175
eBook: 978-1-003-35522-9

* For full contents and more information, visit: www.routledge.com/9781032404721

Environmental Education in the Anthropocene

Challenges and Solutions



Jorge Luis García-Alcaraz Research, Dept. of IE, UACJ, Mexico, **Ingrid Iovana Burgos Espinoza** Universidad Autónoma de Ciudad Juárez, México

Environmental Education in the Anthropocene explores how education can address the environmental crisis by combining theory, pedagogy, and practice. Organized into four sections, the book progresses from context to action: the foundations of the Anthropocene and its educational implications, the roles of institutions and actors in environmental education, innovative methodologies like experiential learning and transformative pedagogies, and practical tools for implementation. With a global perspective and local adaptability, the book offers case studies, strategies, and a roadmap for fostering sustainability education, empowering readers to drive change for future generations.

CRC Press
October 2026 : 264pp
Hb: 978-1-041-31552-0 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041315520

Environmental Geocomputation with R

Textbook and Lab Manual



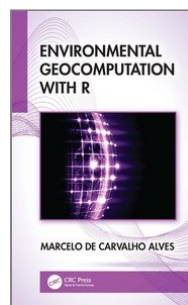
Marcelo de Carvalho Alves Federal University of Lavras, Brazil

Environmental Geocomputation with R and its companion Laboratory Manual form a comprehensive educational package for geospatial data analysis. The textbook establishes theoretical foundations for visualization and modeling using both object-based and continuous field approaches, addressing spatial uncertainties while integrating spatial context into environmental analyses. The Lab Manual reinforces these concepts through practical exercises and case studies that follow a structured scientific workflow. Together, they enable students to progressively build skills in geocomputational techniques using R and its packages, from basic principles to complex real-world applications.

CRC Press
August 2026 : 882pp
Hb: 978-1-041-20822-8 : £130

* For full contents and more information, visit: www.routledge.com/9781041208228

Environmental Geocomputation with R



Marcelo de Carvalho Alves Federal University of Lavras, Brazil

This textbook presents theoretical and practical principles for geospatial data analysis, visualization, and modeling, covering both the individual object approach and the continuous field approach. The book addresses spatial data uncertainties and error management while integrating spatial context into analytical results for better understanding of the environment. It progressively builds complexity enabling readers to develop geocomputational projects in real world using algorithms and big data with R and its packages. The applications are focused on environmental and agricultural analyses, helping to incorporate spatial-temporal dimensions into decision-making processes.

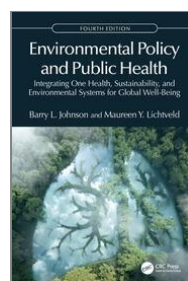
CRC Press
July 2026 : 564pp
Hb: 978-1-041-20818-1 : £99.99

* For full contents and more information, visit: www.routledge.com/9781041208181

4TH EDITION

Environmental Policy and Public Health

Integrating One Health, Sustainability, and Environmental Systems for Global Well-Being



Barry L. Johnson Emory University, USA, **Maureen Y. Lichtveld** University of Pittsburgh, USA

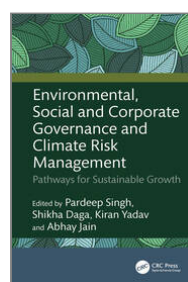
The new edition of this textbook for upper-level undergraduate and graduate students integrates contemporary topics shaped by environmental and public health policy with foundational knowledge of key environmental health policies and threats globally and locally. Part 1 covers One Health, vaccines, climate risks, natural disasters, emergency preparedness, and sustainability, emphasizing policy-driven resilience. Part 2 examines foundational policies on toxicants, air quality, water, and waste. Part 3 addresses persistent issues like noise, light pollution, food safety, the built environment, and transportation, highlighting the critical role of policy in public health and prevention.

CRC Press
October 2026 : 504pp
Hb: 978-1-041-04347-8 : £115

* For full contents and more information, visit: www.routledge.com/9781041043478

Environmental, Social and Corporate Governance and Climate Risk Management

Pathways for Sustainable Growth



Edited by **Pardeep Singh, Shikha Daga, Kiran Yadav, Abhay Jain**

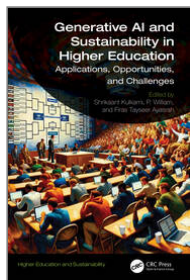
Environmental, Social, and Governance (ESG) criteria have become essential benchmarks for assessing environmental impact, social responsibility, and corporate governance practices. The book delves into the intersection of ESG and climate risk management, offering a comprehensive exploration of how ESG policies can address climate change and drive sustainable practices. It examines topics such as role of ESG in mitigating climate risks, the influence of ESG ratings on sustainable finance, and the evolving regulatory landscape surrounding ESG and climate change. It is aimed at researchers and graduate students in environmental sciences, climate risk management, and sustainable finance.

CRC Press
July 2026 : 368pp
Hb: 978-1-032-79837-0 : £150

* For full contents and more information, visit: www.routledge.com/9781032798370

Generative AI and Sustainability in Higher Education

Applications, Opportunities, and Challenges



Edited by **Shrikaant Kulkarni** Victorian Institute of Technology, Melbourne, Australia, **P. William Karunya** Institute of Technology and Sciences, India, **Firas Tayseer Ayasrah** Al Ain University

Series: *Higher Education and Sustainability*

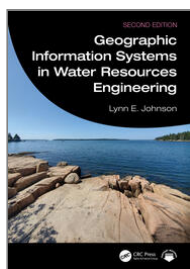
The integration of generative AI into higher education presents a unique opportunity to enhance sustainability. AI-driven solutions can optimize resources and processes and provide tools to tap the potential of generative AI in creating more personalized, efficient, and sustainable educational environments. This book discusses the role of Generative AI in higher education and provides a clear vision on how to integrate AI technology within the framework of sustainability. It balances theoretical insights with practical applications and ethical considerations. Readers learn how to navigate the ethical and social implications, understand sustainability initiatives, and foresee trends.

CRC Press
July 2026 : 216pp
Hb: 978-1-041-00632-9 : **£91.99**
eBook: 978-1-003-61086-1

* For full contents and more information, visit: www.routledge.com/9781041006329

2ND EDITION

Geographic Information Systems in Water Resources Engineering



Lynn E. Johnson University of Colorado, Denver, USA

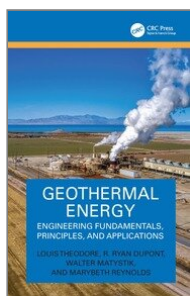
This second edition is thoroughly revised and updated, presents a comprehensive review of the concepts and applications of GIS in various scenarios from surface water and groundwater to wastewater and river basin planning. State-of-the-art GIS spatial data management and analysis tools are revolutionizing the field of water resource engineering, so familiarity with these technologies is now a prerequisite for success in engineers' and planners' efforts to create a reliable infrastructure. This book develops a broad-spectrum understanding of the nature of GIS and how it is used to create, analyze, and incorporate geographic data into water resources engineering practices.

CRC Press
June 2026 : 380pp
Hb: 978-1-032-97344-9 : **£130**
eBook: 978-1-003-59334-8

* For full contents and more information, visit: www.routledge.com/9781032973449

Geothermal Energy

Engineering Fundamentals, Principles, and Applications



Louis Theodore Manhattan College, New York, USA, **R. Ryan Dupont** Utah State University, Logan, USA, **Walter Matystik**, **Marybeth Reynolds**

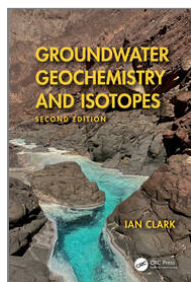
Geothermal Energy: Engineering Fundamentals, Principles, and Applications is a much-needed book that offers a timely, practical, and comprehensive treatment of geothermal energy from the perspective of engineers and applied scientists. Bridging the gap between academic theory and real-world application, the book serves as a technology-transfer tool, providing essential technical information, design methodologies, and illustrative examples for students and professionals alike.

CRC Press
August 2026 : 312pp
Hb: 978-1-041-13035-2 : **£91.99**

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2ND EDITION

Groundwater Geochemistry and Isotopes



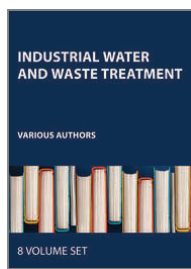
Ian Clark

Groundwater Geochemistry and Isotopes provides a practical and theoretical understanding of geochemistry and environmental isotopes in hydrogeology with applications in both natural groundwater and in contaminated settings. This text teaches the thermodynamic basis and principal reactions involving the major ions, gases and isotopes during groundwater recharge, weathering, and redox evolution. This second edition brings additional case studies and new developments in the practical use of isotopes and geochemistry in understanding groundwater origin, evolution and anthropogenic impacts. Additional solved problems and example calculations are available as a free e-manual by request.

CRC Press
June 2026 : 320pp
Hb: 978-1-032-40593-3 : **£170**

* For full contents and more information, visit: www.routledge.com/9781032405933

Industrial Water and Waste Treatment (Eight-Volume set)



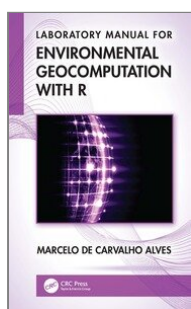
Series: *Advances in Industrial and Hazardous Wastes Treatment*

It serves as a critical resource for engineers, scientists, and environmental professionals engaged in water quality management and sustainable industrial practices. The book systematically examines biological and physicochemical treatment processes, the control of key contaminants, and the latest innovations in waste remediation, including microbial electrochemical technologies, nanomaterials, and thermochemical processes for plastic waste treatment.

CRC Press
May 2026 : 3400pp
Hb: 978-1-032-77294-3 : **£320**

* For full contents and more information, visit: www.routledge.com/9781032772943

Laboratory Manual for Environmental Geocomputation with R



Marcelo de Carvalho Alves Federal University of Lavras, Brazil

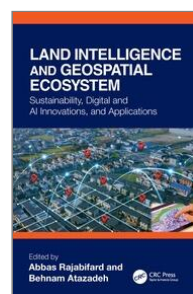
This Laboratory Manual complements the textbook Environmental Geocomputation with R, featuring practical applications for natural resource data analysis through hands-on exercises and case studies using the open-source R platform. Its structured workflow enhances students' understanding of scientific approaches to each case study, teaching them to replicate, adapt, and expand methodologies with new datasets, models, and research areas. Designed for undergraduate and graduate students in environmental, agricultural, and social sciences, it provides a comprehensive foundation in computational environmental analysis while developing skills in data manipulation and visualization.

CRC Press
July 2026 : 318pp
Pb: 978-1-041-20821-1 : **£52.99**
Hb: 978-1-041-32188-0 : **£155**

* For full contents and more information, visit: www.routledge.com/9781041208211

Land Intelligence and Geospatial Ecosystem

Sustainability, Digital and AI Innovations, and Applications



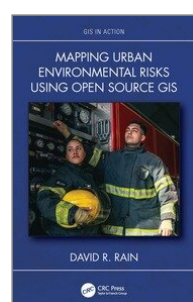
Edited by **Abbas Rajabifard**, **Behnam Atazadeh** The University of Melbourne

Provides a comprehensive understanding of how advanced intelligent geospatial technologies are transforming the way we record, register, manage and use land. It explains the basics of intelligent land administration systems, explores new innovative technologies for capturing, validating, storing, querying and analyzing aboveground and underground land ownership, and discusses how geospatial innovations impact urban planning, sustainability, and legal frameworks. Readers will gain insight into how incorporating new intelligence into land administration and geospatial ecosystems can shape our cities, improve infrastructure management, and address location-based challenges.

CRC Press
June 2026 : 344pp
Hb: 978-1-041-06989-8 : £130
eBook: 978-1-003-63830-8

* For full contents and more information, visit: www.routledge.com/9781041069898

Mapping Urban Environmental Risks Using Open Source GIS



David R. Rain George Washington University, USA

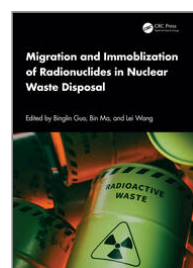
Series: GIS in Action

Cities across the world are facing a convergence of environmental risks, from flooding and extreme heat events to air pollution and water scarcity. These threats are increasingly uneven in their impacts and deeply shaped by local geography. This book offers a practical, accessible guide to understanding and responding to these threats using open-source geographic information systems (GIS) and freely available spatial data. Through real world case studies, the author discusses each risk separately to meet the needs of decision-making when urban threats happen.

CRC Press
June 2026 : 246pp
Hb: 978-1-032-63692-4 : £89.99

* For full contents and more information, visit: www.routledge.com/9781032636924

Migration and Immobilization of Radionuclides in Nuclear Waste Disposal



Edited by **Binglin Guo**, **Bin Ma**, **Lei Wang**

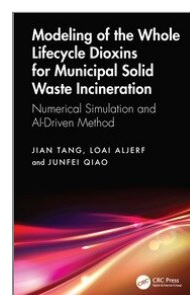
Managing nuclear waste remains one of the most significant challenges for the nuclear industry in terms of both safety and environmental concerns. This book offers a thorough examination of the migration and immobilization of nuclear waste. Chapters cover radioactivity essentials, waste generation from medical, energy, and industrial applications, and processing, transporting, and storing waste. This book will appeal to engineers, scientists, and researchers working in nuclear energy and waste management.

CRC Press
August 2026 : 384pp
Hb: 978-1-041-12625-6 : £130

* For full contents and more information, visit: www.routledge.com/9781041126256

Modeling of the Whole Lifecycle Dioxins for Municipal Solid Waste Incineration

Numerical Simulation and AI-Driven Method



Jian Tang, **Loai Aljerf**, **Junfei Qiao**

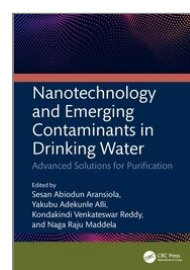
This book by leading experts consolidates knowledge on the numerical simulation and AI-driven modeling of multiple points dioxins concentration in the municipal solid waste incineration (MSWI) process to provide readers with the skills to develop safer and more efficient waste management practices. This is an essential resource for engineers, policy-makers, and researchers involved in sustainable waste management and environmental protection. In particular, environmental engineers, MSWI plant operators, and researchers will benefit from the integrated theoretical and practical approach and discussion of real-world scenarios and applications.

CRC Press
August 2026 : 400pp
Hb: 978-1-041-06183-0 : £130

* For full contents and more information, visit: www.routledge.com/9781041061830

Nanotechnology and Emerging Contaminants in Drinking Water

Advanced Solutions for Purification



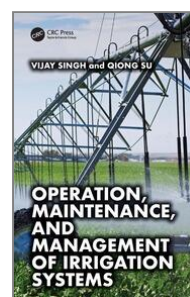
Edited by **Sesan Abiodun Aransiola**, **Yakubu Adekunle Alli**, **Kondakindi Venkateswar Reddy**, **Naga Raju Maddela** Uni. College of Eng. Sci. and Tech, India

This book delves into the cutting-edge application of nanotechnology for the detection, removal, and degradation of emerging contaminants in drinking water. It covers a wide range of nanomaterials detailing their synthesis, functionalization, and deployment in water treatment processes. It presents case studies and pilot projects that demonstrate the scalability of these technologies, providing valuable insights into the challenges and opportunities associated with integrating nanomaterials into existing water infrastructure. This book is aimed at graduate students and researchers in environmental and chemical engineering, and water treatment.

CRC Press
May 2026 : 368pp
Hb: 978-1-041-09322-0 : £150
eBook: 978-1-003-65069-0

* For full contents and more information, visit: www.routledge.com/9781041093220

Operation, Maintenance, and Management of Irrigation Systems



Vijay Singh, **Qiong Su**

Operation, Maintenance, and Management of Irrigation Systems serves as a comprehensive guide to irrigation system governance across global contexts, from state-controlled systems in developing countries to privately managed districts in developed nations. The book systematically covers water delivery methods, automation systems, hydraulic structures, drainage principles, equipment maintenance, financial management, and policy frameworks, while addressing modern concerns such as water quality, safety protocols, and wildlife enhancement.

CRC Press
August 2026 : 480pp
Hb: 978-1-041-25608-3 : £120

* For full contents and more information, visit: www.routledge.com/9781041256083

Orthorectification of High Resolution Remotely Sensed Images



Guoqing Zhou

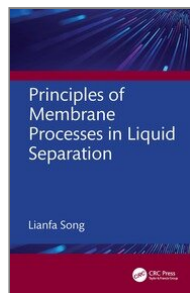
Orthorectification in remote sensing is used to geometrically correct satellite or aerial image distortions caused by terrain elevation, sensor lens, etc. This book explains the orthorectification for different imaging methods such as frame, linear, and video imaging, for different imaged areas such as Greenland without ground features or urban areas with high buildings, for different types of sensors, such as video and image, and for different requirements of processing speed, such as real-time, onboard and PC-based processing. It starts with the definition of orthorectification and introduces the models, the algorithms, the methods, and Digital Orthophoto Map (DOM) quality control.

CRC Press
October 2026 : 232pp
Hb: 978-1-041-05272-2 : £100

* For full contents and more information, visit: www.routledge.com/9781041052722

Principles of Membrane Processes in Liquid Separation

Theories, Models, and Quantitative Analysis



Lianfa Song

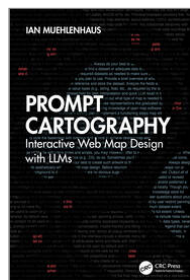
Principles of Membrane Processes in Liquid Separation fills a gap in membrane science by focusing on fundamental principles rather than materials or applications. It covers three key areas: the fundamentals of retained particles and their impacts in membrane processes, state equation and generic cost model for reverse osmosis desalination modeling and optimization, and mechanisms of water and ion transport across membranes. The text provides theoretical foundations while offering practical insights for improved membrane process design and operation, serving both as an educational resource for students and a reference for engineering professionals.

CRC Press
July 2026 : 430pp
Hb: 978-1-041-24790-6 : £96.99

* For full contents and more information, visit: www.routledge.com/9781041247906

Prompt Cartography

Interactive Web Map Design with LLMs



Ian Muehlenhaus ESRI, Inc. - USA

"Prompt Cartography: Interactive Map Design with LLMs" is a practical, research-informed guide to directing large language models and AI agents to design modern interactive maps across web, mobile, and emerging natural-language GIS platforms. It highlights how cartographic principles such as design, ethics, and spatial communication remain vital despite technological shifts and emphasizes the importance of understanding coding and data literacy to responsibly integrate AI tools like LLMs into workflows. It reframes cartographers as media directors who articulate intent, ethics, and design decisions in structured natural language that LLMs then execute, critique, and iterate at scale.

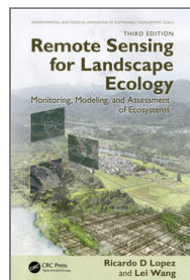
CRC Press
August 2026 : 376pp
Hb: 978-1-041-35474-1 : £96.99

* For full contents and more information, visit: www.routledge.com/9781041354741

3RD EDITION

Remote Sensing for Landscape Ecology

Monitoring, Modeling, and Assessment of Ecosystems



Ricardo D. Lopez Environmental Scientist/Author, Hawaii, **Lei Wang**

Series: Environmental and Societal Dimensions of Sustainable Development Goals

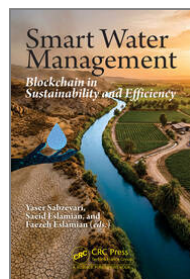
This third edition offers a comprehensive and updated exploration of how remote sensing technologies can be effectively applied in landscape ecology. A major highlight is the addition of a new chapter on theoretical frameworks, which bridges practical applications and case studies, enhancing the book's relevance across different landscape scales. It strengthens the connection between theory and real-world practice, providing readers with deeper insights into urban green spaces, forests, and the broader ecological systems. This is an excellent book for professionals, students, and entry level workers in need of training in remote sensing applications in relation to landscape ecology.

CRC Press
September 2026 : 400pp
Hb: 978-1-041-04668-4 : £130

* For full contents and more information, visit: www.routledge.com/9781041046684

Smart Water Management

Blockchain in Sustainability and Efficiency



Edited by **Yaser Sabzevari**, **Saeid Eslamian** Isfahan University of Technology, Iran, **Faezeh A. Eslamian** McGill University, Canada

This book explores the transformative role of blockchain technology in water resources management, focusing on transparency, accountability, and efficiency in water rights trading and virtual water systems. It covers blockchain theory, core concepts, consensus algorithms, environmental applications, and smart water management. Designed for academics, policymakers, water managers, and farmers, it highlights blockchain's potential to enhance sustainability, data security, and resilient water governance.

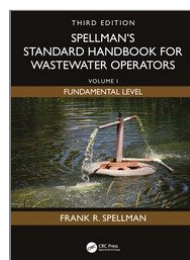
CRC Press
August 2026 : 398pp
Hb: 978-1-041-12194-7 : £105

* For full contents and more information, visit: www.routledge.com/9781041121947

3RD EDITION

Spellman's Standard Handbook for Wastewater Operators

Volume I, Fundamental Level, Third Edition



Frank R. Spellman Spellman Environmental Consultants, Norfolk, Virginia, USA

Spellman's Standard Handbook for Wastewater Operators: Volume I, Fundamental Level, Third Edition contains the necessary information to successfully prepare for the currently administered certification examinations. Primarily designed to provide a readily accessible, user-friendly source of information for the first levels of wastewater licensure, this volume also sets the stage for Volumes II and III.

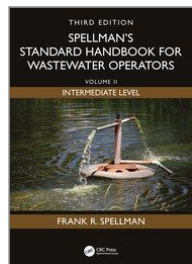
CRC Press
June 2026 : 244pp
Pb: 978-1-041-16733-4 : £73.99
Hb: 978-1-041-16732-7 : £175
eBook: 978-1-003-68612-5

* For full contents and more information, visit: www.routledge.com/9781041167334

3RD EDITION

Spellman's Standard Handbook for Wastewater Operators

Volume II, Intermediate Level, Third Edition



Frank R. Spellman Spellman Environmental Consultants, Norfolk, Virginia, USA

Spellman's Standard Handbook for Wastewater Operators: Volume II, Intermediate Level, Third Edition contains the necessary information to successfully prepare for the currently administered certification examinations. Primarily designed to provide a readily accessible, user-friendly source of information for the second levels of wastewater licensure, this volume also sets the stage for Volume III.

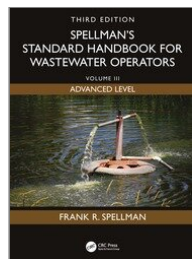
CRC Press
June 2026 : 288pp
Pb: 978-1-041-16737-2 : **£73.99**
Hb: 978-1-041-16738-9 : **£175**
eBook: 978-1-003-68613-2

* For full contents and more information, visit: www.routledge.com/9781041167372

3RD EDITION

Spellman's Standard Handbook for Wastewater Operators

Volume III, Advanced Level, Third Edition



Frank R. Spellman Spellman Environmental Consultants, Norfolk, Virginia, USA

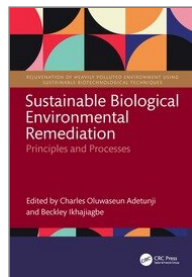
Spellman's Standard Handbook for Wastewater Operators: Volume III, Advanced Level, Third Edition prepares readers for licensure exams and teaches how to operate wastewater treatment plants properly and effectively. This volume presents applied math and chemistry by way of real-world problems, covers equipment maintenance, and explains apparatus used in the laboratory and in the field.

CRC Press
July 2026 : 248pp
Pb: 978-1-041-16729-7 : **£73.99**
Hb: 978-1-041-16730-3 : **£175**
eBook: 978-1-003-68611-8

* For full contents and more information, visit: www.routledge.com/9781041167297

Sustainable Biological Environmental Remediation

Principles and Processes



Edited by **Charles Oluwaseun Adetunji** Edo State Univ. Uzairue, **Beckley Ikhajagbe**

Series: Rejuvenation of Heavily Polluted Environment Using Sustainable Biotechnological Techniques

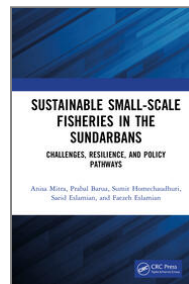
This book addresses emerging technologies in the sustainable remediation of polluted environments, as guided by SDGs discussed in context of contaminated land management practices, environmental risk assessment approaches, optimization techniques, and procedures used during environmental bio-reclamation. It examines genetic approaches to improve bioremediation tactics, usage of Green economy as a foundation for sustainable resource usage and reduced carbon foot printing. It includes policy and legal framework challenges for long term remedial efforts.

CRC Press
September 2026 : 592pp
Hb: 978-1-032-58935-0 : **£170**

* For full contents and more information, visit: www.routledge.com/9781032589350

Sustainable Small-Scale Fisheries in the Sundarbans

Challenges, Resilience, and Policy Pathways



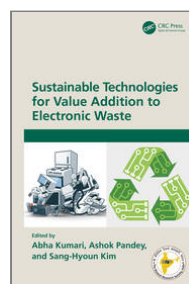
Anisa Mitra Sundarban Hazi Desarat College, India, **Prabal Barua** Bangladesh Marine Fisheries Academy, Bangladesh, **Sumit Homechaudhuri** University of Calcutta, India, **Saeid Eslamian** Isfahan University of Technology, Iran, **Faezeh Eslamian**

This book discusses the sustainability challenges of small-scale fisheries in the Sundarbans, examining the socioecological dynamics and management approaches in this complex transboundary ecosystem shared between India and Bangladesh. Integrating oceanographic, ecological, and socioeconomic perspectives, it provides a multiscale analysis of artisanal fisheries in deltaic environments under anthropogenic climate stress. The narrative moves beyond the Sundarbans to explore mangrove fisheries across Southeast Asia, Africa, and Latin America, identifying cross-regional sustainability patterns and innovative solutions.

