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CRC Press
Catalogue 2021
January - June
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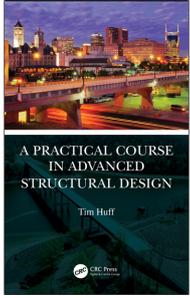
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A Practical Course in Advanced Structural Design



Tim Huff

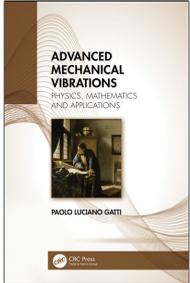
This book is written from the perspective of a practicing engineer with over 35 years of experience now working in the academic world to pass on lessons learned over the course of a structural engineering career. It covers the essential topics that will enable beginning structural engineers to gain an advanced understanding prior to entering the workforce, as well as those topics which may receive little, or no, attention in a typical undergraduate curriculum.

CRC Press
March 2021: 234x156: 304pp
Hb: 978-0-367-74666-7: £89.99
eBook: 978-1-003-15899-8

* For full contents and more information, visit: www.routledge.com/9780367746667

Advanced Mechanical Vibrations

Physics, Mathematics and Applications



Paolo Luciano Gatti, Technical Consultant Engineer, Italy

Linear vibration theory is presented with the equations of motion of vibrating systems, then the solutions of these equations – analysed in the time and frequency domains, from free and forced vibrations of SDOF and MDOF systems to free and forced vibration of continuous systems, and by also including the basics of modal analysis, vibration isolation, random vibrations and stochastic processes.

CRC Press
Market: Mechanical Engineering
December 2020: 234x156: 338pp
Hb: 978-1-138-54228-0: £79.99
eBook: 978-1-351-00860-0

* For full contents and more information, visit: www.routledge.com/9781138542280

Advanced Solid Mechanics

Simplified Theory

Farzad Hejazi, University Putra Malaysia, Malaysia and Tan Kar Chun

The main aim of this book is to demonstrate the fundamental theory of advanced solid mechanics through simplified derivations with details illustrations to deliver the principal concepts. It covers all conceptual principals on two- and three-dimensional stresses, strains, stress-strain relations, theory of elasticity and theory of plasticity in any type of solid materials including anisotropic, orthotropic, homogenous and isotropic. Detailed explanation and clear diagrams and drawings are accompanied with the use of proper jargons and notations to present the ideas and appropriate guide the readers to explore the core of the advanced solid mechanics backed by case studies and examples.

CRC Press
Market: Mechanics
March 2021: 234x156: 144pp
Hb: 978-0-367-70539-8: £195.00
Pb: 978-0-367-70538-1: £74.99
eBook: 978-1-003-14682-7

* For full contents and more information, visit: www.routledge.com/9780367705381

Alkali Activated Fly Ash

Blast Furnace Slag Composites



Kushal Ghosh, Department of Civil Engineering, National Institute of Technology, Sikkim, India and Partha Ghosh, Department of Construction Engineering, Jadavpur University, Kolkata, India

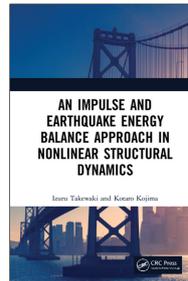
Proposed book covers relevant synthesizing parameters, their interactions and advantages of blending fly ash and blast furnace slag as source material, their relationship with mechanical properties and microstructure including guidelines to produce an optimal mix proportion. Further, it discusses related durability aspects, mechanical properties and reaction products and their inter-relationship. It explains phase characterization with XRD/SEM, change in the bond formulations with FTIR, FESEM and EDAX analysis. A mix design guideline based on empirical

statistical concept has been put forward for professionals to manufacture customized activated fly ash composites in presence of slag.

CRC Press
Market: Concrete & Cement
December 2020: 234x156: 246pp
Hb: 978-0-367-53554-4: £140.00
eBook: 978-1-003-08246-0

* For full contents and more information, visit: www.routledge.com/9780367535544

An Impulse and Earthquake Energy Balance Approach in Nonlinear Structural Dynamics



Izuru Takewaki, Kyoto University, Japan and Kotaro Kojima, Kyoto Institute of Technology, Japan

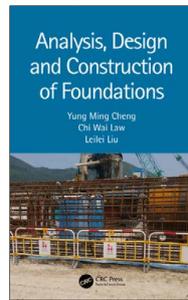
Problems in nonlinear structural dynamics and critical excitation with elastic-plastic structures are typically addressed using time-history response analysis, which requires multiple repetitions and advanced computing. This alternative approach transforms ground motion into impulses and by takes an energy balance approach. This is accessible to undergraduates because it is based on the energy balance law, and the concepts of kinetic and strain energies, and can be used by practitioners for building and structural design. This presentation starts with simple models which explaining the essential features and extends in a step-by-step manner to more complicated models and

phenomena.

CRC Press
Market: Earthquake and Structural Engineering
March 2021: 234x156: 344pp
Hb: 978-0-367-68140-1: £94.99
eBook: 978-1-003-13443-5

* For full contents and more information, visit: www.routledge.com/9780367681401

Analysis, Design and Construction of Foundations



Y M Cheng, ceymchen@polyu.edu.hk undeliverable. Case 01675579 Oct 20., Chi Wai Law, Hong Kong and Lei Lei Liu, Central South University, China

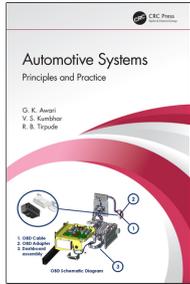
This outlines methods for the analysis and design of shallow and deep foundations, with particularly reference to case studies in Hong Kong and China. It introduces key approaches used by engineers, with precautions for planning and designing various foundation structures. Some computational methods and programs enable realistic analysis of foundation systems. It covers new and innovation methods for constructing shallow foundations, various deep foundations, excavation and lateral support systems, ground improvement techniques and ground monitoring for proper site management; along with case studies of failures and defects from actual construction projects.