CRC Press
June 2026 : 288pp
Hb: 978-1-041-21985-9 : **£165**
eBook: 978-1-003-72999-0

* For full contents and more information, visit: www.routledge.com/9781041219859

Sustainable Technologies for Value Addition to Electronic Waste



Edited by **Abha Kumari**, **Ashok Pandey**, **Sang-Hyoun Kim**

Series: Sustainable Industrial and Environmental Bioprocesses

This book presents a sustainable, effective, and cost-effective solution for the valorization of e-waste for the recovery of expensive, valuable, strategic, heavy, and base metals and rare earth elements from e-waste. The first section covers the sustainable technologies for the valorization of e-waste to metals, materials, and alloys followed by second section covering sustainable technologies for the valorization of e-waste to plastic and biofuels. This book is aimed at graduate students and researchers in environmental engineering and waste management.

CRC Press
July 2026 : 384pp
Hb: 978-1-041-06604-0 : **£160**

* For full contents and more information, visit: www.routledge.com/9781041066040

4TH EDITION

The Basics of Oil Spill Cleanup



Merv Fingas Environmental Engineering Consultant, Edmonton, Alberta, Canada

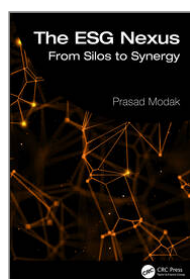
Reflecting the rapid progress in cleanup technology since the previous edition, this revised and expanded fourth edition of The Basics of Oil Spill Cleanup covers current cleanup techniques, how oil spills are measured and detected, and the properties of the oil, and its long-term fate in the environment. It also deals with why, how often, and where oil spills occur as well as the chemical composition and physical properties of various oil types.

CRC Press
July 2026 : 272pp
Hb: 978-1-032-93582-9 : **£100**

* For full contents and more information, visit: www.routledge.com/9781032935829

The ESG Nexus

From Silos to Synergy



Prasad Modak

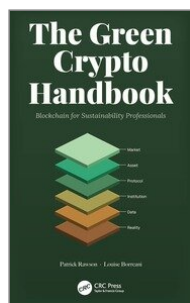
This book transforms the way ESG management is approached by prioritizing interconnectedness over isolated efforts. It explores the evolution from mere compliance to delivering measurable outcomes that stakeholders increasingly demand, emphasizing the amplified impact of managing material ESG topics collectively. Through real-world case studies and in-depth analyses, it offers practical strategies to unlock ESG opportunities while mitigating associated risks. Each chapter delivers actionable insights, illustrating how progress in one area can accelerate advancements across others.

CRC Press
May 2026 : 250pp
Pb: 978-1-041-17296-3 : **£78.99**
Hb: 978-1-041-17309-0 : **£155**
eBook: 978-1-003-68905-8

* For full contents and more information, visit: www.routledge.com/9781041172963

The Green Crypto Handbook

Blockchain for Sustainability Professionals



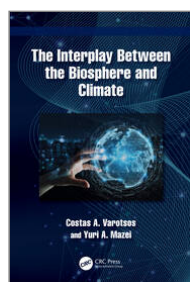
Patrick Rawson Ecofrontiers SARL, France, **Louise Borreani** Ecofrontiers SARL, France

The Green Crypto Handbook is a practical guide exploring how blockchain can address the \$11 trillion climate finance gap through more transparent, accountable green asset systems. Using the Environmental Finance Stack framework, it maps green finance layers from environmental measurement to market dynamics, showing where blockchain can redesign processes for better environmental outcomes. Drawing on over a decade of real-world experience with green blockchain initiatives, the book combines environmental science, financial innovation, and digital governance insights and offers structured methodology for evaluating blockchain's role in making green systems more credible and equitable.

CRC Press
October 2026 : 272pp
Hb: 978-1-041-25893-3 : **£98.99**

* For full contents and more information, visit: www.routledge.com/9781041258933

The Interplay Between the Biosphere and Climate



Costas A. Varotsos, **Yuri A. Mazzei** Lomonosov Moscow State University

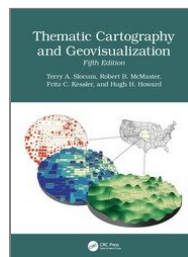
The climate issue is at the center of discussions related to the high frequency and greater intensity of devastating natural disasters, establishing a new term: "climate crisis." This book explores the dialogue between the biosphere and the climate system and analyzes the threats to the biosphere from current climate change. It evaluates existing unsolved problems concerning the changes in the biosphere caused by human activities, such as the increase of carbon dioxide, the pollution of air, soil, fresh, and salt water, and deforestation. It focuses on the new techniques of studying the climate system and the methods that lead to the interconnection with the biosphere.

CRC Press
August 2026 : 424pp
Hb: 978-1-032-73224-4 : **£165**

* For full contents and more information, visit: www.routledge.com/9781032732244

5TH EDITION

Thematic Cartography and Geovisualization



Terry A. Slocum University of Kansas, USA, **Robert B. McMaster**, **Fritz C. Kessler** Pennsylvania State University, PA, USA, **Hugh H. Howard** American River College, USA

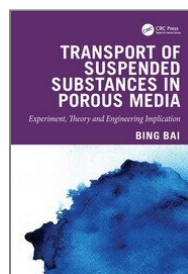
The fifth edition of this comprehensive and well-established book in cartography has been thoroughly updated and extensively restructured to incorporate new developments in recent years. It reflects advancements in technology, societal changes, and evolving methodologies in the field of cartography. With the inclusion of entirely new chapters, restructured content, and expanded discussions, the book provides a modern perspective on cartographic practices. It emphasizes the integration of Artificial Intelligence, the democratization of mapping through web-based tools, and innovative approaches to visualizing spatiotemporal data.

CRC Press
August 2026 : 616pp
Hb: 978-1-041-03375-2 : **£120**

* For full contents and more information, visit: www.routledge.com/9781041033752

Transport of Suspended Substances in Porous Media

Experiment, Theory and Engineering Implication



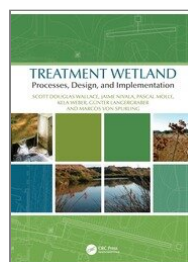
Bing Bai

This book offers a comprehensive and accessible exploration of the transport of suspended substances in porous media – a process integral to environmental protection, energy development and geotechnical engineering applications. As the first international reference dedicated specifically to the transport of suspended substances in porous media, this volume not only opens new avenues for research but also serves as an invaluable resource for researchers, engineers and advanced students in geotechnical engineering, environmental engineering and energy-related disciplines.

CRC Press
July 2026 : 232pp
Hb: 978-1-041-32637-3 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041326373

Treatment Wetland Processes, Design, and Implementation



Scott Wallace Naturally Wallace Consulting, Vadnais Heights, Minnesota, USA, **Jaime Nivala**, **Pascal Molle**, **Kela Weber**, **Günter Langergraber**, **Marcos von Sperling**

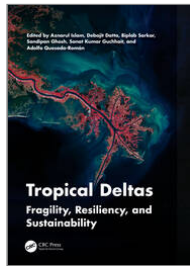
This book presents the latest advances in constructed wetland technology, including new reactor designs, and a broad range of water treatment applications. It focuses on subsurface flow treatment wetlands, including horizontal, vertical, and intensified wetland configurations, as well as mechanical aeration, fill-and-drain modes of operation, and reactive media techniques. It explains how treatment wetlands are the "greenest" solution to wastewater treatment in terms of low-energy inputs, CO₂ emissions, and operation and maintenance (O&A) costs. It also examines how new treatment wetlands can now have a smaller footprint yet expand their treatment capacities.

CRC Press
September 2026 : 1176pp
Hb: 978-1-138-61526-7 : **£170**

* For full contents and more information, visit: www.routledge.com/9781138615267

Tropical Deltas

Fragility, Resiliency, and Sustainability



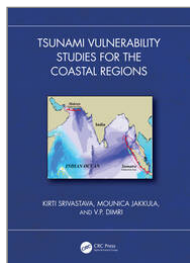
Edited by **Aznarul Islam** Aliah University, **Debajit Datta** Jadavpur University, **Biplab Sarkar** Aliah University, **Sandipan Ghosh**, **Sanat Kumar Guchhait** University of Burdwan, **Adolfo Quesada-Román** Universidad de Costa Rica

Tropical deltas of the world are in decline and are threatened by climate change, geo-environmental dynamics, natural hazards, and disasters. This book is a comprehensive discussion of the present delta crisis and the various risks the deltas are facing due to human and natural factors. It addresses their resilience, the importance of biodiversity, and the future adaptations for sustainable management of tropical deltas. The use of geospatial tools for the assessment and modeling of environmental degradations and the applications of AI and ML are examined to help readers understand the interdisciplinary perspective of deltas' vulnerability and sustainability.

CRC Press
May 2026 : 516pp
Hb: 978-1-032-89977-0 : £150
eBook: 978-1-003-54560-6

* For full contents and more information, visit: www.routledge.com/9781032899770

Tsunami Vulnerability Studies for the Coastal Regions



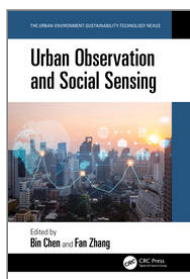
Kirti Srivastava, *Mounica Jakkula*, *V.P. Dimri*

This book covers the deformation formulation at the source, the initial tsunami wave, its propagation, and run-up, along with the mathematical formulation for generating the initial wave, its propagation, run-up, and inundation. It discusses the varying nature of water depth in different regions, tsunami arrival times, and wave heights on the coast, including the role of islands near the coast acting as waveguides. Tsunami-induced forces on structures are addressed, including both non-breaking and breaking wave regions, as well as tsunami force and pressure.

CRC Press
June 2026 : 110pp
Hb: 978-1-032-55396-2 : £125

* For full contents and more information, visit: www.routledge.com/9781032553962

Urban Observation and Social Sensing



Edited by **Bin Chen** The University of Hong Kong, **Fan Zhang**

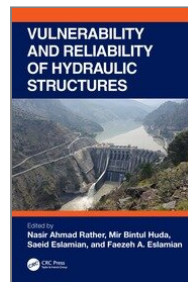
Series: The Urban-Environment-Sustainability-Technology Nexus

Urban Observation and Social Sensing helps readers see cities in a way they have seldom imagined before. Advanced technologies such as satellites in space, near surface drones, or even smartphones, can be used to explain how a city functions, or why certain areas are more populated than others. It examines the science of capturing city images and information gathered from above the ground combined with the information from social media and mobile data on the ground, and how to make sense of it all. From planning better neighborhoods to understanding how city life affects health, this book is a guide to the future of urban living and the technologies that help navigate it.

CRC Press
August 2026 : 184pp
Hb: 978-1-032-77653-8 : £86.99

* For full contents and more information, visit: www.routledge.com/9781032776538

Vulnerability and Reliability of Hydraulic Structures



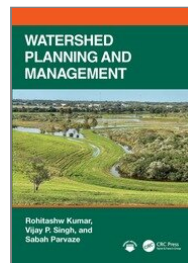
Edited by **Nasir Ahmad Rather**, **Mir Bintul Huda**, **Saeid Eslamian** Isfahan University of Technology, Iran, **Faezeh A. Eslamian** McGill University, Canada

Vulnerability and Reliability of Hydraulic Structures presents an integrated approach to identifying and mitigating risks that can impact the durability and performance of hydraulic structures. Considering the scale and importance of infrastructure and the severity of the consequences of failure or malfunction, it makes it imperative to have in-depth knowledge regarding the risks and uncertainties involved.

CRC Press
August 2026 : 440pp
Hb: 978-1-041-07874-6 : £120

* For full contents and more information, visit: www.routledge.com/9781041078746

Watershed Planning and Management



Rohitashw Kumar SKUAST-Kashmir, India, *Vijay P. Singh* Texas A&M University, USA, *Sabah Parvaze*

Watershed Planning and Management examines the science, technology, and practice of managing land and water resources through the watershed approach. It integrates hydrology, geomorphology, soil and water conservation, land use planning, socio-economic considerations, and modern tools such as remote sensing and GIS. The book presents an overview of global water resources, followed by fundamental concepts of watersheds, hydrological cycles, and delineation methods. With a balance of theory, methodology, and practice, the book serves as a valuable resource for students, researchers, practitioners, and policymakers.

CRC Press
May 2026 : 630pp
Hb: 978-1-041-22880-6 : £175
eBook: 978-1-003-73581-6

* For full contents and more information, visit: www.routledge.com/9781041228806

Weight of Evidence for Environmental Assessment



Glenn W. Suter II U.S. EPA Emeritus, *Susan M. Cormier* US Environmental Protection Agency, Cincinnati, Ohio, USA

Laws and regulations in the U.S. and some other nations require weight of evidence, as do any assessments that involve multiple pieces of evidence. However, environmental assessors are frequently unaware of the need for defensible practices. This book provides the first clear framework for weight of evidence (WoE) for environmental protection based on U.S. EPA guidelines as well as comparison with alternative methods. Real-world case studies illustrate the implementation and application of weight of evidence for making diverse inferences and decisions that influence our environment and our lives.

CRC Press
October 2026 : 344pp
Hb: 978-1-041-03998-3 : £130

* For full contents and more information, visit: www.routledge.com/9781041039983

Acceptance, Attitude and Action

Applying the 3As to Transform Your Life, Career and Organisational Safety



Jason Anker Anker & Marsh, UK, **Tim Marsh**

When Jason Anker fell from a ladder at work at the age of 24, the impact was instant and devastating; he was left paralysed for life. What followed was a personal journey through trauma, addiction, depression, and a near-death experience that forced him to reconsider everything about his life, his mindset, and his purpose. Alongside world-renowned leadership and human error expert Professor Tim Marsh, Jason shares his story and the applicable lessons learned in transforming pain into progress and adversity into action.

CRC Press

September 2026 : 128pp

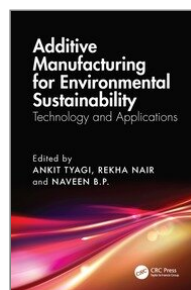
Pb: 978-1-041-14883-8 : **£52.99**

Hb: 978-1-041-15427-3 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041148838

Additive Manufacturing for Environmental Sustainability

Technology and Applications



Edited by **Ankit Tyagi**, **Rekha Nair**, **Naveen B.P.**

The text begins by discussing the design, development, and advancements of additive manufacturing techniques. It then covers additive manufacturing for micro and nanomanufacturing, materials efficiency, and waste minimization. The book illustrates the processing of biomaterials, smart materials, and functionally graded materials for additive manufacturing. It is primarily written for senior undergraduates, graduate students, and academic researchers in manufacturing engineering, mechanical engineering, industrial engineering, aerospace engineering, production engineering, and automotive engineering.

CRC Press

September 2026 : 312pp

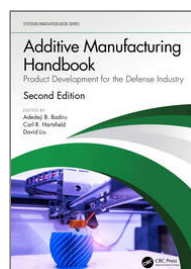
Hb: 978-1-032-99988-3 : **£120**

* For full contents and more information, visit: www.routledge.com/9781032999883

2ND EDITION

Additive Manufacturing Handbook

Product Development for the Defense Industry



Edited by **Adedeji B. Badiru** Air Force Institute of Technology, Dayton, Ohio, USA, **Carl R. Hartsfield** Associate Professor of Aerospace Engineering, Air Force Institute of Technology, (AFIT), Ohio, **David Liu** The Airforce Institute of Technology, Wright-Patterson AFB, OH, USA

Series: Systems Innovation Book Series

Interest in additive manufacturing, commonly referred to as 3D printing, is rapidly growing both in theory and practice. Engineers and engineering firms are increasingly turning to 3D printing to create prototypes of products before moving to full-scale production. In academic environments, professors, researchers, and students are leveraging the capabilities of 3D printing to enhance project outcomes. This newly revised handbook is specifically tailored to focus on product design within the defense industry, a sector that significantly influences a range of other industries. The content has been revised to meet the demands of businesses, industries, and government entities.

CRC Press

June 2026 : 822pp

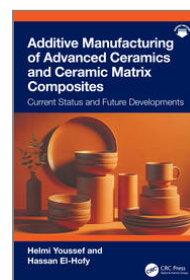
Hb: 978-1-032-88361-8 : **£245**

eBook: 978-1-003-53776-2

* For full contents and more information, visit: www.routledge.com/9781032883618

Additive Manufacturing of Advanced Ceramics and Ceramic Matrix Composites

Current Status and Future Developments



Helmi Youssef Alexandria University, Egypt, **Hassan El-Hofy** Egypt-Japan University of Science and Technology

This book is a significant contribution to the materials science and manufacturing technology fields. It examines the rapidly evolving domain of ceramic additive manufacturing, offering insights into current methodologies, technical challenges, and future directions. Serving as a significant resource for professionals in production, manufacturing, and related industries, including automotive, biomedical, and aerospace sectors, this book also targets undergraduates and graduates in engineering disciplines.

CRC Press

June 2026 : 424pp

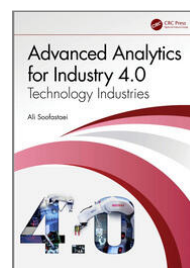
Hb: 978-1-041-16228-5 : **£175**

eBook: 978-1-003-68377-3

* For full contents and more information, visit: www.routledge.com/9781041162285

Advanced Analytics for Industry 4.0

Technology Industries



Ali Soofastaei The University of Queensland, Australia

Advanced analytics has gained massive momentum in the industrial sector. Technology enterprises consolidate using the online data sources to deliver analytics and intelligence that inform everything from operations process automation to customer experiences. This volume clarifies the benefits of using advanced analytics in technology industries like computer, telecommunication, aerospace, electronics, robotics, e-commerce and so forth. It covers how lower costs and democratized data increase access and management speed, dynamic forecasting and complete visibility into supply chains, and improvement of security measures that ensure ongoing privacy compliance-like remote work.

CRC Press

June 2026 : 516pp

Hb: 978-1-032-03347-1 : **£170**

eBook: 978-1-003-18684-7

* For full contents and more information, visit: www.routledge.com/9781032033471

Advanced Analytics for Industry 4.0, Two Volume Set



Edited by **Ali Soofastaei** The University of Queensland, Australia

Digital solutions are needed to develop advanced analytics applications in different industries. The main objectives of this two volume set are presenting the scientific concepts and providing industrial case studies for different applications of advanced analytics, which can be grouped into three main areas namely descriptive, predictive and prescriptive analytics. Main prerogatives include improving understanding of the business value and applicability of different analytic approaches, and business framework to assess the value, cost, and risk of potential analytic solutions. It covers pertinent aspects of data analytics for mother and technology industries.

CRC Press

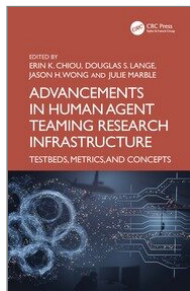
June 2026 : 820pp

Hb: 978-1-032-03351-8 : **£285**

* For full contents and more information, visit: www.routledge.com/9781032033518

Advancements in Human-Agent Teaming Research Infrastructure

Testbeds, Metrics, and Concepts



Edited by **Erin K. Chiou** Assistant Professor, Arizona State University, Arizona, **Douglas S. Lange**, **Jason H. Wong**, **Julie Marble**

As modern military operations become more complex, the need for rapid, coordinated decision-making across multiple domains—air, land, maritime, space, and cyberspace—has never been greater. The U.S. Department of War has identified artificial intelligence (AI) as a critical tool in overcoming these challenges, enabling faster and more efficient responses in high-stakes environments. However, for AI to be effective, it must function well within human teams and organizational structures. This book explores the evolving role of AI in military and defense operations, with a focus on how human-AI teams can be optimized for success.

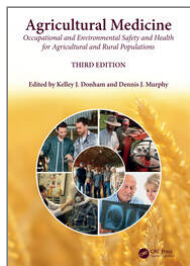
CRC Press
October 2026 : 368pp
Hb: 978-1-041-09629-0 : **£96.99**

* For full contents and more information, visit: www.routledge.com/9781041096290

3RD EDITION

Agricultural Medicine

Occupational and Environmental Safety and Health for Agricultural and Rural Populations



Edited by **Kelley J. Donham**, **Dennis J. Murphy**

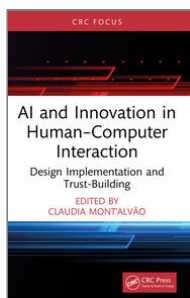
This book offers an overview of the industry and workforce including agricultural production in a global economy, demographics of the workforce, regulations, statistics and organizations focusing on agricultural safety and health. It covers infectious diseases toxic agents, and injuries to which agricultural populations are exposed to daily. Agricultural Medicine: Occupational & Environmental Safety and Health for Agricultural and Rural Populations is the comprehensive, go-to textbook and reference for students and practicing professionals of rural medicine, safety, and public health.

CRC Press
September 2026 : 632pp
Hb: 978-1-032-68801-5 : **£96.99**

* For full contents and more information, visit: www.routledge.com/9781032688015

AI and Innovation in Human-Computer Interaction

Design Implementation and Trust-Building



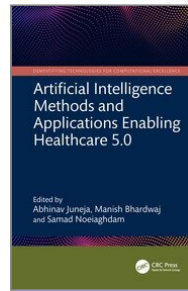
Edited by **Claudia Mont'Alvão**

The convergence of artificial intelligence (AI) and human-computer interaction (HCI) has revolutionized our technological landscape. This book explores the ties between AI and HCI, tracing its historical evolution through to its use today. By examining the development of technology and the changing role of human users, the text provides a perspective that incorporates insights from Global South researchers thus offering an alternative to Western-centric viewpoints on this evolving field.

CRC Press
July 2027 : 160pp
Pb: 978-1-041-21557-8 : **£23.99**
Hb: 978-1-041-21741-1 : **£55.99**
eBook: 978-1-003-72880-1

* For full contents and more information, visit: www.routledge.com/9781041215578

Artificial Intelligence Methods and Applications Enabling Healthcare 5.0



Edited by **Abhinav Juneja** B.M. Inst. of Eng. and Tech., India, **Manish Bhardwaj** KIET School of Management, **Samad Noeiaghdam** Research Prof., Henan Academy of Sciences, China

Series: *Demystifying Technologies for Computational Excellence*

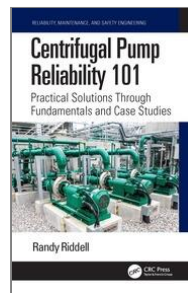
AI technology is rapidly gaining popularity across various industries, not just in large corporations but also in our everyday lives. The healthcare sector has particularly benefited from the advancements in AI, as it has revolutionized the way diagnostic information is compiled and utilized to understand and treat diseases. This book will appeal to a wide range of readers, including those in healthcare, manufacturing, e-commerce, and automation. Technology enthusiasts will also discover valuable insights into the significant progress being made in this field.

CRC Press
August 2026 : 344pp
Hb: 978-1-032-84802-0 : **£110**

* For full contents and more information, visit: www.routledge.com/9781032848020

Centrifugal Pump Reliability 101

Practical Solutions Through Fundamentals and Case Studies



Randy Riddell Reliability Manager/Engineer Technical Services ESSIT, USA

Series: *Reliability, Maintenance, and Safety Engineering*

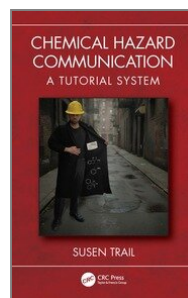
This guide addresses the critical elements required to achieve reliable centrifugal pump systems in process industries. Drawing from decades of experience, the author provides a practical framework connecting theoretical knowledge with real-world application, focusing on roto-dynamic (centrifugal) pumps and the complex systems they inhabit. The book serves professionals across the organizational spectrum in process industries. Project engineers will find crucial guidance on design decisions, while operations managers will understand how their choices affect long-term pump reliability.

CRC Press
August 2026 : 392pp
Pb: 978-1-041-21701-5 : **£52.99**
Hb: 978-1-041-21886-9 : **£170**

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Chemical Hazard Communication

A Tutorial System



Susen Trail

Occupational illnesses due to workplace chemical exposures claim ten times more lives annually than any other workplace hazard. Year after year, the Hazard Communication standard consistently ranks among the top ten most violated OSHA General Industry standards. This book delivers the essential need-to-know information for hazardous chemical management, based on over 28 years of industrial hygiene expertise. This practical guide presents a streamlined procedure that enables the reader to produce a written, worksite specific Program and Training slideshow in just 45-minutes.

CRC Press
September 2026 : 424pp
Pb: 978-1-041-19625-9 : **£59.99**
Hb: 978-1-041-21171-6 : **£170**

* For full contents and more information, visit: www.routledge.com/9781041196259

Cognitive Security for Industrial IoT

AI-Driven Approaches to Industry 4.0



Edited by **Sudan Jha** CHRIST University, India, **Vijender Kumar Solanki** Dept. of AI & Data Science, Stanley College of Engineering and Technology for Women, India, **Maurice E. Dawson** Associate Prof., Illinois Tech, USA

Series: *Internet of Everything (IoE)*

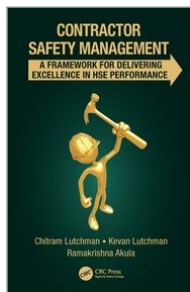
Industry 4.0 has greatly enhanced the intricacy and interconnectedness of industrial operations. Industrial Internet of Things (IIoT) systems allow for smooth communication and collaboration among machines, devices, and sensors, leaving IIoT networks vulnerable to a wider array of cyber threats, requiring more advanced security protocols. This comprehensive resource explores cutting-edge trends and future prospects in IIoT security. Readers will find step-by-step guidelines and proven best practices for implementing cognitive security in industrial settings, providing both practitioners and organizations with ways to effectively combat evolving cyber threats.

CRC Press
May 2026 : 254pp
Hb: 978-1-041-00358-8 : £115
eBook: 978-1-003-60977-3

* For full contents and more information, visit: www.routledge.com/9781041003588

Contractor Safety Management

A Framework for Delivering Excellence in HSE Performance



Chitram Lutchman President and CEO, OEMS Erudite Corp. Texas, **Kevan Lutchman** Clinical Instructor, Harvard Occupational and Environmental Medicine Residency Program, Texas, **Ramakrishna Akula** VP, Safety Erudite, Inc, Canada

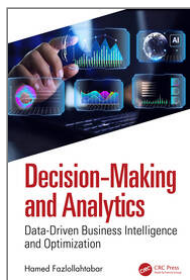
Today, organizations rely on contractors for flexibility and specialized expertise, but this brings unique health, safety, and environmental (HSE) challenges. This book connects contractual HSE requirements with practical applications, fostering strategic partnerships where shared HSE values enhance business performance. This safety management guide is written for executives, operations managers, procurement specialists, and safety practitioners. The book serves organizations spanning from single-site operations to global networks, helping transform traditional compliance-focused approaches into strategic safety partnerships that deliver measurable business value.

CRC Press
September 2026 : 168pp
Hb: 978-1-041-21640-7 : £86.99

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Decision-Making and Analytics

Data-Driven Business Intelligence and Optimization



Hamed Fazlollahtabar

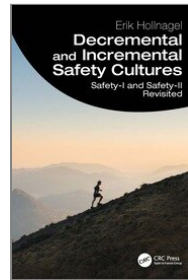
In today's data-driven business world, organizations face challenges in turning vast information into actionable insights. This textbook provides structured methods to harness data for better decision-making using machine learning, AI, and optimization modeling, transforming raw data into competitive intelligence. This resource bridges the gap between classroom theory and industry practice for students in industrial engineering, business analytics, and management information systems. Practitioners gain methodologies to improve decision-making, researchers benefit from cutting-edge approaches across domains, and policymakers can develop data-informed strategies.

CRC Press
July 2026 : 302pp
Hb: 978-1-041-23733-4 : £96.99

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Decremental and Incremental Safety Cultures

Safety-I and Safety-II Revisited



Erik Hollnagel

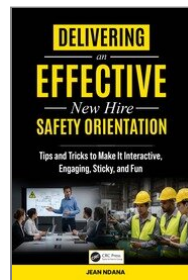
Safety is a concept as complex as it is crucial. In this new book, Erik Hollnagel reimagines how we approach, understand, and manage safety in modern contexts. It challenges traditional perspectives while weaving together historical insights, cultural analysis, and practical guidance to offer a richer understanding of what it means to work and live safely. *Decremental and Incremental Safety Cultures: Safety-I and Safety-II Revisited* goes beyond identifying and analyzing safety issues to offer practicable strategies that balance protection and productivity.

CRC Press
July 2026 : 264pp
Pb: 978-1-041-06407-7 : £52.99
Hb: 978-1-041-06599-9 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041064077

Delivering An Effective New Hire Safety Orientation

Tips and Tricks to Make It Engaging, Interactive, Sticky and Fun



Jean Ndana

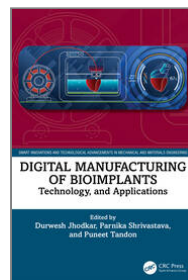
Is your organization's new hire safety orientation (NHSO) an empowering and meaningful learning experience or a "borientation," an overwhelming torrent of generic slideshows and forgettable off-the-shelf safety videos? Too often, NHSO is reduced to a rushed and uninspired formality. Behind this ineffective approach lies a darker truth: new employees face a significantly higher risk of workplace injury, with more than one-third of workplace injuries occurring within a worker's first year. This results in millions of lost workdays, rising workers' compensation costs, and real human consequences for workers and their families.

CRC Press
August 2026 : 168pp
Pb: 978-1-041-08040-4 : £22.99
Hb: 978-1-041-08195-1 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041080404

Digital Manufacturing of Bioimplants

Technology and Applications



Edited by **Durwesh Jhodkar** WCE, Nagpur, India, **Parnika Shrivastava**, **Puneet Tandon** IIITDM Jabalpur, India

Series: *Smart Innovations and Technological Advancements in Mechanical and Materials Engineering*

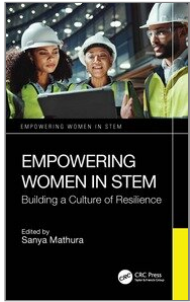
This book provides a comprehensive exploration of cutting-edge developments in biomaterials, bioimplants, and emerging manufacturing techniques that are revolutionizing the healthcare and medical device industries. It delves into the latest trends in biomaterials, recent innovations in composite materials, classification and characterization of multifunctional biomaterials, and their impact on biomedical applications.

CRC Press
September 2026 : 320pp
Hb: 978-1-032-94677-1 : £130

* For full contents and more information, visit: www.routledge.com/9781032946771

Empowering Women in STEM

Building a Culture of Resilience



Edited by **Sanya Mathura** Strategic Reliability Solutions Ltd.

Series: *Empowering Women in STEM*

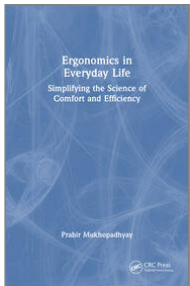
STEM fields have a reputation for being focused on numbers and facts, while overlooking the human element. This book addresses the human complexity in STEM environments, where practical situations are overshadowed by societal and cultural norms that particularly affect how women are perceived in these predominantly male-populated fields. Department heads, team leaders, and HR professionals will find concrete steps to implement structural changes that support diversity and retention. Ultimately, this book is for anyone committed to building a more resilient future in STEM—one where diverse perspectives drive innovation and everyone can contribute their best work.

CRC Press
October 2026 : 272pp
Pb: 978-1-041-19620-4 : **£52.99**
Hb: 978-1-041-19631-0 : **£130**

* For full contents and more information, visit: www.routledge.com/9781041196204

Ergonomics in Everyday Life

Simplifying the Science of Comfort and Efficiency



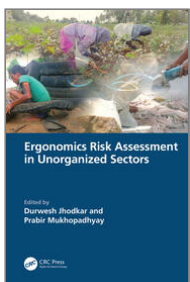
Prabir Mukhopadhyay Indian Institute of Information Technology Design and Manufacturing, Jabalpur, India

Ergonomics is often misunderstood as a field reserved for experts in engineering, psychology, or design, leaving many feeling disconnected from its relevance. In reality, ergonomics is deeply embedded in our daily lives, shaping everything from how we wake up to how we go to bed. This book simplifies the complexities of ergonomics into relatable concepts, making it accessible to everyone, regardless of their background. Through a narrative approach enriched with practical examples, it explores the ergonomic aspects of daily routines, offering actionable advice to enhance comfort and efficiency.

CRC Press
October 2026 : 104pp
Pb: 978-1-041-37634-7 : **£52.99**
Hb: 978-1-041-37631-6 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041376347

Ergonomics Risk Assessment in Unorganized Sectors



Edited by **Durwesh Jhodkar** WCE, Nagpur, India, **Prabir Mukhopadhyay** Indian Institute of Information Technology Design and Manufacturing, Jabalpur, India

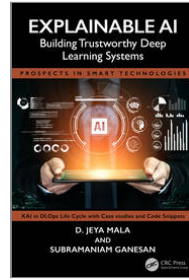
The unorganized sector—encompassing agriculture, construction, small-scale manufacturing, healthcare, vending, and service-oriented workforces—remains the backbone of many economies worldwide.

CRC Press
May 2026 : 154pp
Hb: 978-1-032-93400-6 : **£72.99**
eBook: 978-1-003-56572-7

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Explainable AI

Building Trustworthy Deep Learning Systems



D. Jeya Mala, **Subramaniam Ganesan** Director – Real Time & DSP Lab, Electrical and Computer Eng. Dept., Oakland Univ, MI, USA

Series: *Prospects in Smart Technologies*

With the increasing use of deep learning systems across various industries, there is a need to make their decision-making processes more understandable and transparent. The textbook addresses these needs by providing a detailed guide on integrating XAI into the DLOps pipeline, so organizations can implement CI and CD practices effectively. This textbook is ideal for undergraduate and graduate students studying computer science, electronic and communications engineering, and electrical and electronics engineering. Professionals in systems engineering and industrial engineering will also find it valuable.

CRC Press
September 2026 : 176pp
Hb: 978-1-041-04687-5 : **£96.99**

* For full contents and more information, visit: www.routledge.com/9781041046875

Frugal Innovation

The Systematic Design of Resource-Intelligent Solutions



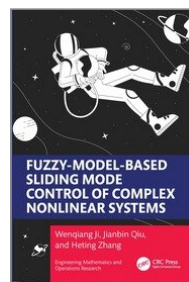
Edited by **Lisa-Dionne Morris** Prof, Univ of Leeds, UK, **Sudesh Sivasanu** Prof., BME, UCT, South Africa, **Curtis Busby-Earle** Sr. Lecture, Dept of Computing, UWI, Jamaica, **Trust Saidi** Postdoc, Health Innovation and Design, OsloMet, Norway

This book advocates for a systematic approach to developing impactful, resource-efficient solutions in low-resource and high-resource settings. It integrates frugal innovation principles with design thinking and lean impact strategies, bridging the gap between theory and practice. Ideal for designers, engineers, social innovators, and professionals in social enterprise, sustainable development, and humanitarian design, offering guidance on driving inclusive, scalable progress within real-world constraints. Edited by experts in fields like biomedical innovation and systems thinking, it equips readers to design technically and socially responsive solutions for meaningful impact.

CRC Press
June 2026 : 197pp
Pb: 978-1-041-12311-8 : **£49.99**
Hb: 978-1-041-12359-0 : **£140**
eBook: 978-1-003-66437-6

* For full contents and more information, visit: www.routledge.com/9781041123118

Fuzzy Model-Based Sliding Mode Control of Complex Nonlinear Systems



Wenqiang Ji, **Jianbin Qiu**, **Heting Zhang**

Series: *Engineering Mathematics and Operations Research*

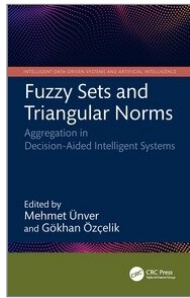
This book presents recent theoretical findings on Sliding Mode Control (SMC) issues for various classes of complex nonlinear systems based on Takagi-Sugeno (T-S) fuzzy models. Research results and controller design methods are presented and show how the methods can be used in various practical systems. This book finds its audience as a reference to researchers and engineers that are engaging in the areas related to fuzzy modeling and control and SMC with its applications.

CRC Press
May 2026 : 245pp
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eBook: 978-1-032-69571-6

* For full contents and more information, visit: www.routledge.com/9781032694665

Fuzzy Sets and Triangular Norms

Aggregation in Decision-Aided Intelligent Systems



Edited by **Mehmet Ünver**, **Gökhan Özçelik**

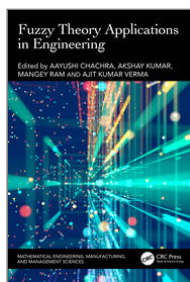
Series: *Intelligent Data-Driven Systems and Artificial Intelligence*

This book is a comprehensive resource that covers theoretical foundations and practical applications of fuzzy sets, t-norms, and their integration into multi-attribute decision-making processes. It emphasizes the integration of fuzzy logic in various real-world applications such as healthcare, engineering, and environmental science. It further discusses advanced topics including hesitant fuzzy sets, interval-valued fuzzy sets, and emerging developments in fuzzy logic. It is primarily written for senior undergraduates, graduate students, and academic researchers in fields including engineering mathematics, industrial engineering, supply chain management, and applied mathematics.

CRC Press
July 2026 : 320pp
Hb: 978-1-032-86767-0 : £150

* For full contents and more information, visit: www.routledge.com/9781032867670

Fuzzy Theory Applications in Engineering



Edited by **Aayushi Chachra**, **Akshay Kumar** Graphic Hill Era University, India, **Mangey Ram** Graphic Era Deemed to be University, Dehradun, Uttarakhand, India, **Ajit Kumar Verma** University of Applied Sciences, Western Norway

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The text provides a comprehensive exploration of fuzzy applications across various domains, including decision-making, transportation problems, infrastructure engineering, inventory management, pattern recognition, Plithogenic sets, hyperbolic fuzzy sets, sustainable systems, reliability, and risk assessment.

CRC Press
September 2026 : 328pp
Hb: 978-1-041-06388-9 : £120

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Garment Manufacturing

Traditional and Innovative Developments



Edited by **Yamini Jhanji Dhir**

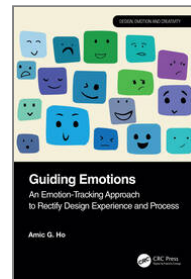
This book provides an overview of commercially mass-produced garments, the working structure, and standard operating practices of the garment industry, along with design and technological interventions and innovative concepts in garment manufacturing. The coverage spans the fundamentals of garment manufacturing, traditional manufacturing practices, and surface embellishment techniques to the introduction of advanced technologies such as automation and robotics, 3D body scanning, digital printing, and CAD/CAM technologies. It also covers evaluation techniques, quality control, and garment costing.

CRC Press
September 2026 : 320pp
Hb: 978-1-032-45042-1 : £110

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Guiding Emotions

An Emotion-Tracking Approach to Rectify Design Experience and Process



Amic G. Ho

Series: *Design, Emotion and Creativity*

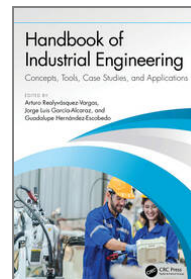
Emotions play a crucial role in the design process, yet junior design students often struggle to manage their emotional changes while creating. This title bridges the gap in design education by illuminating how emotional intelligence serves as a powerful tool for inspiration and decision-making. This investigation takes a new perspective on emotions in design projects, contrasting it with traditional approaches that prioritize technical skills and reasoning over emotional awareness. The focus of this title is to deliver accessible strategies to monitor and manage the reader's emotional responses during projects.

CRC Press
August 2026 : 192pp
Pb: 978-1-041-20939-3 : £52.99
Hb: 978-1-041-25586-4 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041209393

Handbook of Industrial Engineering

Concepts, Tools, Case Studies, and Applications



Edited by **Arturo Realyvásquez-Vargas** Prof., Dept. of IE, TecNM, Mexico, **Jorge Luis García-Alcaraz** Research, Dept. of IE, UACJ, Mexico, **Guadalupe Hernández-Escobedo** Prof., Dept. of IE, TecNM, Mexico

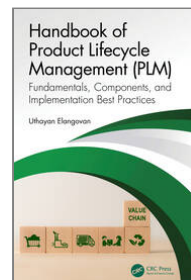
Companies across all industries face operational challenges that impact their competitiveness. Industrial Engineering offers dynamic solutions through diverse concepts, methods, and tools designed to solve problems, streamline processes, and improve quality across sectors. This handbook presents current industrial engineering knowledge. This comprehensive handbook is tailored for practicing engineers, students, and consultants engaged in the field of Industrial Engineering, with a focus on quality, logistics, ergonomics, lean manufacturing, product design, and supply chain concepts, tools, case studies, and applications.

CRC Press
May 2026 : 488pp
Hb: 978-1-041-02611-2 : £175
eBook: 978-1-003-62047-1

* For full contents and more information, visit: www.routledge.com/9781041026112

Handbook of Product Lifecycle Management (PLM)

Fundamentals, Components, and Implementation Best Practices



Uthayan Elangovan Engineering Consultant, Tamilnadu, India

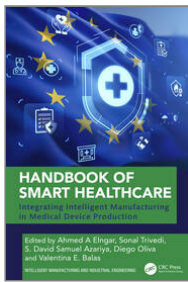
Product Lifecycle Management (PLM) manages a product's journey, supporting circular economy practices by centralizing information and aligning business processes. This handbook provides complete coverage of PLM, what manufacturing enterprises aim for on a strategic level, and how it can be used to start their digital transformation journey. This handbook is a guide for professionals who must perform a seamless PLM implementation for the manufacturing sector. Enterprises of all sizes worldwide will find this handbook useful, and academics can consult this handbook when choosing their career, and as an asset when setting up the Center of Excellence for practical learning.

CRC Press
August 2026 : 529pp
Hb: 978-1-032-47838-8 : £175

* For full contents and more information, visit: www.routledge.com/9781032478388

Handbook of Smart Healthcare

Integrating Intelligent Manufacturing in Medical Device Production



Edited by **Ahmed A Elngar** Beni-Suef Uni., **Sonal Trivedi**, **S. David Samuel Azariya** Prof., Univ. of Guadalajara, Jalisco, Mexico, **Diego Oliva** University de Guadalajara, Mexico, **Valentina E. Balas** Aurel Vlaicu University of Arad and Romanian Academy of Scientists, Romania

Series: *Intelligent Manufacturing and Industrial Engineering*

In an era where healthcare innovation and technological advancement converge at unprecedented speed, the integration of intelligent manufacturing into medical device production represents one of the most promising frontiers in modern healthcare. Handbook of Smart Healthcare: Integrating Intelligent Manufacturing in Medical Device Production arrives at a critical juncture in the collective journey toward more efficient, precise, and patient-centered healthcare solutions.

CRC Press

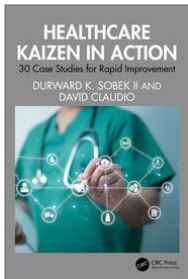
November 2026 : 464pp

Hb: 978-1-041-20548-7 : £165

* For full contents and more information, visit: www.routledge.com/9781041205487

Healthcare Kaizen in Action

30 Case Studies for Rapid Improvement



Durward K. Sobek II, **David Claudio** Associate Prof., Industrial Eng., UML, USA

Healthcare is a complex industry that requires efficiency, safety, and quality of care. Hospitals utilize structured problem-solving methodologies like the Plan-Do-Study-Act (PDSA) cycle and A3 thinking to achieve these goals. However, many healthcare professionals lack formal training in these methods. This book provides knowledge and tools for healthcare professionals to drive meaningful changes in their organizations, promoting continuous improvement and reducing inefficiencies. It is concise and actionable, aiming to improve patient outcomes and healthcare systems for nurses, physicians, hospital administrators, and process improvement specialists.

CRC Press

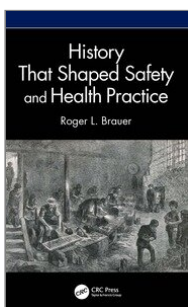
August 2026 : 264pp

Pb: 978-1-041-13534-0 : £52.99

Hb: 978-1-041-13619-4 : £130

* For full contents and more information, visit: www.routledge.com/9781041135340

History That Shaped Safety and Health Practice



Roger L. Brauer

This book explores the history behind the development of modern safety and health practices, tracing the contributions of individuals, governments, organizations, and significant events that shaped the field. From the devastation of fires and diseases to the evolution of transportation and equipment, the book highlights the lessons learned and the sacrifices made to protect people, property, and the environment. It offers a unique perspective on how incremental changes and pivotal moments have advanced safety and health practices over time.

CRC Press

November 2026 : 320pp

Pb: 978-1-041-33530-6 : £52.99

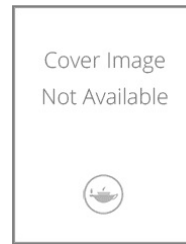
Hb: 978-1-041-33885-7 : £52.99

* For full contents and more information, visit: www.routledge.com/9781041335306

4TH EDITION

Human Computer Interaction Handbook

Fundamentals, Evolving Technologies, and Emerging Applications



CRC Press

September 2026 : 1464pp

Hb: 978-1-032-51348-5 : £230

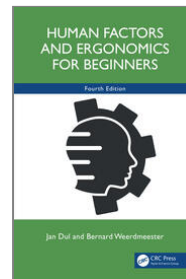
* For full contents and more information, visit: www.routledge.com/9781032513485

Edited by **Julie A. Jacko** Nova Southeastern University, Florida, USA

Human-Computer Interaction (HCI) is a multidisciplinary field that shapes how people engage with digital systems, from everyday tools to transformative technologies. This fourth edition of the Human-Computer Interaction Handbook offers the most comprehensive, globally authored resource available, bringing together over 150 contributors across 59 chapters to chart the current and future landscape of HCI.

4TH EDITION

Human Factors and Ergonomics for Beginners



Jan Dul Rotterdam School of Management, Erasmus University, the Netherlands, **Bernard Weerdmeester**

Human Factors and Ergonomics for Beginners offers a useful introduction to the broad field of human factors. Now in its fourth edition, this book is the go-to beginner guide to the field as it describes real, practical guidelines that are based on solid knowledge and experience. It will help any reader to enhance human-system performance and reduce the undesirable effects and unintended consequences of many human interactions with technology and the organizational environment.

CRC Press

May 2026 : 144pp

Pb: 978-1-032-50452-0 : £52.99

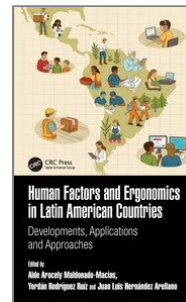
Hb: 978-1-032-52494-8 : £96.99

eBook: 978-1-003-40687-7

* For full contents and more information, visit: www.routledge.com/9781032504520

Human Factors and Ergonomics in Latin American Countries

Developments, Applications and Approaches



Edited by **Aide Aracely Maldonado-Macias**, **Yordán Rodríguez Ruíz**, **Juan Luis Hernández Arellano**

While the discipline of Human Factors and Ergonomics (HFE) has expanded globally, the specific sociotechnical realities of developing nations have long remained underrepresented in scientific literature. Human Factors and Ergonomics in Latin American Countries: Applications and Approaches bridges this gap, offering the first authoritative synthesis of research, applications, and legal frameworks dedicated entirely to the region.

CRC Press

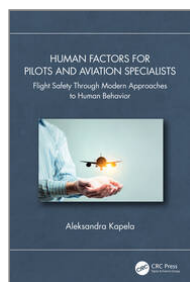
July 2026 : 344pp

Hb: 978-1-032-94772-3 : £96.99

* For full contents and more information, visit: www.routledge.com/9781032947723

Human Factors for Pilots and Aviation Specialists

Flight Safety Through Modern Approaches to Human Behavior



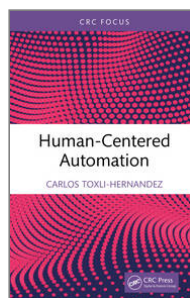
Aleksandra Kapela MyWingman, Lodz, Poland

This book investigates human behavior within the aviation sector. Authored by a experienced aviation psychologist, it reveals the complexities of human performance in flight operations. From understanding the question of how human factors shape aviation safety to exploring decision-making, spatial awareness, stress management, and well-being, this book details what aviation professionals need to know about the industry of flight and psychology.

CRC Press
May 2026 : 230pp
Hb: 978-1-032-84815-0 : **£86.99**
eBook: 978-1-003-51541-8

* For full contents and more information, visit: www.routledge.com/9781032848150

Human-Centered Automation



Carlos Toxli-Hernandez

Human-Centered Automation (HCA) is becoming indispensable for organizations seeking to implement AI-driven systems, robotic process automation, and other advanced tools while keeping human needs at the core. Despite the widespread adoption of automation, many initiatives fall short due to a lack of alignment between technical capabilities and real-world user and organizational needs.

CRC Press
May 2026 : 238pp
Hb: 978-1-041-12024-7 : **£55.99**
eBook: 978-1-003-66640-0

* For full contents and more information, visit: www.routledge.com/9781041120247

Industrial Additive Manufacturing and Materials Processing



Edited by **Gurbhej Singh, Hitesh Vasudev** LPU, India, **Varun Sharma**

The book focuses on the integration of advanced manufacturing techniques with novel materials and innovative processing methods. The core objective is to provide a detailed technical overview of how additive manufacturing technologies are evolving to meet the demands of modern materials engineering. The text is primarily written for senior undergraduates, graduate students, and academic researchers in manufacturing engineering, industrial engineering, production engineering, mechanical engineering, aerospace engineering, and materials science.

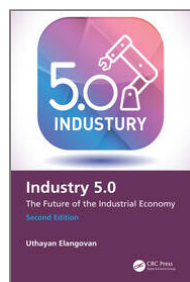
CRC Press
November 2026 : 488pp
Hb: 978-1-041-34305-9 : **£150**

* For full contents and more information, visit: www.routledge.com/9781041343059

2ND EDITION

Industry 5.0

The Future of the Industrial Economy



Uthayan Elangovan Engineering Consultant, Tamilnadu, India

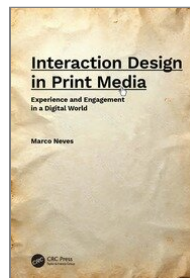
Drawing from collaborations with CXOs, engineering teams, and educators, this second edition reflects how organizations are balancing technological advancement with human-centric approaches, and serves as a roadmap and companion for implementing transformation where ethics, sustainability, and human empowerment as crucial as technology. Written for diverse stakeholders, this edition serves manufacturing executives seeking strategic transformation frameworks, engineering professionals requiring practical implementation guidance, students and educators needing current industrial evolution content, and consultants supporting client transitions.

CRC Press
August 2026 : 216pp
Hb: 978-1-041-20001-7 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041200017

Interactive Design in Print Media

Experience and Engagement in a Digital World



Marco Neves

Printed media has long been a cornerstone of communication, but what happens when it intersects with the world of interactive media? This title investigates traditional print materials and their relationship with digital interaction. As this design space considers how to engage future users, it offers researchers and professionals an exciting opportunity to redefine the boundaries of design and interactive systems. This book offers guidance and inspiration needed to transform how we think about and design interactive experiences. It provides a comprehensive exploration of the opportunities, challenges, and future possibilities of interactive print media.

CRC Press
September 2026 : 144pp
Pb: 978-1-041-07026-9 : **£52.99**
Hb: 978-1-041-07099-3 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041070269

Laser Based Manufacturing



Edited by **Juan Pou, Fernando Lusquinos, Mohamed Boutinguiza, Félix Quintero, Antonio Riveiro, Rafael Comesaña, Jesús del Val**

Series: Advanced Materials Processing and Manufacturing

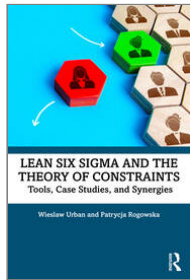
This book provides compilation of the field of lasers as tools for advanced manufacturing including laser cutting, drilling, welding, surface treatment, marking, laser-assisted additive manufacturing, micro processing, nano processing, modelling and optimization, machining and fabrication, and including case studies. The chapters combine a clear description of the basics of the topic, with last developments and advanced information. This book is aimed at graduate students and researchers in manufacturing and materials engineering, and laser.