CRC Press
Market: Foundations and Civil Engineering
February 2021: 234x156: 614pp
Hb: 978-0-367-25557-2: £130.00
eBook: 978-0-429-29345-0

* For full contents and more information, visit: www.routledge.com/9780367255572

Automotive Systems

Principles and Practice



G.K. Awari, Government Polytechnic India, **V.S. Kumbhar**, Government Polytechnic, Nagpur, INDIA and **R.B. Tirpude**, Government Polytechnic, Nagpur, INDIA

This book introduces the principles and practice of automotive systems including modern automotive systems incorporating the latest trends in the automobile industry. Divided into fifteen chapters, it presents the new and innovative methods to master the complexity of the vehicle of the future. Topics like vehicle classification, structure and layouts, engines, transmissions, braking, suspension, steering are illustrated with modern concepts as battery-electric, hybrid electric, and fuel cell vehicles and vehicle maintenance practices. Each chapter is supported by examples, illustrative figures, review questions and

multiple-choice questions.

CRC Press

Market: Automotive Engineering

January 2021: 234x156: 302pp

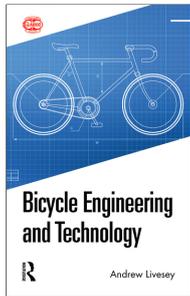
Hb: 978-0-367-49842-9: **£105.00**

eBook: 978-1-003-04763-6

* For full contents and more information, visit: www.routledge.com/9780367498429



Bicycle Engineering and Technology



Andrew Livesey

Rather than just explaining how to maintain a cycle, this book delves into the engineering of a bike and why it needs to be maintained as it does. Covering the applied science, manufacturing methods and mathematics related to cycles and cycling in an easy-to-understand way which will be accessible to both experienced cyclists and laypeople. This book will be a particularly useful resource for students on IMI, City & Guilds and Cytech Cycle Maintenance courses. It reflects the Bicycle Mechanic Apprenticeship Standard (level 2) and the IMI / C&G VRQs (level 2/3). It is supported by 200 photographs and 300 images for full, practical understanding of each topic.

Routledge

Market: Vehicle Engineering - Bicycles

November 2020: 234x156: 232pp

Hb: 978-0-367-41917-2: **£120.00**

Pb: 978-0-367-41916-5: **£42.99**

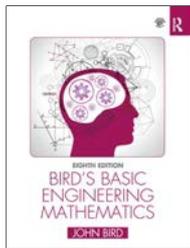
eBook: 978-0-367-81684-1

* For full contents and more information, visit: www.routledge.com/9780367419165



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Bird's Basic Engineering Mathematics



John Bird, Defence College of Technical Training, UK

Basic Engineering Mathematics has helped thousands of students to succeed in their exams. Mathematical theories are explained in a straightforward manner, supported by over 500 practical engineering examples and applications to ensure that readers can relate theory to practice. The extensive and thorough topic coverage makes this a superb text for introductory level engineering courses. Its companion website provides resources for both students and lecturers, including lists of essential formulae, multiple choice tests, and full solutions for all 1,700 further questions; and illustrations and answers to revision tests for adopting course instructors.

Routledge

Market: Engineering

March 2021: 210 x 280: 480pp

Hb: 978-0-367-64370-6: **£99.99**

Pb: 978-0-367-64367-6: **£32.99**

eBook: 978-1-003-12421-4

Prev. Ed Pb: 978-1-138-67370-0

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Bird's Engineering Mathematics



John Bird, Defence College of Technical Training, UK

Engineering Mathematics has helped thousands of students to succeed in their exams, using worked examples and interactive problems. Mathematics is explained in a straightforward manner, supported by over 550 practical engineering examples and applications which relate theory to practice. This is a great text for a range of Level 2 and 3 engineering courses, and for A level revision. Its companion website provides resources for both students and lecturers, including lists of essential formulae and multiple-choice tests and full solutions for all 1900 further questions; and illustrations and answers to revision tests for adopting course instructors.

Routledge

Market: Engineering

March 2021: 210 x 280: 762pp

Hb: 978-0-367-64379-9: **£99.99**

Pb: 978-0-367-64378-2: **£39.99**

eBook: 978-1-003-12423-8

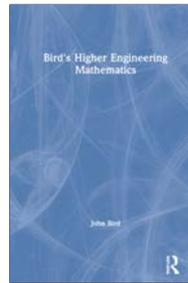
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9th Edition

Bird's Higher Engineering Mathematics



John Bird, Defence College of Technical Training, UK

Higher Engineering Mathematics has helped thousands of students to succeed in their exams by developing problem-solving skills. It is supported by over 600 practical engineering examples and applications which relate theory to practice. The extensive and thorough topic coverage makes this a solid text for undergraduate and upper-level vocational courses. Its companion website provides resources for both students and lecturers, including lists of essential formulae, multiple-choice tests, and full solutions to all 2,000 further questions contained in the 277 practice exercises; and illustrations and answers to revision tests for adopting course instructors.

Routledge

Market: Engineering Mathematics

March 2021: 210 x 280: 938pp

Hb: 978-0-367-64375-1: **£99.99**

Pb: 978-0-367-64373-7: **£42.99**

eBook: 978-1-003-12422-1

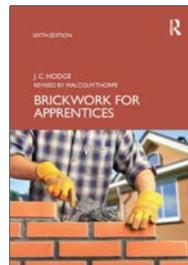
Prev. Ed Pb: 978-1-138-67357-1

* For full contents and more information, visit: www.routledge.com/9780367643737



6th Edition

Brickwork for Apprentices



J.C. Hodge and **Malcolm Thorpe**, past President of the Guild of Bricklayers and former college lecturer, UK

This sixth edition includes new material on PPEs, safety, risk assessment and working at heights, and also contains fully revised multiple choice questions, new skills test information, sample oral questions and updated drawings. Fully in line with the Building Regulations, it will remain an essential reference for qualified bricklayers and other professionals working in the construction industry, as well as students new to the industry and wishing to embark on a career in bricklaying. The multiple choice questions, skills test and oral questions at the back of the book are matched to the current C&G requirements.

Routledge

Market: Construction: Bricklaying

December 2020: 210 x 280: 364pp

Hb: 978-0-367-62432-3: **£89.99**

Pb: 978-0-367-62434-7: **£42.99**

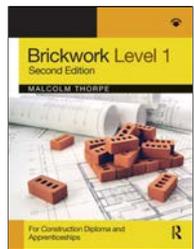
eBook: 978-1-003-10944-0

Prev. Ed Pb: 978-0-750-66752-4

* For full contents and more information, visit: www.routledge.com/9780367624347



2nd Edition

Brickwork Level 1

Malcolm Thorpe, past President of the Guild of Bricklayers and former college lecturer, UK

Brickwork Level 1 is in full colour. This new edition reflects new Occupational Standards and recent changes to the Building Regulations. It gives the apprentice an introduction into building methods and construction technology, and follows very closely the Training Specification for Apprenticeship and Diploma units and contains a section of multiple choice questions to provide trainees with vital practice for the job knowledge test. The companion website for adopting course instructors includes practical training packs, end tests and mark sheets, power point

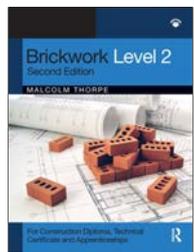
slides for each chapter, written job knowledge test and answers, and teaching lesson plans and schemes of work.

Routledge

Market: Construction: Bricklaying
December 2020: 210 x 280: 384pp
Hb: 978-0-367-62535-1: **£74.99**
Pb: 978-0-367-62534-4: **£29.99**
eBook: 978-1-003-10960-0
Prev. Ed Pb: 978-1-856-17766-5

* For full contents and more information, visit: www.routledge.com/9780367625344

2nd Edition

Brickwork Level 2

Malcolm Thorpe, past President of the Guild of Bricklayers and former college lecturer, UK

Brickwork Level 2 is highly illustrated throughout and in full colour. This new edition reflects new Occupational Standards and recent changes to the Building Regulations. It has been tailored to match Level 2 of the current Occupational Standards at Diploma, Technical Certificate and Apprenticeship. Each chapter contains a section of multiple choice questions to provide trainees with vital practice for the job knowledge test. The companion website for adopting course instructors includes practical training packs, end tests and mark sheets, power point slides for each chapter, written job knowledge test and answers,

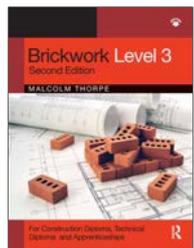
and teaching lesson plans and schemes of work.

Routledge

Market: Construction: Bricklaying
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eBook: 978-1-003-10965-5
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Malcolm Thorpe, past President of the Guild of Bricklayers and former college lecturer, UK

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slides for each chapter, written job knowledge test and answers, and teaching lesson plans and schemes of work.

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Market: Construction: Bricklaying
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eBook: 978-1-003-10966-2
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Built Up

An Historical Perspective on the Contemporary Principles and Practices of Real Estate Development

Patrice Derrington

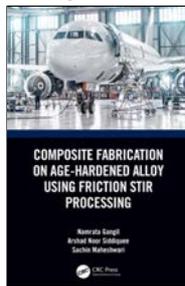
Built Up uncovers the roots of the global real estate industry in the machinations of a patron of Shakespeare, the merged lineages of business savvy women and men, startlingly innovative collaborations with the first English architect, and the radical explorations of other denizens of early modern London—and what those colorful origins mean for the practice of property development today.

Uniting insights from the author's career as an internationally recognized developer with meticulous archival research, this resource for scholars and professionals synthesizes economic history and the latest planning and finance literature.

Routledge

Market: Real Estate
April 2021: 210 x 280: 352pp
Hb: 978-0-367-69994-9: **£120.00**
eBook: 978-1-003-14415-1

* For full contents and more information, visit: www.routledge.com/9780367699949

**Composite Fabrication on Age-Hardened Alloy using Friction Stir Processing**

Namrata Gangil, Arshad Noor Siddiquee, Department of Mechanical Engineering, Delhi, India and **Sachin Maheshwari**, Netaji Subhas Institute of Technology, New Delhi, India

The understanding of specific strength of materials used in applications including aerial vehicles and manufacturing is important. The proposed text highlights importance of age-hardened alloy as one of the materials used for diverse applications. It discusses strengthening strategies of existing age-hardened aluminum alloys through composite fabrication via a solid-state friction stir processing (FSP) route. The text will help students and professionals working in the field of manufacturing, materials science and aerospace engineering.

CRC Press

December 2020: 234x156: 144pp
Hb: 978-0-367-43417-5: **£89.99**
eBook: 978-1-003-00303-8

* For full contents and more information, visit: www.routledge.com/9780367434175

**Composite Materials**

Mechanics, Manufacturing and Modeling

Sumit Sharma, Dr. B. R. Ambedkar National Institute of Technology (NIT) Jalandhar, Punjab, INDIA

Discussing in a single volume the fundamental concepts, manufacturing, mechanics and dynamic-mechanical analysis of composites, this textbook will be useful for senior undergraduate and graduate students for a course on composite materials in the fields of mechanical engineering, automobile engineering and electronics engineering. A separate chapter discusses failure theories including Tsai-Wu criterion, Tsai-Hill criterion, Hoffman failure criterion and maximum strain criterion.

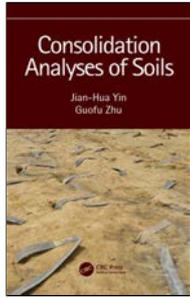
CRC Press

March 2021: 234x156: 632pp
Hb: 978-0-367-68755-7: **£120.00**
eBook: 978-1-003-14775-6

* For full contents and more information, visit: www.routledge.com/9780367687557



Consolidation Analyses of Soils



Jian-Hua Yin, Hong Kong Polytechnic University, Hong Kong, China and **Guofu Zhu**, Wuhan Univ. of Technology, China
As stresses are applied to a saturated soil, deformation occurs as water in voids is squeezed out. This guide to constitutive relations of soils for one- and three-dimensional consolidation covers analytical solutions such as the finite element method, simplified methods for consolidation analysis for three-dimensional consolidation problems. Uniquely the book covers both classic solutions and state-of-the-art work in consolidation analysis.