CRC Press
September 2026 : 456pp
Hb: 978-1-032-79652-9 : **£160**

* For full contents and more information, visit: www.routledge.com/9781032796529

Lean Six Sigma and the Theory of Constraints

Tools, Case Studies, and Synergies



Wiesław Urban Prof., Faculty of Engineering Management, Białystok University of Technology, Poland,
Patrycja Rogowska Assistant Prof., Faculty of Engineering Management, Białystok University of Technology, Poland

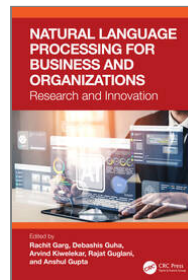
This comprehensive book offers a deep dive into the potential benefits of merging Lean Six Sigma (LSS) and the Theory of Constraints (ToC), providing readers with practical insights and strategies for achieving optimal results in their business operations. Readers will gain insights on how to leverage these tools to identify waste, reduce variation, and eliminate constraints, resulting in tangible enhancements within organizations.

Routledge
 September 2026 : 168pp
 Hb: 978-1-041-10410-0 : £94.99

* For full contents and more information, visit: www.routledge.com/9781041104100

Natural Language Processing for Business and Organizations

Research and Innovation



Edited by **Rachit Garg, Debashis Guha, Arvind Kiwelekar, Rajat Guglani, Anshul Gupta**

This book offers a comprehensive and application-oriented exploration of Artificial Intelligence and Natural Language Processing (NLP), addressing both foundational principles and modern, data-driven methodologies. It is designed to equip readers with a deep understanding of how intelligent systems learn from data, interpret human language, and support automated decision-making across real-world contexts. This book is written for advanced undergraduate and postgraduate students, researchers, and professionals seeking to build, evaluate, and apply AI and NLP systems in academic, enterprise, and societal domains.

CRC Press
 July 2026 : 206pp
 Hb: 978-1-032-65708-0 : £155
 eBook: 978-1-032-65805-6

* For full contents and more information, visit: www.routledge.com/9781032657080

Mobility as a Service (MaaS) and Travel Behaviour

Integrating Human Factors, Transport Planning and Engineering



Edited by **John Preston, Djamilia Ouelhadj**

Series: Transportation Human Factors

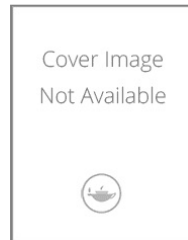
Mobility as a Service (MaaS) has the potential to transform the way we approach transportation. By offering an integrated platform for planning, booking, navigating, and paying for journeys, MaaS promotes sustainable transport options such as public transit, cycling, and walking, reducing reliance on private vehicles. This book explores the transformative potential of MaaS for urban mobility, emphasizing the importance of placing human needs and experiences at the forefront of system design.

CRC Press
 November 2026 : 440pp
 Hb: 978-1-032-94894-2 : £175

* For full contents and more information, visit: www.routledge.com/9781032948942

New View Safety Coach

Empowered Solutioning



David Wollage

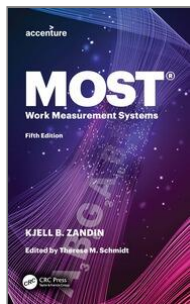
Workplace safety and leadership are facing evolving challenges and this book explores the intersection of two powerful global trends: executive/organisational coaching and New View Safety methodologies. By defining these trends and demonstrating their collaborative relationship, it presents a compelling case for how they can be combined to drive meaningful change in individual leaders and organizational culture to create safer workplaces.

CRC Press
 July 2026 : 152pp
 Pb: 978-1-032-96719-6 : £23.99
 Hb: 978-1-032-96602-1 : £55.99

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5TH EDITION

MOST® Work Measurement Systems



Kjell B. Zandin, Therese M. Schmidt

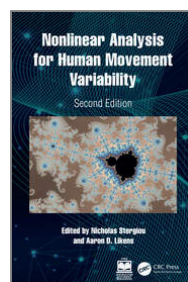
Unlock the power of work measurement and engineered labor standards with this comprehensive guide to MOST. This book is an essential supplement for MOST Certification training. Dive into the foundational concepts of MOST and explore its three systems—BasicMOST, MiniMOST and MaxiMOST—through clear explanations and practical examples. Complete with real-world case studies highlighting MOST application results across industries, this book is an essential resource for professionals seeking to improve productivity and operational efficiency as well as create accurate and consistent engineered labor standards to optimize labor planning, improve methods and achieve cost savings.

CRC Press
 October 2026 : 368pp
 Hb: 978-1-041-06193-9 : £130

* For full contents and more information, visit: www.routledge.com/9781041061939

2ND EDITION

Nonlinear Analysis for Human Movement Variability



Edited by **Nicholas Stergiou** University of Nebraska-Omaha, USA, **Aaron D. Likens**

Human movement variability can be defined as the typical variations that are present in motor performance and are observed across multiple repetitions of a task. This variability is inherent within all biological systems. It can also be observed easily as it is almost impossible for an individual to perform, even an elite performer, two identical actions of the same task. Nonlinear Analysis for Human Movement Variability, Second edition presents a different approach to studying human movement variability, based on the temporal structure of variability, that is how movement changes over time despite repetitive tasks.

CRC Press
 August 2026 : 472pp
 Hb: 978-1-032-49582-8 : £96.99

* For full contents and more information, visit: www.routledge.com/9781032495828

Operations Research

Recent Advances and Applications



Edited by **Shreekanth Varshney** ICFAI, Tamil Nadu, **Jyotiranjana Nayak** ICFAI Foundation for higher education, Tamil Nadu, **Mayank Gupta**, **Chandra Shekhar** BITS Pilani, India, **Balakrushna Tripathy** Vellore Institute of Technology, Vellore, India.

Series: *Advanced Research in Reliability and System Assurance Engineering*

This book covers cutting-edge research that includes operations research and decision sciences. It examines finite queueing systems with unreliable service provisioning and feedback strategies. Retrial queueing systems with customer feedback and individual abandonments are dynamically investigated. The book presents fuzzy logic approaches for multi-objective transportation problems. It is primarily written for graduate students and academic researchers in operations research, industrial engineering, systems engineering, production engineering, manufacturing engineering, mathematics, and quality control.

CRC Press
July 2026 : 304pp
Hb: 978-1-041-07761-9 : £120

* For full contents and more information, visit: www.routledge.com/9781041077619

Optimizing Decision-Making in Engineering

A Journey Mapping Perspective



Zian Shah Kabir Casual Academic, University of Technology Sydney, AU

This book explores the decision-making processes for engineering and IT professionals in increasingly heterogeneous technological environments. It provides a map of decision-making that connects theoretical foundations with practical applications, offering readers a structured approach to navigate complex adaptive systems. Designed for technology professionals, including CTOs, IT Project Managers, Systems Architects, UX Directors, and Engineering Team Leads, this resource equips Product Managers, Business Analysts, Solution Architects, and Digital Transformation Consultants with enhanced decision-making capabilities for complex environments.

CRC Press
October 2026 : 264pp
Hb: 978-1-041-16390-9 : £86.99

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Philosophical Perspectives on Safety and Risk

From Harm to Harmony



Mohammad Yazdi

Safety is a combination of human judgment, ethical priorities and the pursuit of knowledge and so often much more than rules and regulations. This book offers tools to elevate safety standards through effective decision-making processes, understanding emerging technological challenges and promoting a culture of ethical responsibility wherever the workplace may be.

CRC Press
August 2026 : 160pp
Pb: 978-1-041-05194-7 : £52.99
Hb: 978-1-041-06288-2 : £86.99

* For full contents and more information, visit: www.routledge.com/9781041051947

Principles of Spinning

Speed Frame in Spinning



Ashok R. Khare

Series: *Principles of Spinning*

This book describes speed frame with respect to four important mechanisms: flyer and bobbin drive, cone drums for varying speed of bobbins, differential motion to give combined speed to bobbins and a complicated building mechanism where modern speed frames score over conventional frames. This book also gives a detailed explanation of traditional mechanisms common in both types of frames, along with the path of roving from the nip of last drafting rollers to the flyer top. Concepts like improved drafting systems, use of servo motors for varying the bobbin speed according to change in its diameter and electronic controls are explained.

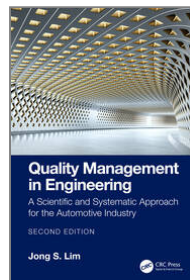
CRC Press
July 2026 : 250pp
Hb: 978-1-138-59660-3 : £130

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2ND EDITION

Quality Management in Engineering

A Scientific and Systematic Approach for the Automotive Industry



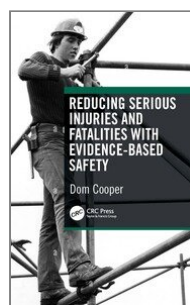
Jong S. Lim CEO of Engineering Consulting Company, Professor of Yangzhou University, China

This edition addresses two key industry developments: supplier quality management and perceived quality frameworks to meet customers' rising expectations for functionality and aesthetics. It features automotive case studies, and offers methodologies for implementing quality systems across product development. Written for engineering professionals, quality managers, and academics, the new edition meets the needs of both OEMs and suppliers. Industry practitioners will benefit from practical tools such as QFD and FTA, while academics will find real-world applications of theoretical principles.

CRC Press
September 2026 : 488pp
Hb: 978-1-041-19825-3 : £170

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Reducing Serious Injuries and Fatalities with Evidence-Based Safety



Dom Cooper

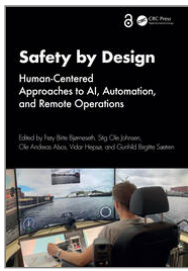
The global occupational safety and health landscape has undergone significant transformation over the past two decades, with newer theories including Resilience Engineering, Safety Differently, and Human Organizational Performance gaining widespread adoption in industry. However, these approaches often promote philosophies rather than evidence-based practices proven to reduce incidents and injuries. Meanwhile, workplace fatalities have increased from 1 million in 1999 to 2.9 million in 2023 according to the International Labor Organization, suggesting that current approaches may be missing the mark on what actually works to prevent harm.

CRC Press
October 2026 : 272pp
Hb: 978-1-041-28447-5 : £86.99

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Safety by Design

Human-Centered Approaches to AI, Automation, and Remote Operations



Edited by Frøy Birte Bjørneseth, Stig Ole Johnsen
Senior Research Scientist, SINTEF, Norway, **Ole Andreas Alsos, Vidar Hepso, Gunhild Birgitte Sætern**

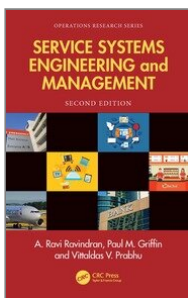
Safety-critical systems with more digitalization, automation, and AI require integration of human factors to ensure safety, efficiency, and meaningful human control. Across sectors such as aviation, maritime, energy, transportation, and remote operations, accident investigations repeatedly show that failures often stem not from technology alone but from inadequate scoping, poor human-centered design, alarm overload, fragmented automation, and organizational conditions that leave operators unprepared during critical situations.

CRC Press
June 2026 : 404pp
Hb: 978-1-041-22972-8 : £130

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2ND EDITION

Service Systems Engineering and Management



A. Ravi Ravindran Penn State Univ, USA, **Paul M. Griffin**
Penn State Univ, USA, **Vittaladas V. Prabhu** Prof. of
Industrial and Manufacturing Engineering Department,
Penn State Uni, PA

Series: Operations Research Series

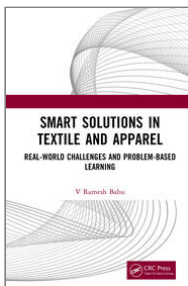
The globalization of services has become a standard practice for businesses due to advancements in computer technology and the widespread growth of the internet. Service providers can now operate worldwide, while products can be manufactured in any location and distributed internationally with the help of modern transportation systems. This textbook is an invaluable tool for individuals involved in designing and managing service industries, including students, technical professionals, and researchers. It is particularly beneficial for Industrial Engineers, Supply Chain Managers, Financial & Investment Analysts, Health Service Professionals, and Operations Researchers.

CRC Press
October 2026 : 640pp
Hb: 978-1-032-98317-2 : £115

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Smart Solutions in Textile and Apparel

Real-World Challenges and Problem-Based Learning



V Ramesh Babu

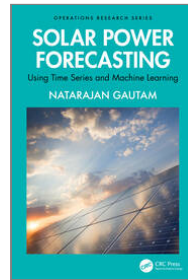
As the global textile and apparel industry faces rapid fashion cycles, sustainability imperatives, and intense quality pressures, this title provides practical solutions through industry case studies. The book's analysis addresses line optimization, scientific methods, merchandising strategies, quality management, and product design across manufacturing, retail, and export sectors. This title has been co-published with Woodhead Publishing India. T&F does not sell or distribute the print editions in Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka.

CRC Press
June 2026 : 208pp
Hb: 978-1-041-34919-8 : £115
eBook: 978-1-003-79922-1

* For full contents and more information, visit: www.routledge.com/9781041349198

Solar Power Forecasting

Using Time Series and Machine Learning



Natarajan Gautam Syracuse University, USA

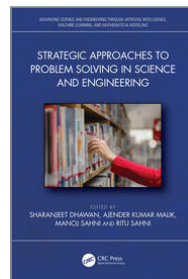
Series: Operations Research Series

This book takes an approach that leverages methods using time series analysis, machine learning, and stochastic models to effectively forecast solar power. The goal of this book is not only to produce an accurate forecast but also to make it conducive to being used for decision-making. This comprehensive resource covers various aspects of solar forecasting, including data science methods, computational techniques, and mathematical foundations. It serves as a valuable tool for practitioners, students, and experienced researchers, both in the solar power industry and in the broader field of forecasting.

CRC Press
July 2026 : 206pp
Pb: 978-1-032-51695-0 : £52.99
Hb: 978-1-032-51532-8 : £135

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Strategic Approaches to Problem Solving in Science and Engineering



Edited by Sharanjeet Dhawan, Ajender Kumar Malik, Manoj Sahni Pandit Deendayal Petrol. Uni, India, **Ritu Sahni** Pandit Deendayal Petrol. Uni, India

Series: Advancing Science and Engineering through Artificial Intelligence, Machine Learning, and Mathematical Modeling

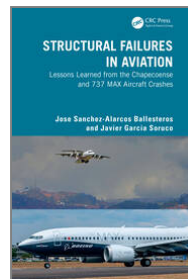
This book serves as a comprehensive resource that highlights innovative practices and techniques within the realm of approximation methods. The book not only explores the theoretical aspects of approximation but also delves into their practical applications across a range of domains. The text is primarily written for senior undergraduates, graduate students, and academic researchers in the fields including electrical engineering, electronics and communications engineering, computer science and engineering, manufacturing engineering, and industrial and production engineering.

CRC Press
September 2026 : 224pp
Hb: 978-1-032-86110-4 : £120

* For full contents and more information, visit: www.routledge.com/9781032861104

Structural Failures in Aviation

Lessons Learned from the Chapecoense and 737 MAX Aircraft Crashes



Jose Sanchez-Alarcos Ballesteros, Javier Garcia Soruco

In November 2016, the flight Lamia Flight 2933 crashed, claiming nearly all members of the Brazilian Chapecoense soccer team. This book provides a comprehensive analysis that goes beyond simplistic explanations. It does not accept the initial narrative of pilot imprudence but instead investigates organizational failures, regulatory oversights, and systemic pressures that created the conditions for disaster. Through parallel analysis of the Boeing 737 MAX crashes, the book challenges the complacent assumption that such tragedies only occur in developing nations with supposedly inferior aviation standards.

CRC Press
June 2026 : 106pp
Pb: 978-1-041-19314-2 : £49.99
Hb: 978-1-041-22740-3 : £81.99

* For full contents and more information, visit: www.routledge.com/9781041193142

Supply Chain with Metaverse

Innovations, Challenges, and Opportunities



Edited by **Lokesh Vijayvargy**, **Ajit Kumar Singh**, **Gunjan Soni** MNIT, Jaipur, India, **Mangey Ram** Graphic Hill Era University, India

Series: *Smart Technologies for Engineers and Scientists*

The text proposes a detailed examination of the Metaverse's impact on supply chain operations, logistics, procurement, and sustainability efforts. It discusses the application of the metaverse in inventory management, procurement management, forecasting, and transportation. It provides industry professionals and academicians with a roadmap for navigating the complexities and seizing the opportunities presented by this transformative phenomenon. It is primarily written for senior undergraduates, graduate students, and academic researchers in manufacturing engineering, industrial engineering, production engineering, engineering management, mechanical engineering, and engineering design.

CRC Press
September 2026 : 416pp
Hb: 978-1-041-06291-2 : **£180**

* For full contents and more information, visit: www.routledge.com/9781041062912

Survival Guide to User-Focused Product Development

Methods Against Madness



Sabrina Duda The Stepstone Group, London, UK

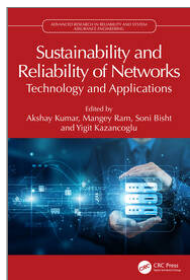
In the evolving landscape of digital product development, navigating the complexities of emerging technologies, user expectations, and team dynamics can feel daunting. This book aims to simplify this by offering a holistic perspective on modern product development through the lens of user focus. It emphasises the key role of user research throughout the product development lifecycle. From uncovering needs to creating innovative solutions, each product development phase is investigated, with a particular focus on the critical discovery phase.

CRC Press
June 2026 : 144pp
Pb: 978-1-032-87880-5 : **£52.99**
Hb: 978-1-032-88217-8 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781032878805

Sustainability and Reliability of Networks

Technology and Applications



Edited by **Akshay Kumar** Graphic Hill Era University, India, **Mangey Ram** Graphic Era Deemed to be University, Dehradun, Uttarakhand, India, **Soni Bisht**, **Yigit Kazancoglu**

Series: *Advanced Research in Reliability and System Assurance Engineering*

The text emphasizes the methodologies and strategies for finding maintainability, sustainability, dependability, and reliability. It discusses how Industry 5.0 affects networks and gives ideas about diversification and an interdisciplinary approach in the field of network reliability. The text is primarily written for graduate students and academic researchers in industrial engineering, systems engineering, production engineering, reliability engineering, mechanical engineering, and mathematics.

CRC Press
October 2026 : 400pp
Hb: 978-1-041-33383-8 : **£120**

* For full contents and more information, visit: www.routledge.com/9781041333838

Sustainable Supply Chain Management

Industry-Driven Practices for a Resilient Future



Edited by **Md. Mamun Habib**, **Ferdoush Saleheen** Faculty Member, Higher Colleges of Technology (HCT), UAE

Series: *Sustainable Industry Focused Supply Chain Management*

This comprehensive text addresses the urgent need for supply chain transformation in the face of unprecedented challenges, including pandemics, climate change, and technological disruption. Designed for academics, scholars, practitioners, policymakers, and students, this essential resource demonstrates how organizations can build future-ready supply chains that create value for businesses, customers, society, and the environment through innovative, adaptive, and socially responsible practices.

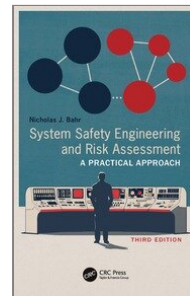
CRC Press
October 2026 : 192pp
Hb: 978-1-041-29313-2 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041293132

3RD EDITION

System Safety Engineering and Risk Assessment

A Practical Approach



Nicholas J. Bahr

Engineers are facing increased scrutiny for safety in their products and operations due to rapid technological advancements, such as artificial intelligence and robotics. The public is less tolerant of accidents, and governments are implementing regulations to improve safety performance. This has led to increased liability exposure for failures and increased scrutiny in various industries. By using a practical approach, this book helps engineers improve safety performance. Designed for engineers who recognize the importance of constructing safer systems but may be uncertain about how to begin, this book provides valuable guidance and insights

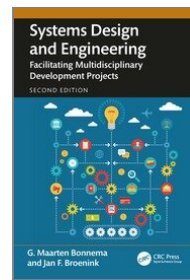
CRC Press
September 2026 : 464pp
Hb: 978-1-041-02719-5 : **£175**

* For full contents and more information, visit: www.routledge.com/9781041027195

2ND EDITION

Systems Design and Engineering

Facilitating Multidisciplinary Development Projects



G. Maarten Bonnema University of Twente, Enschede, The Netherlands, **Jan F. Broenink** University of Twente, Enschede, The Netherlands

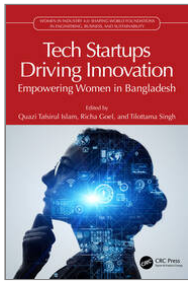
The development of present-day systems require new ways of working that can deal with uncertainty in the early phases of development. Systems Engineering is that needed approach, and this book provides several tools for application in systems development. Designed as a concise guide, this resource introduces systems design and engineering to engineers, designers, and those new to the field of complex systems design. It acts as a foundational toolkit for Systems Engineers, offering essential insights and practical knowledge to support their work.

CRC Press
July 2026 : 158pp
Pb: 978-1-032-78974-3 : **£52.99**
Hb: 978-1-032-79099-2 : **£130**
eBook: 978-1-003-49051-7

* For full contents and more information, visit: www.routledge.com/9781032789743

Tech Startups Driving Innovation

Empowering Women in Bangladesh



Edited by **Quazi Tafsirul Islam** Sr Lecturer, School of Business & Economics, NSU, BD, **Richa Goel** SCMS, SIU, IN, **Tilottama Singh** Assoc Prof, UIM, UU, IN

Series: *Women in Industry 4.0*

In the evolving digital landscape, the intersection of technology and gender empowerment presents a compelling opportunity for driving change, especially in developing countries. This book presents a scholarly examination of Bangladesh's thriving tech startup scene, emphasizing the pivotal role women have in leading this movement. This book will resonate with a diverse audience, ranging from students and academics in gender studies and entrepreneurship to policymakers, startup founders, investors, and individuals interested in the digital economy and women's empowerment in South Asia.

CRC Press

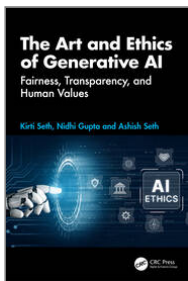
July 2026 : 194pp

Hb: 978-1-032-89759-2 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781032897592

The Art and Ethics of Generative AI

Fairness, Transparency, and Human Values



Kirti Seth INHA University, India, **Nidhi Gupta**, **Ashish Seth** INHA University, India

This book provides a balanced exploration of generative AI, combining technical insights with ethical considerations. It explains generative model architectures and learning paradigms in an accessible way, while addressing critical issues such as algorithmic bias, explainability challenges, and emerging regulatory approaches. Practical frameworks for responsible AI development are offered, alongside multidisciplinary perspectives that bridge technical and humanistic viewpoints. Abstract concepts are brought to life through practical illustrations, demonstrating how ethical considerations play out in real-world AI applications.

CRC Press

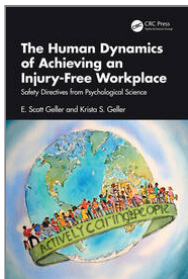
July 2026 : 198pp

Hb: 978-1-041-19735-5 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041197355

The Human Dynamics of Achieving an Injury-Free Workplace

Safety Directives from Psychological Science



E. Scott Geller, **Krista S. Geller**

Creating an injury-free workplace demands more than policies and procedures since it requires the engagement of every employee to actively care for their own safety and that of their colleagues. This research-based, teaching and learning workbook addresses the critical human dynamics that determine whether safety and health initiatives succeed or fail. Drawing from decades of psychological science, the authors present a systematic approach to building an actively-caring-for-people (AC4P) work culture that transforms safety from a compliance-driven requirement into an interdependent shared commitment.

CRC Press

June 2026 : 152pp

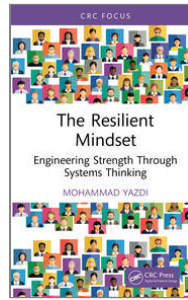
Pb: 978-1-041-28078-1 : **£52.99**

Hb: 978-1-041-28317-1 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781041280781

The Resilient Mindset

Engineering Strength Through Systems Thinking



Mohammad Yazdi

Resilience is a journey that shapes how we navigate challenges and grow through adversity. The Resilient Mindset: Engineering Strength Through Systems Thinking draws from the author's experiences in academic research, industry practice, and personal growth to explore resilience as a practical and transformative human process. By connecting the science of resilience with real-world challenges, this book offers a perspective on how individuals and systems alike can thrive under pressure and uncertainty.

CRC Press

May 2026 : 130pp

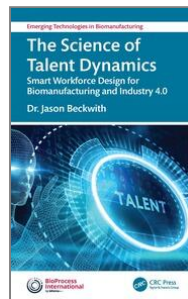
Hb: 978-1-041-33803-1 : **£55.99**

eBook: 978-1-003-78989-5

* For full contents and more information, visit: www.routledge.com/9781041338031

The Science of Talent Dynamics

Smart Workforce Design for Biomanufacturing and Industry 4.0



Jason Beckwith Managing Director, Evolution Executive Search, Scotland, UK

Series: *Emerging Technologies in Biomanufacturing*

The Science of Talent Dynamics: Smart Workforce Design for Biomanufacturing and Industry 4.0 reframes workforce strategy as a Workforce Architecture problem, approached through predictive and quantitative methods to improve company performance, process reliability, and enterprise value. Written for C-suite leaders, board directors, investors, and technical operators, this book equips decision-makers with a finance-grade framework to link workforce design directly to company and process performance.