CRC Press

Market: Civil and Geotechnical Engineering

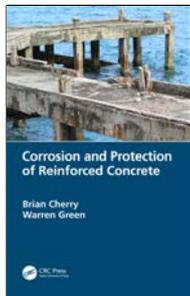
December 2020: 234x156: 574pp

Hb: 978-0-367-55532-0: **£140.00**

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* For full contents and more information, visit: www.routledge.com/9780367555320

Corrosion and Protection of Reinforced Concrete



Brian Cherry, Late, of Monash University, Australia and **Warren Green**, Vinsi Partners, NSW, Australia

Reinforced concrete is the most widely used construction material in the world, and extended performance is increasingly being required. This surveys corrosion and deterioration, particularly of the steel reinforcement, and outlines the various causes, gives guidance on surveys and diagnostics, and sets out electrochemical and physical methods of protection and repair. It also gives guidance on good design and construction. It suits asset managers, consulting engineers and specialist contractors and masters students.

CRC Press

Market: Civil Engineering

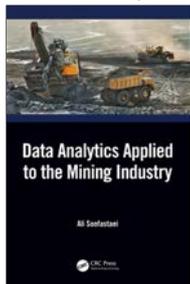
March 2021: 234x156: 400pp

Hb: 978-0-367-51760-1: **£120.00**

eBook: 978-1-003-08130-2

* For full contents and more information, visit: www.routledge.com/9780367517601

Data Analytics Applied to the Mining Industry



Ali Soofastaei, The University of Queensland, Australia

The book describes the key challenges facing the mining sector as it transforms into a digital industry able to fully exploit process automation, remote operation centres, autonomous equipment and the opportunities offered by the industrial internet of things. It provides guidelines on how data needs to be collected, stored and managed to enable the different advanced data analytics methods to be applied effectively in practice, through use of case studies and worked examples. Each chapter ends with a section detailing lessons for mining. The final chapter explores the revised operating principles, the organizational characteristics and the new skills needed by mining companies.

CRC Press

Market: Mining Engineering

November 2020: 234x156: 272pp

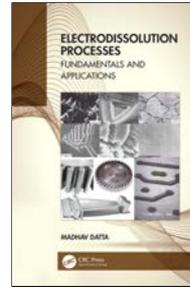
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Electrodissolution Processes

Fundamentals and Applications



Madhav Datta, Amrita University, Coimbatore, Tamil Nadu, India

Electrodissolution Processes: Fundamentals and Applications discusses the basic principles involved in high rate anodic dissolution processes and their application in advanced machining, micromachining, and finishing operations. The fundamental section of the book discusses the anodic dissolution behavior of different classes of metals and the influence of mass-transport, current distribution, and surface film properties on the metal removal rate and surface finishing. The application section of the book presents essential elements of electrochemical and assisted techniques for precision machining, micromachining, and polishing of advanced materials.

CRC Press

Market: Machine Design

December 2020: 234x156: 312pp

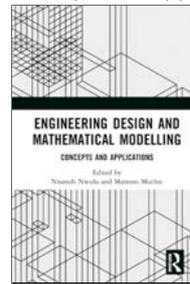
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Engineering Design and Mathematical Modelling

Concepts and Applications



Edited by **Nnamdi Nwulu** and **Mammo Muchie**

Engineering design and mathematical modelling are key tools/techniques in the Science, Technology and Innovation spheres. Whilst engineering design is concerned with the creation of functional innovative products and processes, mathematical modelling seeks to utilize mathematical principles and concepts to describe and control real world phenomena. Both of these can be useful tools for spurring and hastening progress in developing countries.

This book was originally published as a special issue of the *African Journal of Science, Technology, Innovation and Development*.

Routledge

Market: Engineering/Mathematics

November 2020: 297x210: 150pp

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eBook: 978-1-003-03622-7

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7th Edition

Engineering Science



William Bolton, former Head of Research, Development and Monitoring at BTEC

Engineering Science is a comprehensive textbook for all vocational and pre-degree courses at Level 2 and beginning Level 3. It goes beyond the core science to include applications in the real world and the mechanical and electrical principles needed for the majority of courses. It is well supported by numerous worked examples and problems, with answers. Main changes in this edition are arithmetic, algebraic and graphical methods in engineering (for sections A and B of the BTEC Level 2 unit), and a new chapter introducing the basics of calculus.

Routledge

Market: Engineering Education

November 2020: 234x156: 598pp

Hb: 978-0-367-55443-9: **£99.99**

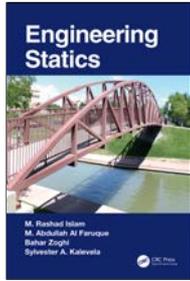
Pb: 978-0-367-55445-3: **£42.99**

eBook: 978-1-003-09359-6

Prev. Ed Pb: 978-1-138-82893-3

* For full contents and more information, visit: www.routledge.com/9780367554453

Engineering Statics



M. Rashad Islam, M. Abdullah Al Faruque, Bahar Zoghi and Sylvester A. Kalevela

Engineering Statics presents the cutting-edge topics in engineering statics, focusing on practical applications knowledge, with numerous real-world examples, practice problems, and case studies throughout. It covers theory concisely and uses plain language and coverage that can be completed in a one-semester course. It also covers the related concepts required to take the Fundamentals of Engineering (FE) exam.

CRC Press

Market: Civil Engineering

December 2020: 254 x 178: 308pp

Hb: 978-0-367-56106-2: **£89.99**

eBook: 978-1-003-09815-7

* For full contents and more information, visit: www.routledge.com/9780367561062



Fire Safety Design for Tall Buildings



Feng Fu

This provides structural engineers, architects and students with an understanding of the fire safety design for tall buildings based on current analysis methods, design guidelines and codes. It covers almost all the aspects of fire safety design that an engineer or an architect might face, such as performance based design and the basic principles of fire development and heat transfer, and the latest fire prevention technology, along with 3D modelling techniques to perform structural fire analysis with examples which replicate several real fire incidents from around the world.

CRC Press

Market: Structural and Fire Engineering

February 2021: 234x156: 252pp

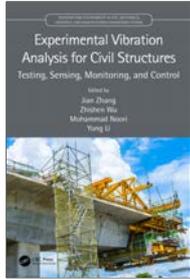
Hb: 978-0-367-44452-5: **£89.99**

eBook: 978-1-003-00981-8

* For full contents and more information, visit: www.routledge.com/9780367444525

Experimental Vibration Analysis for Civil Structures

Testing, Sensing, Monitoring, and Control



Edited by Jian Zhang, Zhishen Wu, Mohammad Noori and Yong Li

Series: *Resilience and Sustainability in Civil, Mechanical, Aerospace and Manufacturing Engineering Systems*

Experimental Vibration Analysis for Civil Structures: Testing, Sensing, Monitoring, and Control covers a wide range of topics in the areas of vibration testing, instrumentation, and analysis of civil engineering and critical infrastructure. It explains how recent research, development, and applications in experimental vibration analysis of civil engineering structures have progressed significantly due to advancements in the fields of sensor and testing technologies, instrumentation, data acquisition systems, computer technology, computational modeling and simulation

of large and complex civil infrastructure systems.

CRC Press

Market: Civil Engineering

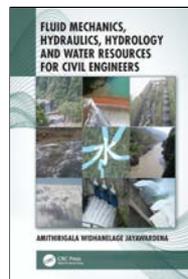
November 2020: 254 x 178: 610pp

Hb: 978-0-367-54746-2: **£130.00**

eBook: 978-1-003-09056-4

* For full contents and more information, visit: www.routledge.com/9780367547462

Fluid Mechanics, Hydraulics, Hydrology and Water Resources for Civil Engineers



Amithirigala Widhanelage Jayawardena, The University of Hong Kong

This textbook combines the essentials of water science and engineering needed by civil engineering students and practitioners: fluid mechanics, hydraulics, hydrology and water resources. It also touches on water related disasters and the role of water in sustainability. Traditional textbooks tend to look at these themes discretely, and so miss the natural connections between them, and the commonality of their underlying foundations.

Students from junior undergraduate to Masters level should find this a useful text and key reference.

CRC Press

Market: Civil and Environmental Engineering

January 2021: 254 x 178: 894pp

Hb: 978-1-138-39080-5: **£150.00**

Pb: 978-1-138-39081-2: **£59.99**

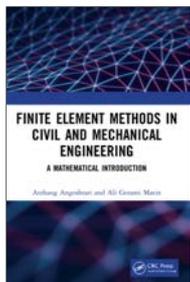
eBook: 978-0-429-42311-6

* For full contents and more information, visit: www.routledge.com/9781138390812



Finite Element Methods in Civil and Mechanical Engineering

A Mathematical Introduction



Arzhang Angoshtari, George Washington University, USA and Ali Gerami Matin, George Washington University, USA

The finite element method is widely employed for numerical simulations in engineering and science due to its efficiency. This concise introduction to the mathematical theory of the finite element method presents a selection of applications in civil and mechanical engineering such as beams and frames, Poisson's equation, heat transfer, advection-diffusion, linear elasticity, and incompressible fluids. Simple MATLAB codes and/or FENICS scripts of these examples can be downloaded from the book's companion website.

CRC Press

Market: Civil and Mechanical Engineering

December 2020: 234x156: 176pp

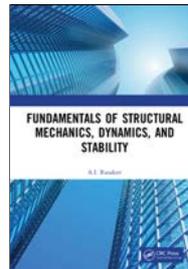
Hb: 978-1-138-33516-5: **£84.99**

Pb: 978-1-138-33517-2: **£42.99**

eBook: 978-0-429-44250-6

* For full contents and more information, visit: www.routledge.com/9781138335172

Fundamentals of Structural Mechanics, Dynamics, and Stability



A.I. Rusakov, Rostov State Transport University, Rostov-na-Donu, Russia Federation

Fundamentals of Structural Mechanics, Dynamics, and Stability examines structural mechanics from a foundational point of view and allows students to use logical inference and creative reasoning to solve problems versus rote memorization. It presents underlying theory and emphasizes the relevant mathematical concepts as related to structural mechanics in each chapter. Problems, examples, and case studies are provided throughout, as well as simulations to help further illustrate the content.

CRC Press

Market: Engineering - Civil

December 2020: 254 x 178: 468pp

Hb: 978-1-498-77042-2: **£150.00**

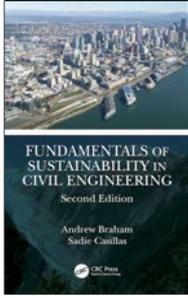
eBook: 978-0-429-15529-1

* For full contents and more information, visit: www.routledge.com/9781498770422



2nd Edition

Fundamentals of Sustainability in Civil Engineering



Andrew Braham and Sadie Casillas

This book provides a foundation to understand the development of sustainability in civil engineering, and tools to address the three pillars of sustainability: economics, environment, and society. It includes case studies in the five major areas of civil engineering: environmental, structural, geotechnical, transportation, and construction management. This second edition is updated throughout and adds new chapters on construction engineering as well as an overview of the most common certification programs that revolve around environmental sustainability.