CRC Press

August 2026 : 624pp

Pb: 978-1-041-16313-8 : **£67.99**

Hb: 978-1-041-16382-4 : **£170**

* For full contents and more information, visit: www.routledge.com/9781041163138

Translating Resilience into Healthcare Practice

Multilevel Theories and Perspectives



Edited by **Siri Wiig**, **Hilda Bø Lyng**, **Veslemøy Guise**, **Cecilie Haraldseid-Driftland**, **Lene Schibevaag** University of Stavanger

Resilience in healthcare is more relevant than ever. Global health crises, increasing service complexity, resource constraints, shortages of qualified professionals, and rapid technological development all demand continuous adaptation from stakeholders at every level of the healthcare system. Amid these challenges, ensuring high-quality care requires a deeper understanding of how systems, teams, and individuals respond and adapt. This book explores resilience as a multi-level phenomenon and positions adaptive capacity as the cornerstone of care quality.

CRC Press

June 2026 : 290pp

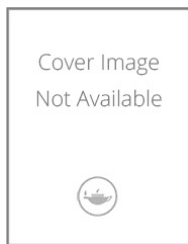
Hb: 978-1-032-77698-9 : **£155**

* For full contents and more information, visit: www.routledge.com/9781032776989

2ND EDITION

Transport Planning and Traffic Safety

Making Cities, Roads, and Vehicles Safer



Edited by **Geetam Tiwari** Indian Institute of Technology, New Delhi, India, **Dinesh Mohan** Indian Institute of Technology, New Delhi, India, **Girish Agrawal** Professor, TRIP Centre, the Indian Institute of Technology Dehli

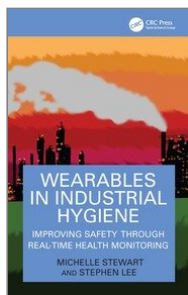
Transportation planning and traffic safety are crucial topics in discussions surrounding climate change and the negative health effects of transportation in low and middle-income countries. The updated edition of this book builds upon the foundation of the first edition and includes new chapters focusing on road safety management and governance, the safety of vulnerable road users (VRUs), and the impact of climate change on travel behavior and safety. It also addresses safety concerns related to electric vehicles, autonomous vehicles, and paratransit systems, highlighting the emerging risks in modern traffic systems.

CRC Press
November 2026 : 504pp
Pb: 978-1-041-09310-7 : **£67.99**
Hb: 978-1-041-09392-3 : **£170**

* For full contents and more information, visit: www.routledge.com/9781041093107

Wearables in Industrial Hygiene

Improving Safety through Real-Time Health Monitoring



Michelle Stewart , Stephen Lee

The primary goal of any industrial hygienist is to prevent hazards before they affect workers. However, safeguards can fail, and human error is inevitable, leading to potential overexposure to occupational hazards. This book explores how to create a dynamic and responsive workplace, emphasizing the importance of early detection and intervention using modern technology through wearable monitors and sensors. This book explores the integration of wearable technology in industrial hygiene.

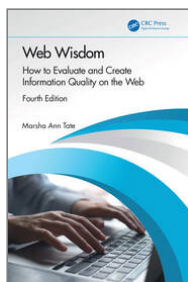
CRC Press
August 2026 : 148pp
Hb: 978-1-032-91480-0 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781032914800

4TH EDITION

Web Wisdom

How to Evaluate and Create Information Quality on the Web



Marsha Ann Tate The Pennsylvania State University, University Park, USA

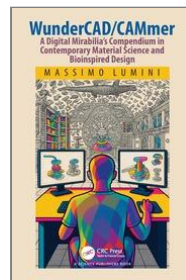
The continuing growth of the World Wide Web has revolutionized modern life. From changing how humans interact at a social level, conduct business, consume media, purchase products and so much more, it has become a vital but complex part of our daily lives. This new edition demonstrates how to adapt and apply the five core traditional evaluation criteria - authority, accuracy, objectivity, currency and coverage - to the modern-day web environment plus its application to the everchanging future.

CRC Press
August 2026 : 174pp
Pb: 978-1-032-69018-6 : **£52.99**
Hb: 978-1-032-69918-9 : **£86.99**

* For full contents and more information, visit: www.routledge.com/9781032690186

WunderCAD/CAMmer

A Digital Mirabilia's Compendium in Contemporary Material Science and Bioinspired Design



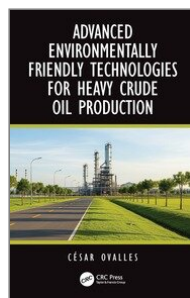
Massimo Lumini

From the Renaissance Wunderkammern to today's CAD/CAM digital studio, this book traces the enduring presence of wonder as a lens for exploring the contemporary landscape of technosciences. The Cabinets of Curiosities of the past resurface as guiding metaphors, opening dialogues between Nature, technology, and the artificial creations shaping our age. Structured through visionary chapters, it examines the advances of materials science and biodesign in their biomimetic dimension. By embracing mirabilia as method, the book envisions a future where creativity, integration, and sustainability converge.

CRC Press
May 2026 : 344pp
Hb: 978-1-032-57333-5 : **£120**
eBook: 978-1-003-43894-6

* For full contents and more information, visit: www.routledge.com/9781032573335

Advanced Environmentally Friendly Technologies for Heavy Crude Oil Production



César Ovalles CO2 Consulting & Services

Advanced Environmentally Friendly Technologies for Heavy Crude Oil Production presents a comprehensive account and critical review of the enhanced oil recovery technologies that have the highest potential for successful implementation in the energy transition from fossil fuels to renewable energies. It discusses progress in both academia (physical or laboratory and numerical simulations) and industry (pilots). Professionals in the oil and gas industry as well as engineers, scientists, and regulators involved in the energy transition and carbon intensity calculations will find this book to be an excellent resource.

CRC Press

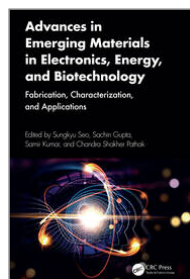
July 2026 : 198pp

Hb: 978-1-041-06450-3 : £120

* For full contents and more information, visit: www.routledge.com/9781041064503

Advances in Emerging Materials in Electronics, Energy, and Biotechnology

Fabrication, Characterization, and Applications



Edited by **Sungkyu Seo** Korea University (Sejong Campus), **Sachin Gupta** Bennett University, **Samir Kumar** Korea University (Sejong Campus), **Chandra Shakher Pathak** Department of Physics, BMS Institute of Technology & Management

In this volume, an international team of experts in the field of advanced materials provides a comprehensive overview of the emerging technologies and their manufacturing processes, characterization techniques, properties, and applications in various fields and industries. The combination of fundamental information and practical guidance on fabrication and characterization makes this book indispensable for scientists, engineers, and researchers in fields such as energy, electronics, medicine, biotechnology, nanotechnology, and environmental science. Students will also find it valuable for pursuing careers in research or industry.

CRC Press

June 2026 : 578pp

Hb: 978-1-032-94482-1 : £170

eBook: 978-1-003-58155-0

* For full contents and more information, visit: www.routledge.com/9781032944821

Applied Research in Engineering Sciences



Edited by **N.V.R. Naidu**, **N.L. Ramesh**, **A. Jagannatha Reddy**, **Nagaraju Kottam**, **P. Murali Krishna**, **M. R. Ambika**, **Diwakar P. Yadav**, **Shashiprabha S. Gogate**

It is a privilege to present this edited volume comprising selected scholarly contributions from the 2nd International Conference on Applied Research in Engineering Sciences (ICARES-2025), organized by the Departments of Physics, Chemistry, Mathematics, and Humanities of Ramaiah Institute of Technology, Bengaluru.

CRC Press

June 2026 : 658pp

Pb: 978-1-041-29757-4 : £61.99

Hb: 978-1-041-29638-6 : £145

eBook: 978-1-003-77110-4

* For full contents and more information, visit: www.routledge.com/9781041297574

Bio-Based Amines

Principles, Polymers, and Applications



Ram K. Gupta, **Rutu Patel**, **Mayankkumar L. Chaudhary**

This book explores bio-based amines in polymer production, focusing on their sustainable extraction and utility in creating environmentally friendly materials. It covers chemical properties, synthesis from natural sources, and diverse applications in products like polyurethanes, adhesives, polyamides, and epoxies. It addresses processing challenges, lifecycle assessments, and market trends, providing an overview of the environmental impacts and potential advancements in bio-based polymer technology. It serves as an essential resource for materials and chemical researchers and professionals aiming to advance green chemistry practices and alternatives to petrochemical-based materials.

CRC Press

November 2026 : 336pp

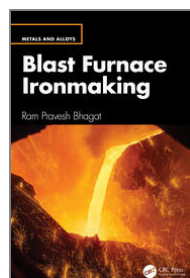
Hb: 978-1-041-22196-8 : £140

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Blast Furnace Ironmaking

Ram Pravesh Bhagat

Series: Metals and Alloys



The technology of ironmaking is central to the production of steel. Offering a comprehensive approach, this book provides insight into and guidance for understanding the use of blast furnace processes in this complex field of metallurgy. Aimed at advanced students in metallurgical engineering, as well as process technologists and R&D professionals, the book delivers best practices and future perspectives to assist in advancing technological innovations in the field of ferrous extraction.

CRC Press

June 2026 : 392pp

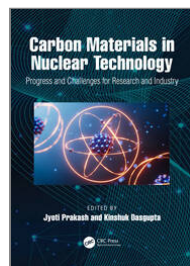
Hb: 978-0-367-54849-0 : £150

eBook: 978-1-003-09085-4

* For full contents and more information, visit: www.routledge.com/9780367548490

Carbon Materials in Nuclear Technology

Progress and Challenges for Research and Industry



Edited by **Jyoti Prakash** Bhabha Atomic Research Centre, India, **Kinshuk Dasgupta** Bhabha Atomic Research Centre, India

This book explores diverse applications of bulk and nano carbonaceous materials within the nuclear domain. Addressing sectors such as fission reactors in both front-end and back-end cycles, and structural and functional material needs, it delves into their role in fusion reactors, particularly as plasma-facing and high radiation environment materials. Emphasizing their significance in waste management and the decommissioning phase of reactors, the book elucidates how each generation of nuclear reactors, including fast reactors, necessitates the utilization of carbon-based materials. This book is aimed at researchers and graduate students in materials and nuclear science, and carbon.

CRC Press

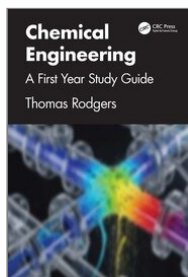
August 2026 : 532pp

Hb: 978-1-032-90479-5 : £170

* For full contents and more information, visit: www.routledge.com/9781032904795

Chemical Engineering

A First Year Study Guide



Thomas Rodgers

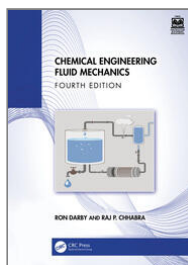
This textbook introduces new chemical engineering students to the key subjects taught in most undergraduate Chemical Engineering degrees: Process Engineering Fundamentals, Chemical Thermodynamics, Process Fluid Flow, Process Heat Transfer, and Chemical Reaction Engineering. Rather than providing total coverage of all these topics, it explains the material in an accessible way for students new to the subject, allowing them to understand why these topics are important and to ready them for more advanced courses they will encounter later. Written for students embarking on their Chemical Engineering degree, this textbook explains core chemical engineering topics in an approachable way,

CRC Press
August 2026 : 784pp
Pb: 978-1-032-64886-6 : **£52.99**
Hb: 978-1-032-64887-3 : **£130**

* For full contents and more information, visit: www.routledge.com/9781032648866

4TH EDITION

Chemical Engineering Fluid Mechanics



Ron Darby Texas A&M University, College Station, TX, **Raj P. Chhabra** Dept of Chem Eng, Transit Campus-I, Indian Inst of Technology, Rupnagar

Revised and expanded, the Fourth Edition of Chemical Engineering Fluid Mechanics continues to provide a balanced treatment of the basics and applications the practicing chemical engineer needs to know. With the emphasis on problem solving, the book demonstrates how to make approximations and solve complex fluid mechanics problems. It features a new chapter on Differential Mass and Momentum Balances, discussing the differential forms of continuity and momentum (Navier-Stokes) equations. Aimed at chemical engineering students taking applied fluid dynamics courses, this textbook also serves as a valuable reference for researchers and professional engineers.

CRC Press
July 2026 : 576pp
Hb: 978-1-032-77706-1 : **£110**

* For full contents and more information, visit: www.routledge.com/9781032777061

City Gas Distribution and Pipeline Networks

Design, Operation, and Innovation



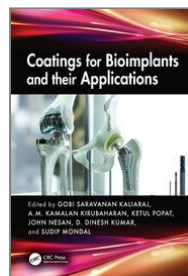
Bhalchandra Shingan

This textbook serves as a comprehensive technical guide covering the entire lifecycle of City Gas Distribution (CGD) systems from demand assessment to pipeline design, pressure regulation, and metering. It emphasizes material selection, hydraulic modeling, GIS, SCADA, and real-time monitoring to ensure optimal operation. The book also explores safety protocols, regulatory frameworks, and emerging technologies such as AI, digital twins, and hydrogen integration. Through case studies and practical insights, it equips students and professionals with the knowledge required to design sustainable, future-ready gas infrastructure.

CRC Press
November 2026 : 536pp
Hb: 978-1-041-25237-5 : **£140**

* For full contents and more information, visit: www.routledge.com/9781041252375

Coatings for Bioimplants and their Applications



Edited by **Gobi Saravanan Kalaraj**, **A.M. Kamalan Kirubakaran**, **Ketul Popat**, **John Nesan**, **D. Dinesh Kumar**, **Sudip Mondal**

This book offers a thorough and detailed examination of the advancements in bioimplant coatings. It explains the significance of coatings in improving the biocompatibility of bioimplants and minimizing unfavorable reactions within the human body. It covers pertinent factors such as mechanical capabilities, biocompatibility, corrosion resistance, and antibacterial efficacy. It identifies areas where coating methods and protocols can be improved for material selection, coating processes, and overall performance enhancement from physical, chemical, and biological perspectives. This book is aimed at graduate students and researchers in biomaterials and coatings.

CRC Press
June 2026 : 450pp
Hb: 978-1-032-97380-7 : **£175**

* For full contents and more information, visit: www.routledge.com/9781032973807

Control of Wastewater Treatment Plants

Classical and Advanced Control Strategies



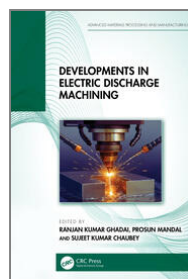
E. S. S. Tejaswini, **Seshagiri Rao Ambati**

This book explains different control strategies are designed and implemented on biological wastewater treatment plants (WWTPs) including Benchmark Simulation Model No. 1 and Model No. 2, by taking into consideration the effect of emission of greenhouse gases. It explains design of conventional PI and fractional PI controllers and advanced controllers such as Model Predictive Control (MPC) and Fuzzy Control (FC) and their evaluation. The designed controller impact on the greenhouse gases emissions is also presented in this book. This book is aimed at researchers and graduate students in process control and wastewater treatment.

CRC Press
October 2026 : 328pp
Hb: 978-1-003-86348-9 : **£160**

* For full contents and more information, visit: www.routledge.com/9781003863489

Developments in Electric Discharge Machining



Edited by **Ranjan Kumar Ghadai**, **Prosun Mandal**, **Sujeet Kumar Chaubey**

Series: Advanced Materials Processing and Manufacturing

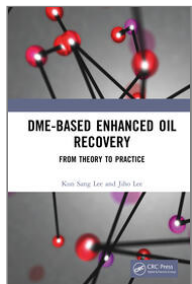
This book is about fundamental and advancements in electric discharge machining (EDM) technology including developments in machine tools, process capability, subsystems, electrodes and dielectrics, control units etc. in EDM and its variants such as Wire-EDM, ECDM, and other hybrid processes of EDM. Miniature parts fabrication, making typical shapes and features, machining of thin parts, microfabrication, using EDM for coating are the primary topics covered in this book. This book is aimed at researchers and graduate students in manufacturing technology, mechanical engineering, materials, and metallurgy.

CRC Press
May 2026 : 170pp
Hb: 978-1-032-81248-9 : **£110**
eBook: 978-1-003-76967-5

* For full contents and more information, visit: www.routledge.com/9781032812489

DME-Based Enhanced Oil Recovery

From Theory to Practice



Kun Sang Lee , Jiho Lee

This book brings readers up to date with the current state of knowledge of the emerging technology of adding dimethyl ether (DME) to conventional enhanced oil recovery (EOR) methods. It explains the fundamental mechanisms and explores its applications, challenges, and future developments. This book is a new and exciting resource for researchers in enhanced oil recovery who are looking to develop this field, overcome existing challenges, and explore the potential applications.

CRC Press
June 2026 : 202pp
Hb: 978-1-041-00046-4 : £175
eBook: 978-1-003-60794-6

* For full contents and more information, visit: www.routledge.com/9781041000464

Dust Explosions in the Pharmaceutical and Food Industries



Sabrina Copelli , Davide Ballinari

This book provides a rigorous exploration of dust explosion hazards, with a focus on pharmaceutical and food industries. It examines the fundamental and applied aspects of dust explosion safety, integrating key concepts from physical chemistry, engineering, and risk management fields. By combining the latest knowledge and addressing both theoretical and practical aspects, this book serves as a resource for a wide range of readers, including safety professionals, engineers, researchers, and students. It will not only equip readers with the tools to assess and mitigate explosion risks but also aim to inspire ongoing research and innovation in this critical area of industrial safety.

CRC Press
August 2026 : 280pp
Hb: 978-1-041-08425-9 : £130

* For full contents and more information, visit: www.routledge.com/9781041084259

Eco-Friendly and Sustainable Coatings for Wear-Prone Industrial Applications



Edited by Jimmy Mehta , Manikant Paswan , Pallav Gupta

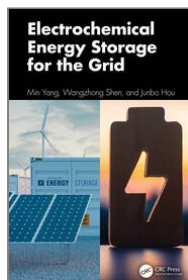
Series: Recent Advances in Materials for Nanotechnology

This book proposes eco-friendly and sustainable coating solutions as both a remedy and a revolution. Each chapter covers different facets of such coatings including advancements in coating technologies, their potential to extend the life of wear-prone materials while adhering to sustainability principles, and innovative development and application of biodegradable materials for coatings. It discusses new materials' fabrication techniques, transformation methods, and environmental implications with an overview of their sustainability and effectiveness. This book is aimed at graduate students and researchers in materials engineering, industrial chemistry, and professionals.

CRC Press
May 2026 : 242pp
Hb: 978-1-032-98662-3 : £150
eBook: 978-1-003-63368-6

* For full contents and more information, visit: www.routledge.com/9781032986623

Electrochemical Energy Storage for the Grid



Edited by Min Yang , Wangzhong Shen , Junbo Hou

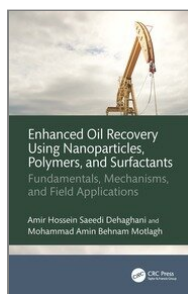
While renewable energy is vital to ensuring a sustainable power grid, it is highly variable and unpredictable and electricity generation from renewables is usually small and distributed compared to traditional power generation. Energy storage is attracting attention as an effective approach to addressing the variable nature of renewable energy, as its implementation can improve grid stability, reliability, and resilience. This book focuses on fundamentals, advances, and applications of electrochemical energy storage for the grid. It is aimed at researchers and practicing engineers in the energy, chemical, and related engineering disciplines.

CRC Press
July 2026 : 314pp
Hb: 978-1-032-79525-6 : £130

* For full contents and more information, visit: www.routledge.com/9781032795256

Enhanced Oil Recovery Using Nanoparticles, Polymers, and Surfactants

Fundamentals, Mechanisms, and Field Applications



Amir Hossein Saeedi Dehaghani , Mohammad Amin Behnam Motlagh

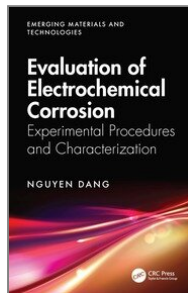
This comprehensive book examines advanced EOR methodologies using nanoparticles, polymers, and surfactants as extraction efficiency becomes increasingly critical in depleting oil reserves. The authors present an integrated framework connecting theoretical principles with laboratory investigations and field implementations, addressing both the technical challenges and economic considerations of modern EOR applications. This reference serves researchers and practitioners across multiple disciplines, including graduate-level petroleum and chemical engineering programs, research scientists, and technical professionals engaged in reservoir engineering and field development.

CRC Press
August 2026 : 574pp
Hb: 978-1-041-24334-2 : £170

* For full contents and more information, visit: www.routledge.com/9781041243342

Evaluation of Electrochemical Corrosion

Experimental Procedures and Characterization



Nam Nguyen Dang

Series: Emerging Materials and Technologies

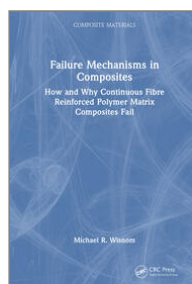
To fully evaluate and mitigate the effects of corrosion, it is essential to understand corrosion properties and mechanisms. This book provides an overview of the main techniques of corrosion testing. It describes the fundamentals of corrosion evolution and recommends how to set up experiments that can analyze corrosion properties and mechanisms. It details problems that occur during experimental testing and how to solve them. This book will serve as a valuable reference for materials scientists, corrosion researchers, and others seeking to lessen the impact of metallic corrosion in infrastructure and other critical sectors.

CRC Press
August 2026 : 446pp
Hb: 978-1-032-49697-9 : £235

* For full contents and more information, visit: www.routledge.com/9781032496979

Failure Mechanisms in Composites

How and Why Continuous Fibre Reinforced Polymer Matrix Composites Fail



Michael R. Wisnom

Series: Composite Materials

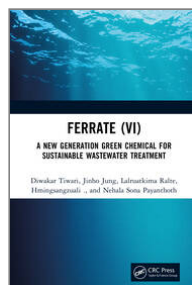
This book discusses the mechanical response and failure of continuous fibre reinforced polymer matrix composites. It brings together the state of knowledge on failure of composites, drawing on the author's extensive experience and insights gained from researching the behaviour of these fascinating materials. It explains the principles governing them to help readers understand failures when they do occur, and how to avoid them by taking account of the key characteristics in design, underpinning greater exploitation of composites—truly the materials of the future.

CRC Press
July 2026 : 304pp
Hb: 978-1-032-74640-1 : £130

* For full contents and more information, visit: www.routledge.com/9781032746401

Ferrate (VI)

A New Generation Green Chemical for Sustainable Wastewater Treatment



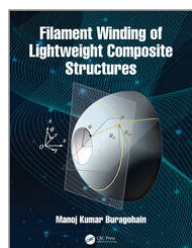
Diwakar Tiwari, Jinho Jung, Lalruatkima Ralte, Hmingsangzuali, Nehala Sona Payanthoth

This book explores ferrate (VI) as a cutting-edge, environmentally friendly chemical for wastewater treatment. It details various synthesis techniques, stability evaluations, and its effectiveness against emerging contaminants such as pharmaceuticals, endocrine-disrupting compounds, pesticides, and viruses. The book also examines real-world applications in sewage, domestic, and hospital wastewater systems, assessing toxicity reduction through acute toxicity tests and oxidative stress analyses.

CRC Press
August 2026 : 136pp
Hb: 978-1-041-29462-7 : £180

* For full contents and more information, visit: www.routledge.com/9781041294627

Filament Winding of Lightweight Composite Structures



Manoj Kumar Buragohain

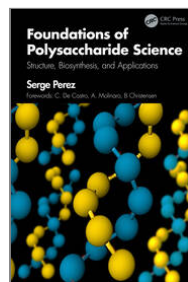
This book provides know-how required to develop filament-wound composite products of different types that are regularly used in varied industrial sectors. Apart from pertinent fundamental concepts, it includes simple geometrical solutions as well as derivation of mathematical relations. On the processing front, filament winding, winding machine and other capital equipment are described. An overview of AI & ML and review of their usage and several possibilities in composite filament winding are presented as well. This book is aimed at researchers and graduate students in materials science and engineering, composites, lightweight materials including related professionals.

CRC Press
July 2026 : 720pp
Hb: 978-1-041-13761-0 : £210

* For full contents and more information, visit: www.routledge.com/9781041137610

Foundations of Polysaccharide Science

Structure, Biosynthesis, and Applications



Serge Perez

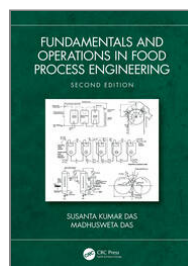
This book examines the role of polysaccharides as essential biopolymers, tracing their origins, structural organization, and applications in materials science, healthcare, and environmental sustainability. It provides an exploration of their biosynthesis, functional modifications, and industrial uses. By connecting molecular science with practical applications, the book highlights the importance of polysaccharides in advancing biomedical technologies and sustainable materials. It presents how these molecules contribute to life and innovation and is intended for students, researchers, academics, and industry professionals interested in polysaccharide science and its applications.

CRC Press
July 2026 : 336pp
Hb: 978-1-041-33046-2 : £160

* For full contents and more information, visit: www.routledge.com/9781041330462

2ND EDITION

Fundamentals and Operations in Food Process Engineering



Susanta Kumar Das Indian Institute of Technology, Kharagpur, India, **Madhusweta Das** Indian Institute of Technology, Kharagpur, India

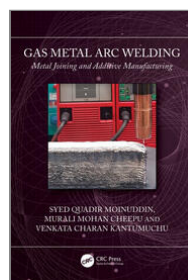
This revised edition of Fundamentals and Operations in Food Process Engineering has been adequately expanded with four new chapters covering distillation, leaching and extraction, high-temperature food processing, and conveying systems in food processing. The 18 chapters in the second edition address basic engineering principles and applications in food processing, focusing on specific analytical problems and on comprehensive, systematic, and analytical approaches leading to designing various food processing systems. This volume includes approximately 250 worked-out examples and 185 exercise problems to enhance students' understanding and interest.