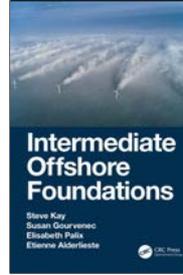
CRC Press

Market: Engineering - Civil
December 2020: 234x156: 272pp
Hb: 978-0-367-42025-3: **£89.99**
eBook: 978-0-367-81744-2
Prev. Ed Hb: 978-1-498-77512-0

* For full contents and more information, visit: www.routledge.com/9780367420253



Intermediate Offshore Foundations



Steve Kay, Consultant, Netherlands, Susan Gourvenec, University of Southampton, UK, Elisabeth Palix, EDF Energies Nouvelles, Paris and Etienne Alderlieste, Deltares, Netherlands

Intermediate foundations are used for anchors, as foundations for tension leg platforms and steel jackets, and to support seafloor equipment and offshore wind turbines. When installed by suction, they are an economical alternative to piling, and also may be completely removed. They are usually circular in plan and are essentially rigid when laterally loaded, and can be embedded into the seafloor with embedment ratios L/D of between 0.5 and 10. This is the first ever book dedicated to the geotechnical design of intermediate foundations book, and it will appeal to professional engineers specialising in the offshore industry.

CRC Press

Market: Civil and Offshore Engineering
April 2021: 234x156: 280pp
Hb: 978-1-138-35353-4: **£100.00**
eBook: 978-0-429-42384-0

* For full contents and more information, visit: www.routledge.com/9781138353534

Greenhouse Engineering

Integrated Energy Management

Ilhami Yildiz, Dalhousie University, Department of Engineering, Faculty of Agriculture, Truro, Nova Scotia, Canada

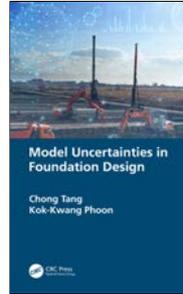
Sustainable energy development concept requires and maintains multiple linkages among energy production, energy consumption, human well-being, and environmental quality. Book puts forward the concept of integrated energy management and modeling pertinent to greenhouses that will eventually help reduce the load on power grids, demand for fossil fuels and water, and also supply CO₂ for the greenhouse production. It helps enhance the competitive position of the global greenhouse industry by introducing economically, environmentally and socially sustainable technologies and management strategies.

CRC Press

Market: Engineering - Mechanical
April 2021: 254 x 178: 600pp
Hb: 978-1-498-74313-6: **£130.00**
eBook: 978-1-315-11707-2

* For full contents and more information, visit: www.routledge.com/9781498743136

Model Uncertainties in Foundation Design



Chong Tang, National University of Singapore and Kok-Kwang Phoon, National University of Singapore

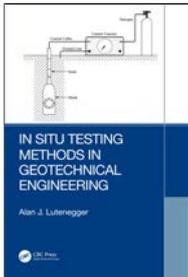
Geotechnical design codes worldwide have been migrating towards reliability-based design, for which the characterization of model uncertainty is a critical element. This practical book for engineers and researchers characterizes the model uncertainties in limit state design of foundations based on a global load test database which provides information on the foundation (dimension, material, and installation or construction methods), site or soil investigation, and load test results. This is a key step towards the development of a web-based system which integrates the database, interpretation methods for the failure load, and transformation models for soil engineering parameters.

CRC Press

Market: Geotechnical and Civil Engineering
March 2021: 234x156: 590pp
Hb: 978-0-367-11136-6: **£140.00**
eBook: 978-0-429-02499-3

* For full contents and more information, visit: www.routledge.com/9780367111366

In Situ Testing Methods in Geotechnical Engineering



Alan Lutenecker, University of Massachusetts, USA

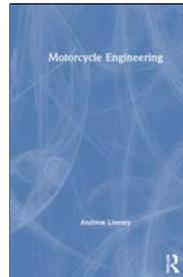
In situ testing methods are commonly used by geotechnical engineers to determine subsurface stratigraphy and soil characteristics for design. This book presents the latest technology on the correct methods for performing a variety of in situ tests and the correct methods of interpreting the results obtained from the tests. Uniquely, it covers both common/routine tests and also describes several tests that are not covered in other available books. It also covers application of in situ tests for design of shallow and deep foundations.

CRC Press

Market: Civil Engineering
May 2021: 254 x 178: 320pp
Hb: 978-0-367-43241-6: **£89.99**
eBook: 978-1-003-00201-7

* For full contents and more information, visit: www.routledge.com/9780367432416

Motorcycle Engineering



Andrew Livesey

Motorcycle Engineering is written to give the reader a good all-round knowledge of how a motorcycle works. The complex engineering behind the machines is explained in easy-to-understand terms and supported by 350 images. It covers a range of motorcycle types, and will be particularly useful for students on motorcycle and motorsport courses such as those run by the IMI and City & Guilds, as well as BTEC programmes, and will serve as an excellent introductory text for HND and degree students on automotive type programmes.

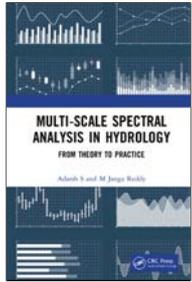
Routledge

Market: Motorcycle Engineering
April 2021: 234x156: 312pp
Hb: 978-0-367-41920-2: **£120.00**
Pb: 978-0-367-41919-6: **£42.99**
eBook: 978-0-367-81685-8

* For full contents and more information, visit: www.routledge.com/9780367419196

Multi-scale Spectral Analysis in Hydrology

From Theory to Practice



Adarsh S, Department of Civil Engineering, TKM College of Engineering Kollam, Kollam, India and **M Janga Reddy**, Department of Civil Engineering, Indian Institute of Technology Bombay, Mumbai, India

This book presents a detailed description and application of multi-time scale time-frequency characterization tool for the spectral analysis of hydrological time series. It illustrates spectral analysis methods for hydrological applications through illustrative case studies including wavelet transforms, HHT and its extensions, and EMD methods.

CRC Press

Market: Hydrology

March 2021: 234x156: 226pp

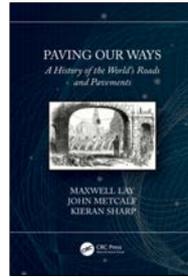
Hb: 978-0-367-62201-5: **£120.00**

eBook: 978-1-003-10835-1

* For full contents and more information, visit: www.routledge.com/9780367622015

Paving Our Ways

A History of the World's Roads and Pavements



Maxwell Lay, Australian Road Research Board, **John Metcalf**, Formerly Louisiana State University, USA and **Kieran Sharp**, Road Eng. Assoc. Asia and Australasia

Paving our Ways provides a comprehensive history of the world's pavements, running from the earliest human settlements to the present day. It is written for general and technically oriented readers, tracing the human and social aspects of pavement development and use, and providing detailed technical background. It also caters to students of engineering and transport wishing to broaden their knowledge of their profession or taking a course in the history and sociology of engineering. It is the only book at this level on this everyday topic.