CRC Press
June 2026 : 902pp
Hb: 978-1-032-89603-8 : £150

* For full contents and more information, visit: www.routledge.com/9781032896038

Gas Metal Arc Welding

Metal Joining and Additive Manufacturing



Syed Quadir Moinuddin, Murali Mohan Cheepu

Research Manager, Super-TIG Welding, Co., Republic of Korea, **Venkata Charan Kantumuchu**

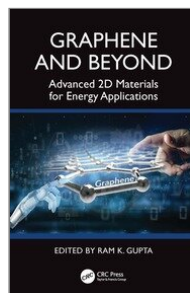
This book addresses the fundamental technologies and advancements in Gas Metal Arc Welding (GMAW) in metal joining and additive manufacturing. It delivers in depth knowledge on various aspects of GMAW processes includes principles and mechanisms, metal transfer modes, process variations, monitoring and control, automation and flexibility of power sources, joining of similar and dissimilar materials, additive manufacturing and metallurgical aspects. The book concludes with challenges and opportunities that would lead towards future directions in GMAW process.

CRC Press
June 2026 : 166pp
Hb: 978-1-032-70401-2 : £100
eBook: 978-1-003-77884-4

* For full contents and more information, visit: www.routledge.com/9781032704012

Graphene and Beyond

Advanced 2D Materials for Energy Applications



Edited by **Ram K. Gupta**

Development of advanced 2D materials beyond graphene presents a paradigm shift in energy research, offering unprecedented opportunities to revolutionize energy storage, conversion, and efficiency technologies. But despite significant progress, there remains a need for a consolidated resource that integrates the latest research findings, technological advancements, and future prospects. *Graphene and Beyond: Advanced 2D Materials for Energy Applications* explores the synthesis, properties, and applications of advanced 2D materials, making it essential for academics, industry professionals, and policymakers harnessing their potential for sustainable energy solutions.

CRC Press
May 2026 : 356pp
Hb: 978-1-032-97594-8 : £175
eBook: 978-1-003-59440-6

* For full contents and more information, visit: www.routledge.com/9781032975948

2ND EDITION

Green Chemical Engineering

An Introduction to Catalysis, Kinetics, and Chemical Processes



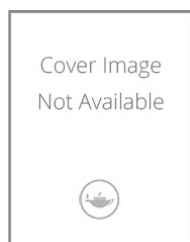
S. Suresh Maulana Azad National Institute of Technology, India, **S. Sundaramoorthy** Pondicherry Engineering, Dept. of Chemical Engineering, India

The second edition of this textbook, published more than a decade after the first edition (2014), incorporates extensive academic feedback to introduce new perspectives, topics, and chapters. The book is divided into two sections: Chemical Kinetics and Reaction Engineering and Applications to Green Chemical Processes. The chapters cover green chemical engineering, chemical kinetics, homogeneous and heterogeneous reactor design, and advanced topics such as membrane steam reformers for hydrogen production and biofuel reactor design.

CRC Press
November 2026 : 776pp
Hb: 978-1-041-22711-3 : £150

* For full contents and more information, visit: www.routledge.com/9781041227113

Handbook of Two-Dimensional Quantum Materials and Energy Applications



Edited by **Abdus Salam Sarkar**, **Emmanuel Stratakis**

Series: *Emerging Materials and Technologies*

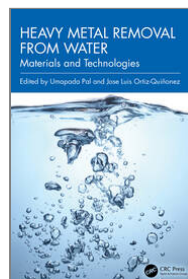
This book examines the fundamental properties, synthesis strategies, and applications of two-dimensional quantum materials in energy technologies. It highlights their potential for transforming energy storage, conversion, and harvesting systems. Bridging the gap between theoretical foundations and practical implementation, the book demonstrates their role in advancing next-generation energy solutions, including photovoltaics, thermoelectrics, fuel cells, and energy storage devices such as supercapacitors and batteries. It is intended for researchers, engineers, and students in materials science, nanotechnology, quantum technology and energy engineering.

CRC Press
November 2026 : 400pp
Hb: 978-1-041-12326-2 : £140

* For full contents and more information, visit: www.routledge.com/9781041123262

Heavy Metal Removal from Water

Materials and Technologies



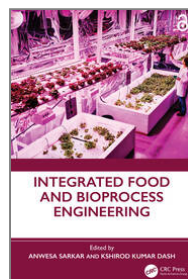
Edited by **Umapada Pal** Autonomous University of Puebla, Mexico, **Jose Luis Ortiz-Quinonez** Metropolitan Autonomous University, Mexico

This book explores metal ion removal processes and cutting-edge technologies, with a focus on membranes, photocatalysts, and various adsorbents. It covers the principles and practical intricacies underlying membrane-based separation processes, offering readers a comprehensive understanding of their applications and nuances. The book also examines alternative approaches utilizing adsorbents and photocatalysts, comparing their advantages and drawbacks against conventional membrane-based methods. This text is aimed at various stakeholders, including researchers, students, practitioners, and policymakers, committed to tackling the pressing challenges posed by heavy metal contamination.

CRC Press
August 2026 : 248pp
Hb: 978-1-032-98519-0 : £120

* For full contents and more information, visit: www.routledge.com/9781032985190

Integrated Food and Bioprocess Engineering



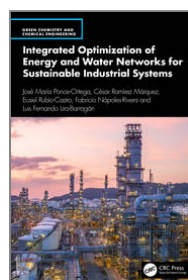
Edited by **Anwesha Sarkar**, **Kshirod Kumar Dash**

The book covers different aspect of food bioprocess engineering for the development of various value-added food and waste management. Covers food biotechnology and bioprocess engineering, design of fermenter and bioreactors, studies related to unit operations, food safety and regulatory issues for safe and nutritious food product development using novel technologies of biotechnology and bioprocessing, followed by food industry waste utilization for production of first second and third generation biofuel production, biodegradable packaging materials. This book is aimed at graduate students and researchers in food and chemical engineering, bioprocessing, and food biotechnology.

CRC Press
May 2026 : 412pp
Hb: 978-1-032-59927-4 : £175
eBook: 978-1-032-65061-6

* For full contents and more information, visit: www.routledge.com/9781032599274

Integrated Optimization of Energy and Water Networks for Sustainable Industrial Systems



José María Ponce-Ortega Michoacan Uni of Saint Nicholas of Hidalgo, Mexico, **César Ramírez Márquez** UMSNH, Mexico, **Eusiel Rubio-Castro**, **Fabricio Nápoles-Rivera**, **Luis Fernando Lira-Barragán**

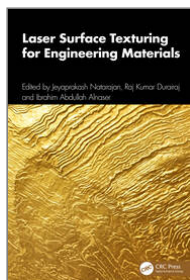
Series: *Green Chemistry and Chemical Engineering*

This book addresses the integrated optimization of heat and water networks in industrial systems, with a focus on advancing sustainability, resource efficiency, and process performance. It brings together state-of-the-art methodologies and practical strategies for designing, retrofitting, and managing thermal and water subsystems across diverse industrial contexts.

CRC Press
June 2026 : 418pp
Hb: 978-1-041-15459-4 : £225
eBook: 978-1-003-67954-7

* For full contents and more information, visit: www.routledge.com/9781041154594

Laser Surface Texturing for Engineering Materials



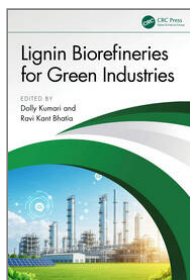
Edited by **Jeyaprakash Natarajan** China University of Mining and Technology, China, **Raj Kumar Durairaj**, **Ibrahim Abdullah Alnaser**

Laser surface texturing (LST) uses lasers to modify or prepare a material's surface for improved performance. This book examines laser surface texturing techniques for various materials and applications. It also explores the microstructural, tribological, anti-corrosion, and mechanical behaviors of laser textured component surfaces to understand the mechanisms for improving lifecycle and reducing frictional losses. Offering a concise approach to a complex technology with minimal mathematical equations, this work covers surface texturing techniques, their applications, analysis and future advancements for materials, mechanical, and manufacturing engineers.

CRC Press
July 2026 : 254pp
Hb: 978-1-032-89278-8 : £140

* For full contents and more information, visit: www.routledge.com/9781032892788

Lignin Biorefineries for Green Industries



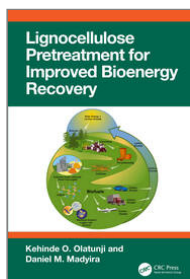
Edited by **Dolly Kumari**, **Ravi Kant Bhatia**

This book focuses on lignin biorefinery, with special emphasis on lignin extraction, its chemical structure, depolymerization and degradation techniques, and its applications in the production of green industrial products. It provides an overview of lignin chemistry and biorefinery processes, as well as the potential of lignin in the synthesis of industrial chemicals. The book covers pretreatment methods for lignocellulosic biomass using various extraction techniques and includes the chemical analysis of lignin structures obtained from different methods. It also explains the catalytic valorisation of lignin and its biological degradation processes.

CRC Press
June 2026 : 296pp
Hb: 978-1-041-09916-1 : £110

* For full contents and more information, visit: www.routledge.com/9781041099161

Lignocellulose Pretreatment for Improved Bioenergy Recovery



Kehinde O. Olatunji, **Daniel M. Madyira**

Lignocellulosic biomass is a promising feedstock for second-generation bioenergy due to its low value and abundance. Different types of lignocellulosic biomass require specific pretreatment methods to enhance biorefinery processes. This book provides state-of-the-art information on recent developments in available pretreatment methods. It offers an overview of structural analysis of pretreated lignocellulosic biomass using various techniques, including optimization and prediction of bioenergy production with the help of statistical and artificial intelligence models.

CRC Press
July 2026 : 226pp
Hb: 978-1-041-00461-5 : £100
eBook: 978-1-003-63381-5

* For full contents and more information, visit: www.routledge.com/9781041004615

Lignocellulosic Composites

Processing, Properties, and Applications



Edited by **Arun Ramnath Ramachandran**, **Vinod Ayyappan**, **Sanjay Mavinkere Rangappa** University of Technology, Thailand, **Suchart Siengchin** University of Technology, Thailand

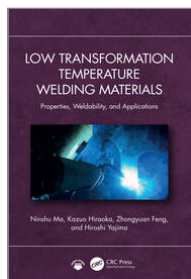
This book provides a systematic and comprehensive overview of advances in properties, performance, and processing of lignocellulose fibre-reinforced composites. With its application-oriented approach, this text explores the current state of the art, trends, future directions, and opportunities. The book will be of interest to researchers, scientists, and engineers working with renewable resources in the field of materials science.

CRC Press
June 2026 : 392pp
Hb: 978-1-032-74982-2 : £150
eBook: 978-1-003-47184-4

* For full contents and more information, visit: www.routledge.com/9781032749822

Low Transformation Temperature Welding Materials

Properties, Weldability, and Applications



Ninshu Ma, **Kazuo Hiraoka**, **Zhongyuan Feng**, **Hiroshi Yajima**

This valuable reference for advanced students and practicing engineers provides a comprehensive overview of low transformation temperature (LTT) welding materials, detailing their design, properties, and weldability, and demonstrating their applications in preventing fatigue and improving corrosion performance in welded structures. Upper undergraduate and postgraduate students will find this a valuable aid to their learning as it provides additional information to supplement course materials. Practitioners will also benefit from the practical information including simulation and real-world data that will benefit their daily work.

CRC Press
July 2026 : 230pp
Hb: 978-1-032-94483-8 : £105

* For full contents and more information, visit: www.routledge.com/9781032944838

Low-Dimensional Quantum Materials

From Fundamentals to Frontiers



Edited by **Zongyu Huang**, **Long Ren**, **Jianxin Zhong**

Series: Emerging Materials and Technologies

This book provides a comprehensive exploration of the theoretical foundations, material systems, and emerging applications of quantum materials with reduced dimensionality. It delves into the quantum effects covering the aspects of electronic, optical, and magnetic properties that arise in these materials. By systematically presenting fundamental concepts, fabrication methods, characterization techniques, and cutting-edge research about low-dimensional quantum materials, this book serves as both an introductory guide and an advanced reference for researchers and professionals in condensed matter physics, nanotechnology, and materials science.

CRC Press
October 2026 : 256pp
Hb: 978-1-041-10485-8 : £120

* For full contents and more information, visit: www.routledge.com/9781041104858

Material Selection, Product Design and Additive Manufacturing Processes for Operational Sustainability



Ram Krishna NIT Jamshedpur, India

Series: Advances in Design, Materials and Manufacturing for Sustainability

This book explores the integration of sustainability into the core of material selection, product design, and manufacturing processes, with a focus on additive manufacturing. It provides a comprehensive guide to operational sustainability, delving into environmentally conscious approaches that reduce waste, optimize resources, and enhance long-term operational efficiency. The scope covers the entire product lifecycle from material selection to end-of-life recycling offering insights into how emerging technologies contribute to sustainable development.

CRC Press
July 2026 : 152pp
Hb: 978-1-032-99917-3 : £120

* For full contents and more information, visit: www.routledge.com/9781032999173

Metal Additive Manufacturing

Materials, Processes, and Surface Engineering for Advanced Applications



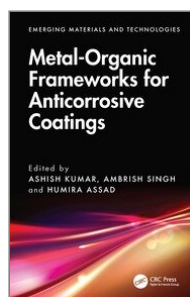
Edited by Aufa Adlia Nazari, Mohamad Zaki Hassan, James Ren, Zbigniew Brytan, Afrim Gjellaj

This book explores the evolving landscape of metal additive manufacturing, with strong emphasis on alloy development, microstructure evolution, surface engineering, and process modeling. It provides a comprehensive understanding of how different metallic alloys behave under various AM processes and offers detailed insights into the influence of processing parameters and post-processing treatments on the mechanical and functional performance of printed parts. With contributions from international experts in academia and industry, it equips readers in materials, mechanical, and related engineering fields with the knowledge needed to drive innovation and solve real-world challenges.

CRC Press
August 2026 : 520pp
Hb: 978-1-041-22282-8 : £175

* For full contents and more information, visit: www.routledge.com/9781041222828

Metal-Organic Frameworks for Anticorrosive Coatings



Edited by Ashish Kumar Nce, Dep. Sci. And Tech., Government Of Bihar, India, Ambrish Singh, Humira Assad

Series: Emerging Materials and Technologies

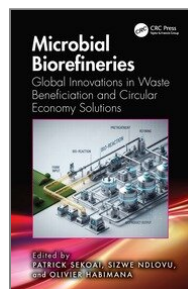
This book provides a comprehensive analysis of the application of Metal-Organic Frameworks (MOFs) in corrosion protection, consolidating current knowledge and offering insights into potential future advancements in the field. It explores the methods used to fabricate MOF coatings, discussing their advantages, disadvantages, and suitability for various harsh environments. The book also includes industrial case studies, highlighting real-world applications and providing guidance on the future potential of MOFs as anticorrosive coatings. It is aimed at researchers, graduate students in materials science, corrosion science, and related fields.

CRC Press
June 2026 : 382pp
Hb: 978-1-032-93624-6 : £140
eBook: 978-1-003-57116-2

* For full contents and more information, visit: www.routledge.com/9781032936246

Microbial Biorefineries

Global Innovations in Waste Beneficiation and Circular Economy Solutions



Edited by Patrick Sekoi, Sizwe Ndlovu, Olivier Habimana

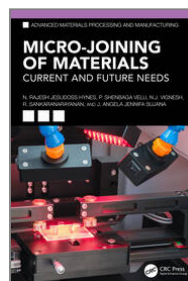
This book showcases the role of various microbial cell factories towards waste beneficiation, highlighting both the opportunities for and barriers to the industrial implementation of these technologies. Focusing on scalable, economically viable innovations and positioning microbial cell factories as enablers of resource valorization, this book bridges policy aspirations and practical applications, offering readers in chemical, bio, and environmental engineering concrete pathways to translate circular economy concepts into industrial reality.

CRC Press
September 2026 : 264pp
Hb: 978-1-041-25108-8 : £140

* For full contents and more information, visit: www.routledge.com/9781041251088

Micro-joining of Materials

Current and Future Needs



Edited by N. Rajesh Jesudoss Hynes, P. Shenbaga Velu, N.J. Vignesh, R. Sankaranarayanan, J. Angela Jennifa Sujana

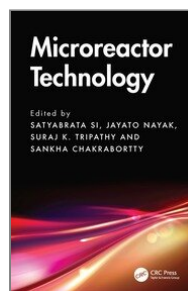
Series: Advanced Materials Processing and Manufacturing

This book addresses primary and secondary procedures for combining sophisticated materials such as metals and alloys, intermetallic, ceramics, glasses, polymers, superalloys, electronic materials, and composites in similar and dissimilar combinations, based on the most recent research. It further explores the current and future micro joining techniques that are rapidly expanding including delicately and precisely combining microscale components and materials. It offers a detailed reference to the status of micro joining and potential future possibilities. This book is aimed at researchers and graduate students in materials science and microfabrication.

CRC Press
July 2026 : 224pp
Hb: 978-1-032-79692-5 : £110

* For full contents and more information, visit: www.routledge.com/9781032796925

Microreactor Technology



Edited by Satyabrata Si, Jayato Nayak Mahindra University, India, Suraj K. Tripathy Kalinga Institute of Industrial Technology, India, Sankha Chakraborty KIIT University

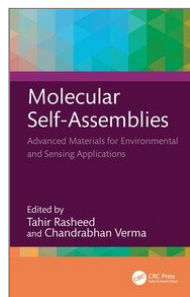
This book bridges the gap between theoretical knowledge and practical applications by delving into the fundamentals of microreactor design principles, operational strategies, and optimization techniques. It showcases the versatility of microreactors across diverse domains, from material synthesis and characterization to energy applications and environmental sustainability, emphasizing their role in research and industrial processes. It overviews design principles, operational mechanisms, and transformative impact of microreactors across various scientific domains. This book is aimed at graduate students and researchers in chemistry, chemical and environmental engineering.

CRC Press
July 2026 : 384pp
Hb: 978-1-032-99992-0 : £140

* For full contents and more information, visit: www.routledge.com/9781032999920

Molecular Self-Assemblies

Advanced Materials for Environmental and Sensing Applications



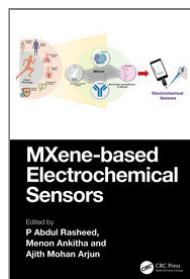
Edited by **Tahir Rasheed**, **Chandrabhan Verma** King Fahd University of Petroleum & Minerals, Saudi Arabia

This book emphasizes on the molecular self-assemblies of advanced materials as potential candidates for sensing and biosensing various environmental and biological species, wastewater treatment and biomedical engineering and technology. The designed chapters focus on the basic principles, mechanisms and promising applications of advanced molecular self-assemblies and their integration with the environmental and biomedical processes for controlled detection, degradation, and drug delivery systems. This book is aimed at graduate students and researchers in materials science, chemical engineering, materials chemistry, and self-assemblies.

CRC Press
June 2026 : 404pp
Hb: 978-1-032-60809-9 : £165
eBook: 978-1-003-64948-9

* For full contents and more information, visit: www.routledge.com/9781032608099

MXene-based Electrochemical Sensors



Edited by **P Abdul Rasheed**, **Menon Ankitha**, **Ajith Mohan Arjun**

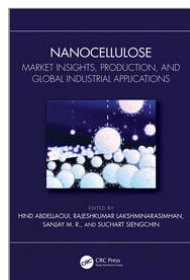
The scope of this book encompasses the design, fabrication, and characterization of MXene-based composite materials for various electrochemical sensing applications, including but not limited to environmental monitoring, biomedical diagnostics, and industrial process control. It delves into the fundamental principles of electrochemical sensing, explores the synergistic effects of MXene composites, and highlights the recent advancements in sensor performance and sensitivity achieved through their integration. This book is aimed at researchers and graduate students in chemical engineering, materials science and engineering, chemistry, and electrochemistry.

CRC Press
July 2026 : 376pp
Hb: 978-1-032-81270-0 : £120

* For full contents and more information, visit: www.routledge.com/9781032812700

Nanocellulose

Market Insights, Production, and Global Industrial Applications



Edited by **Hind Abdellaoui**, **Rajesh Kumar Lakshminarasimhan**, **Sanjay M. R.**, **Suchart Siengchin** University of Technology, Thailand

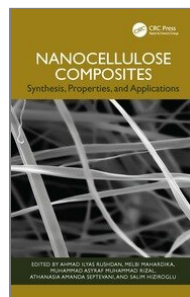
This book explores various aspects of nanocellulose and its composites, beginning with its resources such as bacterial sources, biomass, and other lignocellulosic materials and covering the different types of microfibrillated cellulose (MFC), nanofibrillated cellulose (NFC), and nanocrystalline cellulose (NCC). It also discusses production processes, characterization techniques, and diverse industrial applications. The book outlines multiple extraction methods for producing nanocellulose from various forms and sources, along with an overview of the industries and products that currently employ nanocellulose.

CRC Press
August 2026 : 370pp
Hb: 978-1-032-79693-2 : £170

* For full contents and more information, visit: www.routledge.com/9781032796932

Nanocellulose Composites

Synthesis, Properties, and Applications



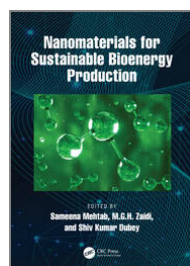
Edited by **Ahmad Ilyas Rushdan** School of Chemical and Energy Engineering, Faculty of Engineering, Universiti Teknologi Malaysia, Malaysia, **Melbi Mahardika**, **Muhammad Asyraf Muhammad Rizal** Universiti Teknologi Malaysia, Malaysia, **Athanasia Amanda Septevani**, **Salim Hiziroglu**

This text is a detailed guide to the fast-growing area of nanocellulose materials including synthesis, properties, and applications. This book explains how nanocellulose is made, its structure, and how it can be used in different industries. It covers everything from the basics, such as the types and sources of nanocellulose, to more advanced topics, including sustainability assessment, recycling, and environmental impact. Offering clear direction on the latest techniques, practical applications, and environmental impacts of these materials, this book is designed for researchers, engineers, and scientists who work in the areas of sustainable materials.

CRC Press
November 2026 : 632pp
Hb: 978-1-041-07510-3 : £175

* For full contents and more information, visit: www.routledge.com/9781041075103

Nanomaterials for Sustainable Bioenergy Production



Edited by **Sameena Mehtab**, **M.G.H. Zaidi**, **Shiv Kumar Dubey**

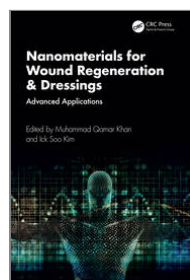
This book provides an exploration of nanomaterial intervention the field of bioenergy production illustrating synthesis, characterization, and application in various bioenergy systems, including biodiesel, bioethanol, biogas, biohydrogen, and microbial fuel cells. It highlights current trends, challenges, and innovations to enhance energy conversion efficiency, sustainability, and scalability. It combines nanotechnology with artificial intelligence to optimize bioenergy systems and implications in biowaste conversion, bioeconomy, and sustainable energy generation.

CRC Press
June 2026 : 406pp
Hb: 978-1-041-09486-9 : £150
eBook: 978-1-003-65068-3

* For full contents and more information, visit: www.routledge.com/9781041094869

Nanomaterials for Wound Regeneration & Dressings

Advanced Applications



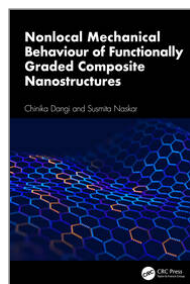
Edited by **Muhammad Qamar Khan**, **Ick Soo Kim**

This book provides a comprehensive overview of the role of nanomaterials in wound regeneration and the development of advanced wound dressings. It presents their recent advances; explains their materials, properties, and manufacture; and describes promising solutions for improving patient outcomes. This book provides vital knowledge to upper undergraduate and postgraduate students in fields such as biomaterials science and engineering, medicine, textile engineering, nursing, and biochemistry as well as research scientists and industry experts working in the fields of life sciences and nanomaterials.

CRC Press
July 2026 : 370pp
Hb: 978-1-041-01871-1 : £96.99

* For full contents and more information, visit: www.routledge.com/9781041018711

Nonlocal Mechanical Behaviour of Functionally Graded Composite Nanostructures



Chinika Dangi, Susmita Naskar Johns Hopkins University, MA, USA

This book delves into the unique properties and applications of functionally graded nanostructures, providing an in-depth understanding of the continuum theories that underpin these advanced materials. The authors explore both theoretical foundations and practical insights into the modeling and numerical simulations of the mechanical behavior of functionally graded materials and structures. By presenting a detailed and nuanced view of functionally graded nanostructures, this book equips readers in materials engineering and related fields with the knowledge and tools needed to understand the complex interactions and behaviors of these materials under various conditions.

CRC Press
May 2026 : 114pp
Hb: 978-1-032-95229-1 : £130
eBook: 978-1-003-58380-6

* For full contents and more information, visit: www.routledge.com/9781032952291

Oil and Gas Technology, Management, and Finance

A Practical Handbook for Engineers, Geologists, and Financial Analysts



Moshood Sanni

This book offers a comprehensive, integrated approach to solving problems in the oil and gas industry and combines geoscience, engineering, management and finance into a unified framework. It progresses from foundational concepts to advanced applications, equipping readers with the tools to address real-world challenges across the petroleum value chain. Emphasizing practical problem-solving and multidisciplinary collaboration, it ensures that readers can apply their knowledge effectively in this complex and evolving industry. This is an invaluable resource for a diverse audience of professionals, students, regulators, financiers, investors and decisionmakers in the oil and gas sector.

CRC Press
November 2026 : 1048pp
Hb: 978-1-041-32837-7 : £175

* For full contents and more information, visit: www.routledge.com/9781041328377

Paper Industry Waste Processing

A Circular Economy Approach



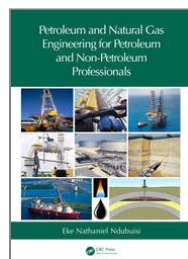
Suresh Sundaramurthy, Saakshy, Anuj Kumar Verma, Arisutha Suresh

This technical resource delves into the management and valorization of paper industry waste, exploring innovative approaches to transform waste into sustainable construction materials, low-grade paperboard, biogas, and bioCNG. It provides a comprehensive overview of cutting-edge advancements in recycling processes, recovery technologies, and the production of clean hydrogen from paper mill waste. By bridging theoretical research with practical industrial applications, the book systematically presents core principles of recovery technologies alongside real-world case studies.

CRC Press
May 2026 : 122pp
Hb: 978-1-032-58926-8 : £105
eBook: 978-1-003-46139-5

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Petroleum and Natural Gas Engineering for Petroleum and Non-Petroleum Professionals



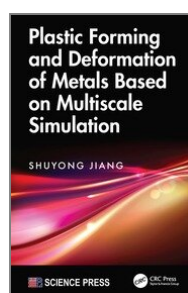
Eke Nathaniel Ndubuisi FMG RESOURCES LTD, NIGERIA

This book gives a comprehensive overview of the basics, principles, practice, application of eclectic technology in Oil and Gas industry. It covers fundamental operations, work scope definitions, execution methods, mathematical calculations, field applications, core subjects, diversities, introduction to petroleum economics/project management concepts, strategies which is the primary link between decision making and profitable operations. Topics discussed in the chapters are carefully structured with interactive pictorial illustrations where necessary to benefit all interested readers. This book is aimed at professionals and researchers in petroleum and natural gas engineering.

CRC Press
June 2026 : 572pp
Hb: 978-1-032-38530-3 : £165

* For full contents and more information, visit: www.routledge.com/9781032385303

Plastic Forming and Deformation of Metals Based on Multiscale Simulation



Shuyong Jiang

This book takes a multiscale approach to explore the plastic forming and deformation of metals, spanning a wide spectrum from the macroscale to the mesoscale, microscale, nanoscale, and atomic levels. This work will serve as a valuable reference for researchers, students, and professionals in mechanical manufacturing, materials science, and solid mechanics seeking deeper insights into the plastic deformation mechanisms of metals.

CRC Press
June 2026 : 568pp
Hb: 978-1-041-26619-8 : £180
eBook: 978-1-003-75591-3

* For full contents and more information, visit: www.routledge.com/9781041266198

Printing of Textile Substrates

Processes and Recipes



Mathews Kolanjikombil

This title presents systematic coverage of textile printing methods for diverse fibre types and blends. The book details print paste formulation, dye application techniques, and fixation processes for cellulosic, protein, and synthetic fibres. Chapters cover direct, discharge, and resist printing styles using reactive, vat, disperse, azoic, and pigment dyes. Pretreatment procedures, thickening systems, and specialized printing methods are included. This title has been co-published with Woodhead Publishing India. T&F does not sell or distribute the print editions in Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka.

CRC Press
August 2026 : 518pp
Hb: 978-1-041-37392-6 : £175

* For full contents and more information, visit: www.routledge.com/9781041373926

Protective Hard Coatings



Edited by **Ranjan Kumar Ghadai , Soham Das , Manoj Gupta** National University of Singapore

Series: *Advanced Materials Processing and Manufacturing*

This book provides an in-depth understanding of hard coatings, their evolving technology, and their role in enhancing the performance and durability of materials. It commences by covering the fundamental principles of hard coatings, including their composition, deposition techniques, and characterization methods. It then progresses into the latest advancements in this field, addressing topics such as nanoscale coatings, multifunctional coatings, and environmentally friendly coating technologies. The scope covers both PVD and CVD technologies for hard coatings. This book is aimed at graduate students and researchers in materials science, and mechanical and manufacturing engineering.

CRC Press
September 2026 : 176pp
Hb: 978-1-032-85408-3 : **£96.99**

* For full contents and more information, visit: www.routledge.com/9781032854083

Raman and SERS Spectroscopy

Pioneering Diagnostics and New Horizons in Science and Engineering



Pola Goldberg Oppenheimer

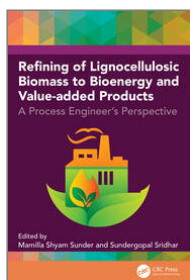
This book presents the fundamental principles, material strategies and translational applications of Raman and SERS Spectroscopy. It covers both theoretical and practical advancements in spectroscopic techniques, including plasmonic substrate design, portable instrumentation and AI-enhanced analysis. Drawing upon real-world case studies and the author's own extensive interdisciplinary research, it explores applications spanning across biomedical diagnostics, food safety, environmental monitoring and chemical and materials characterization. This book is intended for graduate students and researchers in spectroscopy, biomedical, chemical and materials science, and engineering.

CRC Press
August 2026 : 136pp
Hb: 978-1-041-16709-9 : **£175**

* For full contents and more information, visit: www.routledge.com/9781041167099

Refining of Lignocellulosic Biomass to Bioenergy and Value-added Products

A Process Engineer's Perspective



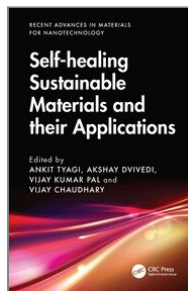
Edited by **Mamilla Shyam Sunder , Sundergopal Sridhar** Membrane Separation Group, Chemical Engineering Division, CSIR-Indian Institute of Chemical Technology, Hyderabad, India

This book covers different types of available lignocellulosic biomasses, their sources, characterization methodologies, and pre-treatment techniques to isolate lignin for making cellulose and hemicellulose available for saccharification to glucose. Various methods, including fermentation to obtain biofuel and value-added products from biomass, are also covered. The book delves into modern separation processes such as membrane technology that could facilitate sugar concentration, enzyme recycling, higher bioethanol yield, and treatment of bioprocess effluent. This book is aimed at researchers, professionals, graduate students in bioprocessing, chemical engineering, and biotechnology.

CRC Press
June 2026 : 434pp
Hb: 978-1-032-35599-3 : **£175**
eBook: 978-1-003-32760-8

* For full contents and more information, visit: www.routledge.com/9781032355993

Self-healing Sustainable Materials and their Applications



Edited by **Ankit Tyagi , Akshay Divedi** Indian Institute of Technology Roorkee, India, **Vijay Kumar Pal , Vijay Chaudhary**

Series: *Recent Advances in Materials for Nanotechnology*

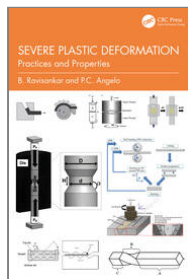
Self-healing materials, inspired by biological systems, possess the unique ability to repair damage autonomously or under external stimuli, leading to enhanced durability and reliability of products. This book explores the interdisciplinary field of sustainable nanotechnology with a focus on self-healing materials, providing a comprehensive understanding of their synthesis, properties, and practical applications within the context of sustainability. It bridges the gap between scientific research and industrial application by presenting theoretical concepts alongside real-world case studies and implementations.

CRC Press
August 2026 : 168pp
Hb: 978-1-041-06947-8 : **£100**

* For full contents and more information, visit: www.routledge.com/9781041069478

Severe Plastic Deformation

Practices and Properties



B. Ravisankar , P.C. Angelo

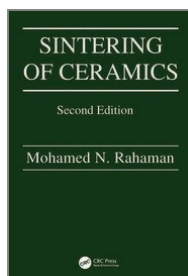
This book discusses in detail about grain refinement by various severe plastic deformation processes such as equal channel angular pressing, high pressure torsion, twist extrusion and so forth. It also deals with grain refinement mechanism, influence of process parameters on the properties of the fabricated micro/nano material, thermal stability, commercialised nanostructured metals and alloys produced by severe plastic deformation techniques and associated challenges. This book is aimed at graduate students and researchers in materials science, mechanics, and manufacturing engineering.

CRC Press
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Hb: 978-1-032-97705-8 : **£91.99**

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Mohamed N. Rahaman

Sintering of Ceramics explores sintering theories and principles, applied to production of advanced ceramics with required target microstructure. This Second Edition reflects main field developments since publication of the first edition and offers readers a practical approach to principles and methods. While centering ceramics, it is also useful for sintering other materials like metals due to its comprehensive treatment. It is essential for senior undergraduates, introductory graduates, or a continuing education course in sintering. It is an ideal reference for scientists and engineers doing research, development, and manufacture of ceramics or powder metallurgy products.

CRC Press
July 2026 : 448pp
Hb: 978-1-041-07041-2 : **£110**

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Smart Wearables, Nanofibers, and Textiles



Edited by **Majid Montazer , Ali Mianehro**

Series: *Emerging Materials and Technologies*

This book provides an in-depth exploration of the development and application of smart wearables, nanofibers, and sustainable textiles. It covers advancements in energy harvesting, health monitoring, and sustainable design, offering readers a holistic understanding of the intersection between wearable technology, advanced materials, and environmental responsibility. By presenting state-of-the-art research and technologies, this book serves as a valuable resource for researchers, engineers, and professionals, including materials scientists, textile engineers, and biomedical engineers.

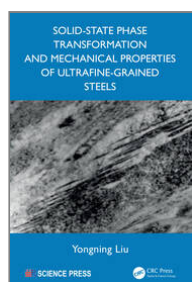
CRC Press

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Hb: 978-1-032-82992-0 : £140

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Solid-State Phase Transformation and Mechanical Properties of Ultrafine-Grained Steels



Yongning Liu

This book presents groundbreaking findings on how grain refinement affects phase transformations and the mechanical properties of ultrafine-grained steels. This work will be an invaluable resource for academics and students of materials science, physics and mechanics, as well as engineers, technicians and researchers working in metallurgy and materials development.

CRC Press

May 2026 : 342pp

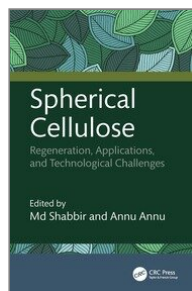
Hb: 978-1-041-20308-7 : £170

eBook: 978-1-003-71698-3

* For full contents and more information, visit: www.routledge.com/9781041203087

Spherical Cellulose

Regeneration, Applications, and Technological Challenges



Edited by **Md Shabbir , Annu**

This book addresses the processing, applications, sustainability aspects and challenges of spherical cellulose in various size ranges. Cellulose solvents, functional modifications in spherical morphologies, regeneration into spherical structures, and then the applications with respect to their sizes are discussed. Current research and advancements to find natural and biocompatible alternatives of synthetic plastics and other carcinogenic materials are summarized as well. This book is aimed at researchers and graduate students interested in cellulose, nanotechnology, and materials science.

CRC Press

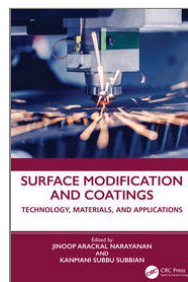
October 2026 : 392pp

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Surface Modification and Coatings

Technology, Materials, and Applications



Edited by **Jinoop Arackal Narayanan , Kanmani Subbu Subbian**

This book offers an overview of surface engineering, encompassing a diverse array of techniques (in surface modifications and surface coatings), applications, and emerging trends. Further, it provides insights into various materials, applications, process modeling, and optimization strategies. Key themes covered in the book include surface modification and coating techniques, applications, recent advances in materials employed, emerging trends, process modeling and optimization in surface engineering, sustainability and industry 4.0 applications. This book is aimed at graduate students and researchers in surface engineering, materials processing, and advanced manufacturing.

CRC Press

August 2026 : 460pp

Hb: 978-1-032-87297-1 : £175

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Sustainable Development Materials Based on Electrochemical Energy Storage



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Edited by **Karthik Kannan** National Chung Cheng University, Taiwan, **Yong-Song Chen** National Chung Cheng University, Taiwan, **Yuan-Yao Li** National Chung Cheng University, Taiwan

Series: *Artificial Intelligence for Sustainability*

The text provides a comprehensive review of recent advancements in the electrochemical energy storage and conversion of two-dimensional nanomaterials with composites, including their synthesis and associated challenges. It covers the precise designing and construction of local atomic and electronic structures at the interface of catalysts, interaction mechanism, and regulation of catalyst solid surface interface properties under environmental and external field influences. It is primarily written for senior undergraduates, graduate students, and academic researchers in chemical engineering, materials science, and chemistry.

CRC Press

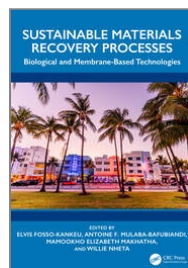
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Sustainable Materials Recovery Processes

Biological and Membrane-Based Technologies



Edited by **Elvis Fosso-Kankeu , Antoine F. Mulaba-Bafubandi , Mamookho Elizabeth Makhatha , Willie Nheta**

This book reviews the principles and challenges of biomining, bioflotation, and membrane separation technologies as applied to the hydrometallurgical field, including recent technological developments. It explores the evolution of biomining and bioflotation within the hydrometallurgical industry over recent years, emphasizing the increasing diversity of bioreagents, their mechanisms of action, and the classification of processes based on their fields of application. The book also discusses the sustainability of mineral processing technologies.

CRC Press

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Textile Waste Recycling and Sustainable Textile Product Development



G. Thilagavathi, Neelakrishnan Subramanyan, Rangam Rajkhowa, M. Jaya Bharathi

This book covers various aspects involved in the recycling of textile waste into value added products and its impact on the environment and circular economy. It discusses current challenges of recycling technologies and scope for research and innovation into new technologies offering a comprehensive and inclusive approach aimed at advancing sustainable practices within the textile industry.

CRC Press

June 2026 : 174pp

Hb: 978-1-032-79687-1 : **£96.99**

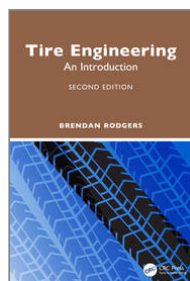
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Tire Engineering

An Introduction



Brendan Rodgers Exxon Mobil Chemical Company, Baytown, Texas, USA

This book introduces tire design, construction, and manufacturing in the context of modern materials technologies, along with future trends and disrupting technologies. The Second Edition has been thoroughly updated to include new developments in steel wire technology, the role of the belt overlay, and the crucial relationship between tire inflation pressure and innerliner gauge, as well as sustainability, recycled materials, and new technologies. Written for engineers in the polymer, industrial, chemical, mechanical, and automotive industries, this book offers a comprehensive view of tire design for enhanced efficiency and durability.

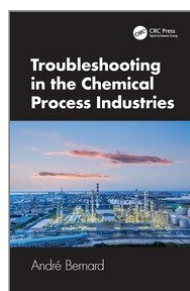
CRC Press

August 2026 : 344pp

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Troubleshooting in the Chemical Process Industries



André Bernard

This book provides readers with practical insights into problem-solving within the Chemical Process Industry from a process engineering perspective. It connects fundamental chemical engineering principles, emphasizes the importance of data collection and analysis, and demonstrates how to identify root causes and resolve operational challenges. It underscores the critical role of troubleshooting in addressing abnormal process behaviors that jeopardize or hinder the achievement of key objectives. Through this book process engineers are given the know-how to solve real-world problems through sound process engineering methodologies.

CRC Press

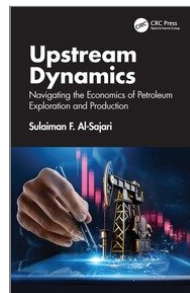
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Navigating the Economics of Petroleum Exploration and Production



Sulaiman F. Al-Sajari

The role of upstream petroleum economics is increasingly complex and dynamic. Blending analytical rigor with real-world case studies, *Upstream Dynamics* is a professional guide to the economics that govern oil and gas exploration and production. It covers the full asset life cycle—exploration, appraisal, development, production, and abandonment—linking engineering realities with financial decision-making. Written by a practicing Senior Petroleum Economist, it is aimed at industry professionals and stakeholders, including petroleum economists and engineers as well as asset managers and analysts, to help them navigate the complexities of the upstream oil and gas sector.

CRC Press

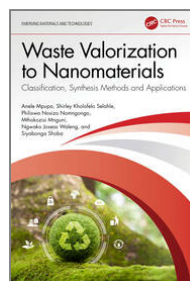
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Waste Valorization to Nanomaterials

Classification, Synthesis Methods, and Applications



Anele Mpupa, Shirley Kholofelo Selahle, Philiswa Nosizo Nomngongo, Mthokozisi Mnguni, Ngwako Joseas Waleng, Siyabonga Shoba

Series: Emerging Materials and Technologies

In recent years, the focus has shifted toward the development of nanomaterials using green synthetic methods, and the concept of waste-treat-waste has led to the valorisation of waste materials into nanomaterials and related products. This book reflects on the status of the synthesis of nanomaterials from waste materials using green synthetic approaches. Fundamental aspects involving the synthesis, characterization, and applications of waste-derived nanomaterials are explored.

CRC Press

September 2026 : 280pp

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Wear the Change

Sustainable Practices in Clothing and Textile Industries



Edited by **Asis Patnaik** Cape Peninsula University of Technology, **Sweta Patnaik** Cape Peninsula University of Technology

Series: Textile Institute Professional Publications

This book examines the critical shift toward sustainability in the clothing and textile industry. This comprehensive guide probes the latest innovations, standards, and practical approaches that are transforming the entire value chain. By presenting cutting-edge research alongside actionable strategies, this book bridges the crucial gap between theoretical sustainability concepts and their real-world implementation across global textile operations. This essential reference equips students, researchers, academics, and industry professionals with knowledge needed to lead the textile industry's vital transformation toward environmental responsibility and sustainable business practices.

CRC Press

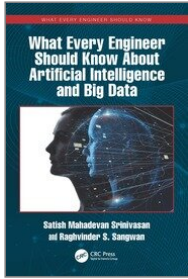
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Pb: 978-1-041-17342-7 : **£120**

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CRC Press

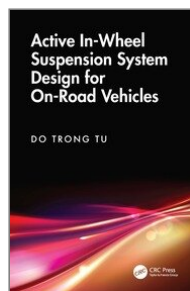
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Pb: 978-1-041-22766-3 : **£52.99**

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Active In-Wheel Suspension System Design for On-Road Vehicles



Do Trong Tu

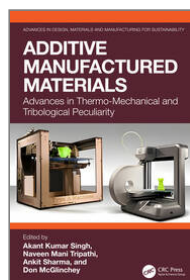
Active In-Wheel Suspension System Design for On-Road Vehicles presents a comprehensive and systematic design and control framework for an Active In-Wheel Suspension System (IWASS), a transformative technology for modern on-road vehicles. This book addresses the fundamental challenge of integrating a high-performance active suspension actuator directly within the confined space of a vehicle's wheel.

CRC Press
August 2026 : 288pp
Hb: 978-1-041-31516-2 : £130

* For full contents and more information, visit: www.routledge.com/9781041315162

Additive Manufactured Materials

Advances in Thermo-Mechanical and Tribological Peculiarity



Edited by **Akant Kumar Singh**, **Naveen Mani Tripathi**, **Ankit Sharma** Chitkara University, Punjab, **Don McGlinchey**

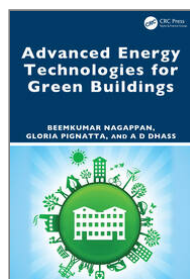
Series: Advances in Design, Materials and Manufacturing for Sustainability

This book discusses the thermo-mechanical and tribological behavior of various materials manufactured using additive manufacturing (AM). It examines a range of materials including metals, polymers, ceramics, and composites and provides insights into how processing parameters can be manipulated to achieve desired thermal, mechanical, and tribological characteristics. The book also addresses challenges related to the reproducibility and reliability of AM materials, offering solutions and strategies to overcome these hurdles in both research and industrial contexts.

CRC Press
August 2026 : 248pp
Hb: 978-1-041-07853-1 : £120

* For full contents and more information, visit: www.routledge.com/9781041078531

Advanced Energy Technologies for Green Buildings



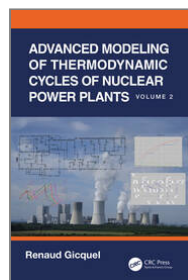
Beemkumar Nagappan, **Gloria Pignatta**, **A D Dhass**
PACE Institute of Technology and Sciences, Ongole, India

Green buildings are designed to reduce their environmental impact over their entire life cycle. This book provides an overview of the principles of green building and energy-efficient systems including benefits of green buildings, the different types of green building rating systems, and the various energy-efficient systems that can be used in buildings. It includes case studies (India's Green Building policy) of green buildings and energy-efficient systems. This book is aimed at graduate students and researchers in energy and civil engineering and architecture.

CRC Press
June 2026 : 286pp
Hb: 978-1-032-81832-0 : £120
eBook: 978-1-003-75283-7

* For full contents and more information, visit: www.routledge.com/9781032818320

Advanced Modeling of Thermodynamic Cycles of Nuclear Power Plants



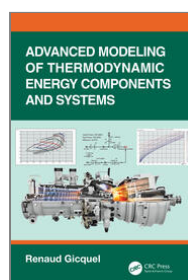
Renaud Gicquel Mines ParisTech, Paris, France

This volume offers a comprehensive resource on TCNPP modeling and provides detailed studies of TCNPPs for current and emerging reactors, including Small Modular Reactors (SMRs). After covering reactor physics and operating principles, the book examines water-steam cycles using advanced tools like the pinch method and exergy balances to optimize performance. Using Thermoptim software's systemic modeling approach, readers can accurately represent nuclear energy system peculiarities. This book will benefit mechanical, nuclear, and energy engineering researchers and graduate students in the fields of applied thermodynamics, nuclear power plants, and energy systems.

CRC Press
July 2026 : 350pp
Hb: 978-1-032-99787-2 : £120

* For full contents and more information, visit: www.routledge.com/9781032997872

Advanced Modeling of Thermodynamic Energy Components and Systems



Renaud Gicquel Mines ParisTech, Paris, France

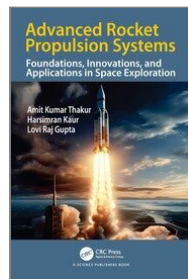
This volume presents intermediate-complexity models for energy system components. It addresses a critical gap in studying energy systems under off-design conditions, examining how systems behave when ambient temperature or load conditions change. Using Thermoptim software's systemic approach, which graphically links component icons and encapsulates equations within modules, the book focuses on cycle architecture and component interactions rather than equation manipulation. This book equips mechanical and energy engineering researchers and graduate students with methods bridging technological characteristics and thermodynamic models.

CRC Press
July 2026 : 390pp
Hb: 978-1-032-99786-5 : £120

* For full contents and more information, visit: www.routledge.com/9781032997865

Advanced Rocket Propulsion Systems

Foundations, Innovations, and Applications in Space Exploration



Amit Kumar Thakur, **Harsimran Kaur**, **Lovi Gupta**
Lovely Professional University, India

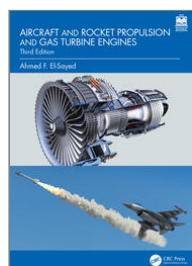
Advanced Propulsion Techniques is a detailed version of the technology related to space travel, connecting the past with the present and beyond, and the past being the rocketry and the latter deep-space drives. The book discusses the engineering around humankind's current and future endeavours of the stars through the creation of electric, nuclear, and solar sail systems. It comprises case studies from NASA, SpaceX, and ISRO. A compelling reference work for the science and breakthroughs propelling the future of space exploration.

CRC Press
June 2026 : 206pp
Hb: 978-1-041-06609-5 : £125
eBook: 978-1-003-63807-0

* For full contents and more information, visit: www.routledge.com/9781041066095

3RD EDITION

Aircraft and Rocket Propulsion and Gas Turbine Engines



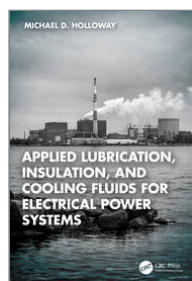
Ahmed F. El-Sayed Zagazig University, Egypt

The new third edition of Aircraft and Rocket Propulsion and Gas Turbine Engines serves as a definitive resource for understanding the principles and advancements in propulsion systems.

CRC Press
October 2026 : 1448pp
Hb: 978-1-032-90653-9 : £180

* For full contents and more information, visit: www.routledge.com/9781032906539

Applied Lubrication, Insulation, and Cooling Fluids for Electrical Power Systems



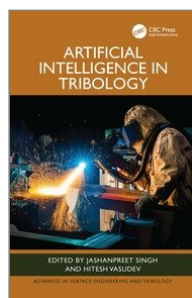
Michael D. Holloway

Applied Lubrication, Insulation, and Cooling Fluids for Electrical Power Systems provides evidence-based strategies for selecting, applying, and monitoring lubricants, coolants, and insulating fluids in power systems. It addresses the demands of turbines, wind drivetrains, nuclear actuators, and electrified systems, emphasizing fluid reliability as a critical factor in uptime, efficiency, and safety. This book equips professionals to reduce failures, prevent outages, and optimize hybrid and electrified assets, making it invaluable for practicing OEM, maintenance, reliability, and mechanical engineers, condition monitoring specialists, and industrial consultants.

CRC Press
August 2026 : 312pp
Hb: 978-1-041-30572-9 : £130

* For full contents and more information, visit: www.routledge.com/9781041305729

Artificial Intelligence in Tribology



Edited by **Jashanpreet Singh** Chandigarh University, India, **Hitesh Vasudev** LPU, India

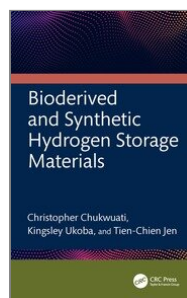
Series: *Advances in Surface Engineering and Tribology*

Artificial Intelligence in Tribology presents the use of machine learning AI, neural networks, and optimization algorithms in studying friction, wear, and lubrication. It explores the selection of materials, modeling of the tribosystem, prediction of tribological behavior, and optimization of performance across numerous systems. Case studies from various industries – such as automotive, aerospace, renewable energy, and marine engineering – highlight the transformative impact of AI in real-world scenarios. This book will interest researchers and graduate students studying the intersection of AI and advances in surface engineering, tribology, and materials science.