CRC Press

Market: History of Technology

November 2020: 234x156: 314pp

Hb: 978-0-367-52080-9: **£99.99**

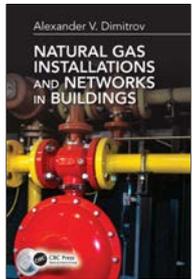
Pb: 978-0-367-52078-6: **£34.99**

eBook: 978-1-003-05630-0

* For full contents and more information, visit: www.routledge.com/9780367520786



Natural Gas Installations and Networks in Buildings



Alexander V. Dimitrov, European Polytechnical University, Construction of Buildings and Facilities Department, Bulgaria

This book covers theoretical foundations of the Natural Gas (NG) installations and networks as a part of building logistic system, further illustrated with digital examples. It describes the NG oxidation phenomena and appropriate energy converting devices used in the building's energy centres and basic sizing principals of the related pipe networks. Further, it covers usage of NG devices including system for thermal comfort control, building ventilation, indoor air quality, visual comfort, food preparation and conservation, and hygiene maintenance system. A special attention is given to applications of the NG technological equipment, using gas-driven heat pumps, micro

heat and power systems.

CRC Press

Market: Heating, Ventilation & Air Conditioning

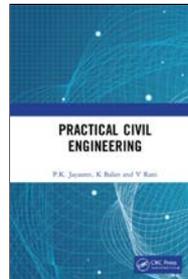
December 2020: 234x156: 274pp

Hb: 978-0-367-53672-5: **£99.99**

eBook: 978-1-003-08283-5

* For full contents and more information, visit: www.routledge.com/9780367536725

Practical Civil Engineering



P.K. Jayasree, K Balan and V Rani

The book provides primary information about civil engineering to both a civil and non-civil engineering audience in such areas as construction management, estate management, and building. Basic civil engineering topics like surveying, building materials, construction technology and management, concrete technology, steel structures, soil mechanics and foundations, water resources, transportation and environment engineering are explained in detail. Codal provisions of US, UK and India are included to cater to a global audience. Insights into techniques like modern surveying equipment and technologies, sustainable construction materials, and modern construction materials are also explained.

CRC Press

Market: Civil Engineering

April 2021: 210 x 280: 592pp

Hb: 978-1-138-03313-9: **£155.00**

eBook: 978-0-429-09481-1

* For full contents and more information, visit: www.routledge.com/9781138033139

Offshore Semi-Submersible Platform Engineering



Srinivasan Chandrasekaran, Dept of Ocean Engineering, Indian Institute of Technology, Madras

Offshore Semi-Submersible Platform Engineering presents a primer to the analysis and design of semi-submersibles platforms in particular while also covering general analysis and design guidelines of offshore compliant platforms. It introduces general structural designs and also examines the details of the various environmental impacts that act upon them, such as fatigue, fire, collisions, and water waves.

CRC Press

Market: Civil Engineering

December 2020: 234x156: 250pp

Hb: 978-0-367-67330-7: **£89.99**

eBook: 978-1-003-13092-5

* For full contents and more information, visit: www.routledge.com/9780367673307

2nd Edition

Predicting Outdoor Sound



Keith Attenborough, University of Hull, UK and **Timothy Van Renterghem**, Ghent University, Belgium

Predicting Outdoor Sound provides a scholarly yet practical examination for acoustical engineers of the phenomena that affect outdoor sound close to the ground and its prediction. It brings together theory, empirical schemes and data to indicate which model to use and when; illustrated with case studies. It covers ground impedance models and data, methods of measuring ground impedance, ground effects in homogenous atmospheres, sound propagation in refracting and turbulent atmospheres, sound propagation from moving sources, the performance of outdoor noise barriers, the acoustical effects of tall vegetation and plants, and both numerical and empirical

methods for predicting.

CRC Press

Market: Engineering - Mechanical

January 2021: 234x156: 678pp

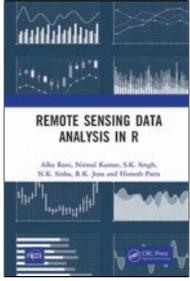
Hb: 978-1-498-74007-4: **£140.00**

eBook: 978-0-429-47080-6

Prev. Ed Hb: 978-0-419-23510-1

* For full contents and more information, visit: www.routledge.com/9781498740074

Remote Sensing Data Analysis in R



Alka Rani, Nirmal Kumar, S.K. Singh, N.K. Sinha, R.K. Jena and Himesh Patra

Remote Sensing Data Analysis in R is a guide book containing codes for most of the operations which are being performed for analysing any satellite data for deriving meaningful information. The goal of this book is to provide hands on experience in performing all the activities from the loading of raster and vector data, mapping or visualisation of data, pre-processing, calculation of indices, classification and advanced machine learning algorithms on remote sensing data in R; Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. The title is co-published with New India Publishing Agency.

CRC Press

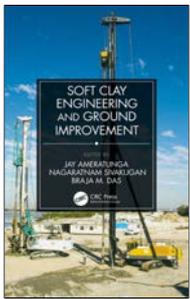
Market: Remote Sensing and GIS

February 2021: 229 x 152: 364pp

Hb: 978-0-367-72562-4: **£99.99**

* For full contents and more information, visit: www.routledge.com/9780367725624

Soft Clay Engineering and Ground Improvement



Edited by Jay Ameratunga, Golder Associates, Australia, Nagaratnam Sivakugan, James Cook University, Queensland, Australia and Braja M. Das, formerly at California State University, Sacramento, USA

Soft Clay Engineering and Ground Improvement covers the design and implementation of ground improvement techniques as applicable to soft clays. This particular subject poses major geotechnical challenges in civil engineering. Not only civil engineers, but planners, architects, consultants and contractors are now aware what soft soils are and the risks associated with development of such areas.