CRC Press
August 2026 : 352pp
Hb: 978-1-041-03528-2 : £115

* For full contents and more information, visit: www.routledge.com/9781041035282

Bioderived and Synthetic Hydrogen Storage Materials



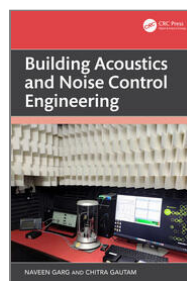
Christopher Chukwuati, **Kingsley Ukoba** Auckland Park Campus, South Africa, **Tien-Chien Jen** University of Johannesburg, South Africa

Bioderived and Synthetic Hydrogen Storage Materials presents innovative approaches for developing efficient, safe, and cost-effective hydrogen storage technologies. It demonstrates how the combination of biosynthesized and engineered nanomaterials can overcome hydrogen's inherent storage challenges of low density and high diffusivity. Graduate students and researchers in materials science and energy engineering, as well as industry professionals developing sustainable energy technologies, waste valorization processes, and nanomaterials for energy systems, will find this book a useful reference.

CRC Press
October 2026 : 336pp
Hb: 978-1-041-23088-5 : £115

* For full contents and more information, visit: www.routledge.com/9781041230885

Building Acoustics and Noise Control Engineering



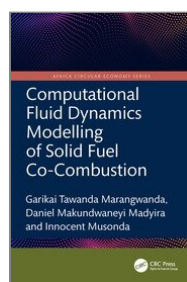
Naveen Garg, **Chitra Gautam**

This book explains all aspects of building acoustics including the design considerations, empirical formulations, measurement methodology, and uncertainty quantifications. It presents a database of the acoustical materials tested in the Reverberation Chambers and Sound Impedance Tube to understand the pertinent characteristics. It includes in-depth analysis of factors affecting the sound insulation and absorption characteristics. A retrospective view of National Building Codes of India and other countries and sound insulation requirements is also included. This book is aimed at researchers and graduate students in acoustics, mechanical engineering, building science, and noise control.

CRC Press
May 2026 : 402pp
Hb: 978-1-032-42845-1 : £155
eBook: 978-1-003-37787-0

* For full contents and more information, visit: www.routledge.com/9781032428451

Computational Fluid Dynamics Modelling of Solid Fuel Co-Combustion



Garikai Tawanda Marangwanda, **Daniel Makundwaneyi Madyira**, **Innocent Musonda** University of Johannesburg, South Africa

Series: *Africa Circular Economy Series*

The growing need for sustainable energy solutions has driven research into co-combustion processes, where coal is blended with biomass to reduce emissions and enhance efficiency.

CRC Press
July 2026 : 262pp
Hb: 978-1-041-08812-7 : £99.99
eBook: 978-1-003-64794-2

* For full contents and more information, visit: www.routledge.com/9781041088127

2ND EDITION

Crew Resource Management Training

Competence, Cognition, and Systems for Airline Pilots



Norman MacLeod Cathay Pacific Airways, Hong Kong, China

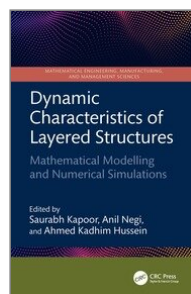
Crew Resource Management Training: Competence, Cognition, and Systems for Airline Pilots delivers an evidence-based approach to CRM that moves beyond traditional training methods to address the realities of modern aviation. The new edition expands the discussion beyond individual pilot behavior to encompass aviation as an ecosystem. Airlines, pilots, aviation industry professionals, and training organizations will benefit from insights into organizational design and alternative approaches to training that can be immediately applied to enhance safety outcomes, operational efficiency, and organizational resilience in today's rapidly evolving aviation environment.

CRC Press
November 2026 : 352pp
Hb: 978-1-041-25897-1 : £130

* For full contents and more information, visit: www.routledge.com/9781041258971

Dynamic Characteristics of Layered Structures

Mathematical Modelling and Numerical Simulations



Edited by **Saurabh Kapoor** DESM, Regional Institute of Education (NCERT), Bhubaneswar, India, **Anil Negi** VIT-AP, University, Amravati, Andhra Pradesh, India, **Ahmed Kadhim Hussein** Department of Mechanical Engineering, College of Engineering, Hilla, Babylon, Iraq

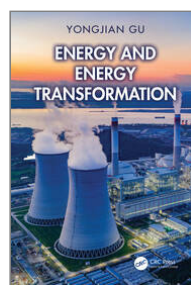
Series: Mathematical Engineering, Manufacturing, and Management Sciences

This book covers topics such as seismic and surface wave propagation, nonlinear dynamics, heat and mass transfer, convection phenomena, complex fluid mixing, numerical integration techniques, and crack behaviour in piezoelectric materials. Bringing together analytical, numerical, and theoretical and experimental perspectives, this book serves as a comprehensive reference for understanding cutting-edge developments that shape modern scientific and engineering applications. It is an essential resource for researchers, academicians, and professionals engaged in modelling, simulation, and analysis of sophisticated physical systems.

CRC Press
June 2026 : 286pp
Hb: 978-1-032-74785-9 : £130
eBook: 978-1-003-47088-5

* For full contents and more information, visit: www.routledge.com/9781032747859

Energy and Energy Transformation



Yongjian Gu United States Merchant Marine Academy, New York

Energy and Energy Transformation thoroughly examines energy systems, encompassing the analysis, calculation, and practical applications of energy transformation, with an extensive overview of both renewable and nonrenewable energy sources. It introduces energy transfer and conversion processes and the comparison and selection of energy systems. The book is intended for professional engineers and researchers involved in the design and R&D of energy systems and energy management. It will also benefit engineering and environmental science students studying energy systems and design, energy management, and HVAC.

CRC Press
July 2026 : 574pp
Hb: 978-1-041-13135-9 : £170

* For full contents and more information, visit: www.routledge.com/9781041131359

Engineering Thermodynamics

Advanced Modeling of Energy Systems and Nuclear Cycles, Two-Volume Set



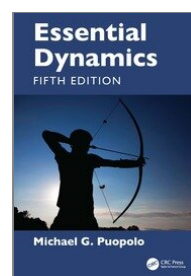
Renaud Gicquel

Engineering Thermodynamics: Advanced Modeling of Energy Systems and Nuclear Cycles is a two-volume set comprising Advanced Modeling of Thermodynamic Energy Components and Systems (Volume I) and Advanced Modeling of Thermodynamic Cycles of Nuclear Power Plants (Volume II). It addresses two critical gaps in thermodynamics education: energy systems under off-design conditions and detailed modeling of Thermodynamic Cycles of Nuclear Power Plants (TCNPPs). This collection serves as a useful, comprehensive reference for mechanical, energy, and nuclear engineering researchers and graduate students.

CRC Press
July 2026 : 760pp
Hb: 978-1-032-99784-1 : £205

* For full contents and more information, visit: www.routledge.com/9781032997841

Essential Dynamics



Michael G. Puopolo

Essential Dynamics offers a streamlined yet comprehensive introduction to engineering dynamics, specifically designed for undergraduate students. Balancing academic rigor with accessibility, this textbook simplifies complex concepts while maintaining the depth necessary for a thorough understanding of the subject.

CRC Press
September 2026 : 516pp
Hb: 978-1-041-08412-9 : £105

* For full contents and more information, visit: www.routledge.com/9781041084129

Fundamentals of Explosive Ordnance



Edited by **Paul J. Hazell** The University of New South Wales, Australia, **Nicholas Kanizaj**

Fundamentals of Explosive Ordnance covers the fundamental science and engineering concepts behind the design, operation, safety, and effects of explosive ordnance. It not only covers conventional weapon systems, but also those of improvised explosive devices and hypersonic weapons systems.

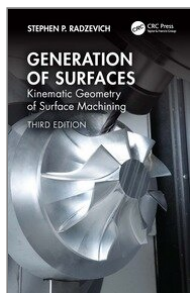
CRC Press
September 2026 : 544pp
Hb: 978-1-032-86324-5 : £115

* For full contents and more information, visit: www.routledge.com/9781032863245

3RD EDITION

Generation of Surfaces

Kinematic Geometry of Surface Machining



Stephen P. Radzevich APEX Tool Group, LLC, and
EATON Corporation, USA

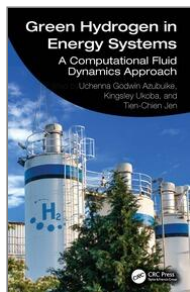
Generation of Surfaces: Kinematic Geometry of Surface Machining, Third Edition, addresses the critical challenge of optimizing sculptured part surface machining on multi-axis numerical control (NC) machines while minimizing costs.

CRC Press
August 2026 : 688pp
Hb: 978-1-041-30494-4 : £175

* For full contents and more information, visit: www.routledge.com/9781041304944

Green Hydrogen in Energy Systems

A Computational Fluid Dynamics Approach



Uchenna Godwin Azubuike, **Kingsley Ukoba**
Auckland Park Campus, South Africa, **Tien-Chien Jen**
University of Johannesburg, South Africa

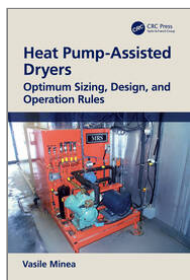
Green Hydrogen in Energy Systems provides a comprehensive exploration of how CFD modeling techniques are revolutionizing the development, optimization, and safety analysis of green hydrogen technologies. It addresses the critical role hydrogen plays in the global energy transition while offering practical analytical frameworks. Through detailed CFD simulations, the book demonstrates how computational modeling can solve complex fluid dynamics challenges unique to hydrogen systems. This book serves as a reference for graduate students, researchers, and energy practitioners focused on hydrogen technology, fluid mechanics, renewable energy systems, and computational modeling.

CRC Press
August 2026 : 296pp
Hb: 978-1-041-21440-3 : £115

* For full contents and more information, visit: www.routledge.com/9781041214403

Heat Pump-Assisted Dryers

Optimum Sizing, Design, and Operation Rules



Vasile Minea

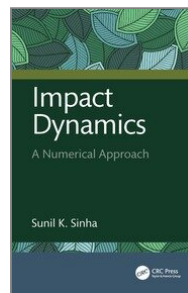
This book identifies the ideal sizing, operation, and control strategies for hot air convective bath driers coupled with air-to-air mechanical vapor compression heat pumps. It evaluates the energy requirements, most efficient operation and control methods, drying performances, and environmental issues and considerations. Covering the physical drying process of porous solid materials (fruits, vegetables, and wood), the book discusses heat conduction and moisture migration. This book will interest professionals working with heat pumps, industrial process engineers, manufacturers, and academic researchers studying advances in drying technologies and processes.

CRC Press
June 2026 : 210pp
Hb: 978-1-041-02252-7 : £115
eBook: 978-1-003-61838-6

* For full contents and more information, visit: www.routledge.com/9781041022527

Impact Dynamics

A Numerical Approach



Sunil K. Sinha The Ohio State University, USA

Impact Dynamics: A Numerical Approach enables safer aerospace and mechanical designs by providing state-of-the-art techniques and methodologies for impact simulation and crashworthiness analysis of critical structural components. It investigates the shock type of dynamic loading situations as a part of mechanical design discussions. The book focuses on numerical simulations using current models to explain the underlying physics and demonstrate how this physics-based approach provides better insight into impact events. This book will be useful to aviation safety professionals, researchers, and practicing aerospace and mechanical design engineers.

CRC Press
June 2026 : 336pp
Hb: 978-1-041-26275-6 : £130
eBook: 978-1-003-74975-2

* For full contents and more information, visit: www.routledge.com/9781041262756

Integrated Air and Missile Defense Strategies

Keeping the Skies Safe



Edited by **Adam Kawalec**, **Witold Bużantowicz**, **Marta Walencyzkowska**

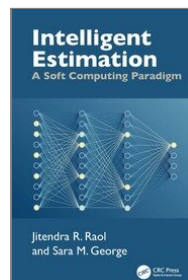
Integrated Air and Missile Defense Strategies: Keeping the Skies Safe presents a comprehensive examination of the unique challenges facing NATO's Eastern flank countries and proposes innovative approaches for developing effective regional defense systems. It demonstrates how integrating command systems with diverse weapon platforms can address limited response times and operational depth. This book is intended for engineers, military professionals, policy experts, and government officials who work in the area of air and missile defense. It will also benefit graduate students researching in the areas of modeling and computer simulation of IAMD components.

CRC Press
July 2026 : 192pp
Hb: 978-1-041-23730-3 : £115

* For full contents and more information, visit: www.routledge.com/9781041237303

Intelligent Estimation

A Soft Computing Paradigm



Jitendra R. Raol Ramaiah Inst of Tech, India, **Sara M. George** Ramaiah Inst of Tech, India

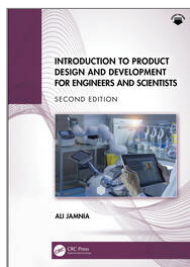
Intelligent Estimation presents a unified treatment for a new paradigm of soft computing with AI-based approaches as applicable to system identification, parameter estimation, and filtering: Neuro-Fuzzy-GA Based System Identification, Parameter Estimation, and Filtering, known succinctly as Intelligent Estimation (IE). It discusses a modeling-control-system approach with numerous practical applications in solving mathematical modeling problems for industrial and aerospace engineering systems. This book is intended for upper-level undergraduate and graduate engineering students studying soft computing, intelligent systems, and advanced control systems in industry applications.

CRC Press
July 2026 : 376pp
Hb: 978-1-041-01823-0 : £115

* For full contents and more information, visit: www.routledge.com/9781041018230

2ND EDITION

Introduction to Product Design and Development for Engineers and Scientists



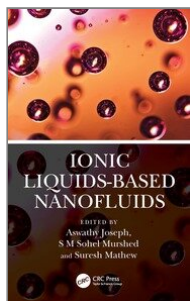
Ali Jamnia, Ali Jamnia

Introduction to Product Development and Design for Engineers and Scientists, 2nd Edition offers a systematic, best-practices approach to master the engineering processes that drive successful product design and development across mechanical, electrical, and software domains. This updated edition expands its scope to include disposable and consumable products and introduces a new chapter on measurement uncertainty, exploring its critical impact on test results and decision-making.

CRC Press
August 2026 : 424pp
Hb: 978-1-032-89521-5 : £105

* For full contents and more information, visit: www.routledge.com/9781032895215

Ionic Liquids-based Nanofluids



Edited by **Aswathy Joseph, S M Sohel Murshed, Suresh Mathew**

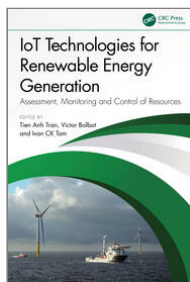
This book provides a comprehensive exploration of nanoparticle dispersions in ionic liquids, covering their design, physicochemical behavior, and technological relevance. It builds from the foundational principles of colloidal science and ionic liquid chemistry to advances in synthesis strategies, interfacial phenomena, and structure-property relationships. Designed for researchers in academia and industry, as well as postgraduate students in mechanical, materials, chemical and environmental engineering, this volume serves as both a foundational reference and a forward-looking resource on next-generation functional nanofluids.

CRC Press
August 2026 : 240pp
Hb: 978-1-032-97753-9 : £120

* For full contents and more information, visit: www.routledge.com/9781032977539

IoT Technologies for Renewable Energy Generation

Assessment, Monitoring and Control of Resources



Edited by **Tien Anh Tran** Vietnam Maritime University, Haiphong, Vietnam, **Victor Bolbot**, **Ivan CK Tam** Newcastle University, UK

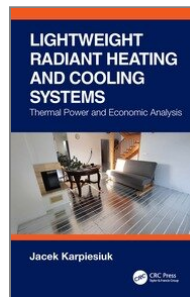
This book provides an understanding of the significant applications of IoT technologies in renewable energy. It explores their integration with various renewable energy sources, including solar, wind, bioenergy, piezoelectric materials, and solutions addressing water shortage challenges, highlighting advancements and practical implementations in each area. A comparative analysis of recent techniques is presented to evaluate the efficiency of IoT-based renewable energy systems. The book also focuses on the economic feasibility of IoT-enabled renewable energy solutions.

CRC Press
July 2026 : 248pp
Hb: 978-1-041-13666-8 : £120

* For full contents and more information, visit: www.routledge.com/9781041136668

Lightweight Radiant Heating and Cooling Systems

Thermal Power and Economic Analysis



Jacek Karpiesiuk

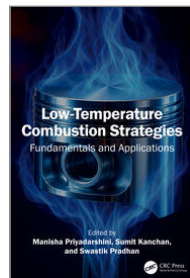
Lightweight Radiant Heating and Cooling Systems: Thermal Power and Economic Analysis investigates the technology for installing heating and cooling without wet and dry screeds in a horizontal or vertical arrangement. It presents the determination of comfortable conditions for using LRH/CS and demonstrates how to conduct an economic analysis of available floor heating systems using Multi-Criteria Decision Analysis (MCDA). This book is intended for practicing engineers and researchers involved in the design and operation of energy-efficient and sustainable HVAC systems.

CRC Press
October 2026 : 232pp
Hb: 978-1-041-15352-8 : £105

* For full contents and more information, visit: www.routledge.com/9781041153528

Low-Temperature Combustion Strategies

Fundamentals and Applications



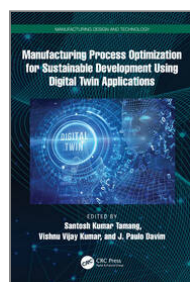
Edited by **Manisha Priyadarshini, Sumit Kanchan, Swastik Pradhan** Lovely Professional University

This book is a comprehensive guide to one of the most promising approaches in advanced engine technology—Low Temperature Combustion (LTC). Bridging the gap between fundamental science and engineering practice, this book explores the mechanisms, strategies, and real-world implementations of LTC systems to enable cleaner, more efficient internal combustion engines. Covering a range of cutting-edge topics—including Homogeneous Charge Compression Ignition (HCCI), Stratified Charge Compression Ignition (SCCI), dual-fuel systems, combustion chemistry, emission control, and advanced engine configurations—the book provides in-depth analysis and engineering insights.

CRC Press
June 2026 : 282pp
Hb: 978-1-032-98324-0 : £130
eBook: 978-1-003-63363-1

* For full contents and more information, visit: www.routledge.com/9781032983240

Manufacturing Process Optimization for Sustainable Development Using Digital Twin Applications



Edited by **Santosh Kumar Tamang** NERIST, India, **Vishnu Vijay Kumar**, **J. Paulo Davim** University of Aveiro, Portugal

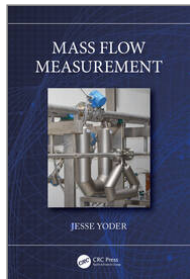
Series: Manufacturing Design and Technology

Manufacturing Process Optimization for Sustainable Development Using Digital Twin Applications explores the potential of digital twin applications in the manufacturing sector, with a primary focus on achieving sustainable development.

CRC Press
May 2026 : 186pp
Hb: 978-1-032-82229-7 : £86.99
eBook: 978-1-003-50482-5

* For full contents and more information, visit: www.routledge.com/9781032822297

Mass Flow Measurement



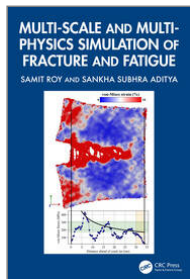
Jesse Yoder Flow Research, Wakefield, Massachusetts, USA

Mass Flow Measurement describes how Coriolis flowmeters, thermal flowmeters, and mass flow controllers function. It explains how and why these flowmeters were developed, describes the applications and ways in which they are used, and explores what to expect in terms of future development. This book is designed for anyone involved with flowmeters and instrumentation, including product and marketing managers, strategic planners, application engineers, and distributors. Covering flowmeters that specifically measure mass flow, the book discusses why flow measurement is important for measuring gas flow and any fluid whose quantity is affected by temperature and pressure.

CRC Press
June 2026 : 176pp
Hb: 978-1-032-60160-1 : £86.99
eBook: 978-1-003-45785-5

* For full contents and more information, visit: www.routledge.com/9781032601601

Multi-scale and Multi-physics Simulation of Fracture and Fatigue



Samit Roy University of Alabama, **Sankha Subhra Aditya** University of Alabama Tuscaloosa, Alabama

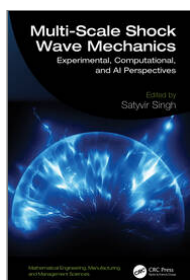
Multi-scale and Multi-physics Simulation of Fracture and Fatigue presents a comprehensive exploration of theoretical and computational methods used in the analysis of fracture and fatigue in materials, effectively bridging length and time scales.

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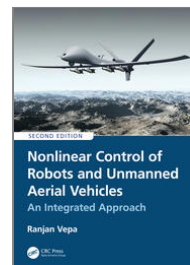
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An Introduction



Ron Burch The Boeing Company, Boeing Space & Launch, California, USA

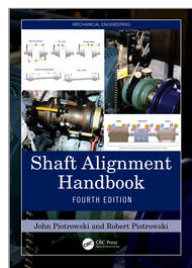
Resilient Space Systems Design: An Introduction demonstrates how quantitative resilience methodologies can be applied to a wide range of space systems as an extension of conventional systems engineering processes. The new edition includes expanded discussions of the systems engineering process, the relevance of qualitative resilience properties, and the use of algorithms and artificial intelligence to increase resilience. This book is intended for aerospace engineers, space systems engineers and architects, communications engineers, and network engineers working on improving the survivability and operational continuity of commercial, civil, and military space assets.

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John Piotrowski, Robert Piotrowski

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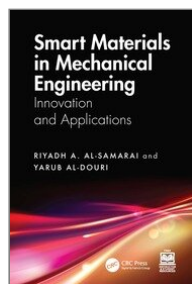
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Smart Materials in Mechanical Engineering

Innovation and Applications



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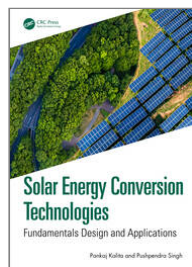
Smart Materials in Mechanical Engineering: Innovation and Applications serves as a comprehensive educational resource that bridges traditional mechanical engineering principles with contemporary smart technology applications.

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Solar Energy Conversion Technologies

Fundamentals Design and Applications



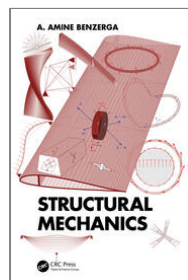
Pankaj Kalita, Pushpendra Singh

This book provides comprehensive understanding of solar energy systems, with an emphasis on both photovoltaic (PV) and solar thermal technologies. It includes theoretical knowledge and practical skills required to design, analyze, and implement efficient solar energy systems. It offers an in-depth exploration of solar radiation principles, PV cells and systems, solar thermal collectors, and energy storage methods, cost analysis and policies. Special attention is given to practical design methodology including numerous solved numerical problems and case studies. This book is aimed at graduate students, researchers in solar energy, energy engineering including related professionals.

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Structural Mechanics



A. Amine Benzerga Texas A&M University, USA

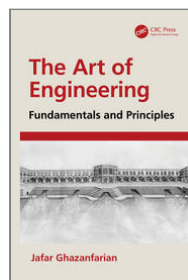
Structural Mechanics provides an in-depth coverage of mechanics of structures with an approach that departs from the conventional strength of materials approach. It proceeds from the theory of elasticity to analyze the three-dimensional response to mechanical loads with a focus on slender structural elements: bars or beams, and assemblages thereof, known as trusses, frames, or ossatures. The book is intended for upper-level undergraduate mechanical, aerospace, and civil engineering students taking courses in Structural Mechanics, Structural Analysis, and Mechanics of Aerospace Structures.

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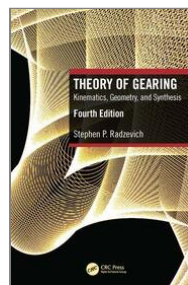
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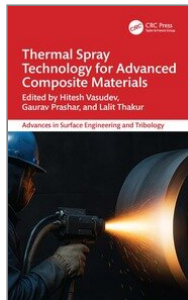
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Thermal Spray Technology for Advanced Composite Materials



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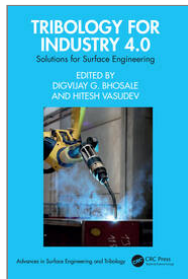
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Tribology for Industry 4.0

Solutions for Surface Engineering



Edited by **Digvijay G. Bhosale**, **Hitesh Vasudev** LPU, India

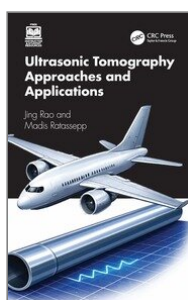
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Uncrewed Aircraft Systems and Advanced Air Mobility



Lee Nguyen, **Melinda Marion**

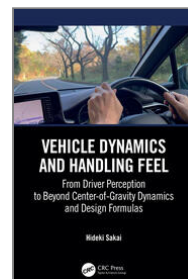
Uncrewed Aircraft Systems and Advanced Air Mobility provides essential "how-to" procedures and methodologies for small UAS operations (package delivery, agriculture, public safety), medium and large UAS operations (cargo transport, passenger transport, medical services), and Advanced Air Mobility systems. This book is intended for UAS and AAM practitioners, new industry entrants, business developers, and regulatory professionals who work in unmanned aviation operations. It will also benefit researchers and graduate students, seeking to understand the technical, operational, and commercial aspects of next-generation aviation systems.

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Vehicle Dynamics and Handling Feel

From Driver Perception to Beyond Center-of-Gravity Dynamics and Design Formulas



Hideki Sakai

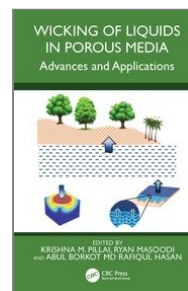
In this book, Sakai provides a comprehensive vehicle dynamics theory that enables engineers to apply drivers' subjective evaluations of car handling to corresponding vehicle motion equations to develop and ensure engaging and dependable handling characteristics. This book is an indispensable resource for engineers working in industry, whether at automobile manufacturers or related suppliers, to design engaging handling based on both mathematical equations and driver feedback.

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Wicking of Liquids in Porous Media

Advances and Applications



Edited by **Krishna M. Pillai** University of Wisconsin, Milwaukee, USA, **Ryan Masoodi**, **Abul Borkot Md Rafiqul Hasan**

Wicking of Liquids in Porous Media: Advances and Applications explores the intricate physics and innovative modeling techniques governing the movement of liquids through porous media, a phenomenon known as wicking.

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