The book is designed as a reference and useful tool for those in the industry, both to consultants and contractors. It also benefits

researchers and academics working on ground improvement of soft soils, and serves as an excellent overview for postgraduates.

CRC Press

Market: Geotechnical and Civil Engineering

January 2021: 234x156: 448pp

Hb: 978-1-138-31653-9: **£130.00**

eBook: 978-0-429-45554-4

* For full contents and more information, visit: www.routledge.com/9781138316539

Soil Nailing

A Practical Guide

Raymond Cheung, Civil Engineering Development Department, Hong Kong and Ken Ho, Civil Engineering Development Department, Hong Kong

Series: *Applied Geotechnics*

Soil nailing is a robust and economic in-situ soil reinforcement technique used for slopes, retaining walls and excavations, involving the installation of closely spaced, relatively slender tension-carrying structural elements into the ground to stabilize the soil mass.

It has been widely and successfully used since 1970s in a variety of ground conditions, and developed ; through laboratory tests, numerical modeling, physical modeling, field tests and site trials, and construction practice.

This book covers design, construction, quality control, monitoring and maintenance, along with case studies of projects, for practicing engineers and graduate students.

CRC Press

Market: Geotechnical Engineering

March 2021: 234x156: 352pp

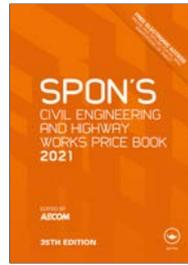
Hb: 978-1-138-03187-6: **£99.99**

eBook: 978-0-367-81626-1

* For full contents and more information, visit: www.routledge.com/9781138031876

35th Edition

Spon's Civil Engineering and Highway Works Price Book 2021



Edited by AECOM, AECOM, London, UK

Series: *Spon's Price Books*

SPON'S CIVIL ENGINEERING AND HIGHWAY WORKS PRICE BOOK 2021 from AECOM gives costs for both general and civil engineering works and highway works. It provides a full breakdown of labour, plant and material elements, with labour rates updated. Cost guidance is given at a number of levels, varying from the more general functional costs to detailed resource costing, and in conformity with CESMM4 and the Highways Method of Measurement. With a free ebook of this 2021 edition on the VitalSource® Bookshelf platform, available for access and use until the end of December 2021.

CRC Press

Market: Quantity Surveying

December 2020: 246x174: 694pp

Hb: 978-0-367-51403-7: **£195.00**

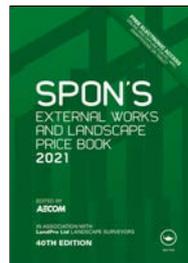
eBook: 978-1-003-05368-2

Prev. Ed Hb: 978-0-367-27104-6

* For full contents and more information, visit: www.routledge.com/9780367514037

40th Edition

Spon's External Works and Landscape Price Book 2021



Edited by AECOM, AECOM, London, UK

Series: *Spon's Price Books*

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CRC Press

Market: Quantity Surveying

December 2020: 246x174: 676pp

Hb: 978-0-367-51404-4: **£165.00**

eBook: 978-1-003-05369-9

Prev. Ed Hb: 978-0-367-27106-0

* For full contents and more information, visit: www.routledge.com/9780367514044

Synergistic Design of Sustainable Built Environments



Chitrarekha Kabre

Synergistic Design of Sustainable Built Environments introduces and illustrates a novel systems approach that fosters both design excellence and a leap toward a more biocentric (ecologically sustainable) design paradigm. The book provides a deeper understanding of the theories and principles of biocentric design and offers detailed descriptions of the synergistic design process of integrating theories and principles into practice. It also presents extensive thermal and visual built environment design strategies, along with qualitative and quantitative information that designers can use to generate feasible solutions in response to varying climate and occupant comfort.

CRC Press

Market: Civil Engineering

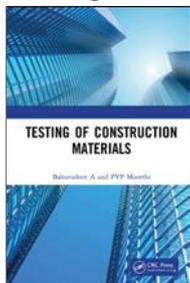
November 2020: 254 x 178: 420pp

Hb: 978-0-367-56483-4: **£100.00**

eBook: 978-1-003-10296-0

* For full contents and more information, visit: www.routledge.com/9780367564834

Testing of Construction Materials



Bahurudeen A, BITS Pilani, Hyderabad, India and **P.V.P. Moorthi**, Engineering Delight Academy, Salem, India

The main aim of the proposed book is to provide understanding about peer-reviewed international construction materials testing methods in a simple way with high technical level. The book focusses on specific construction material as cement, concrete, bricks, lime, paints, steel and so forth, distributed in ten different chapters. Using real time quality control as underlying determinant, book exclusively follows Indian, American, European, German and South African standards. Modern sophisticated material testing techniques like Scanning Electron Microscope (SEM), Thermo Gravimetric Analysis (TGA) and X-Ray Diffraction (XRD) are also described.

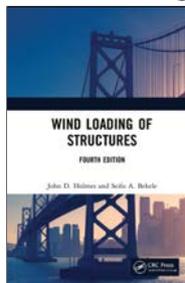
CRC Press

Market: Structural Engineering
December 2020: 234x156: 484pp
Hb: 978-0-367-64495-6: **£89.99**
eBook: 978-1-003-12482-5

* For full contents and more information, visit: www.routledge.com/9780367644956

4th Edition

Wind Loading of Structures



John D. Holmes, JDH Consulting, Australia and **Seifu Bekele**

This authoritative source for practising and academic structural engineers and graduate students ties the principles of wind loads on structures to meteorology, bluff-body aerodynamics, probability and statistics, and structural dynamics. It provides a broad view of codes and standards with information on global wind climates.

Now with more on extreme winds, potential wind vulnerability and damage, extreme value probability analysis of extreme winds, computational fluid dynamics and aerodynamic shaping of high- and low-rise buildings; along with detail such as the difference between 'return period' and 'average recurrence interval', and 'bootstrapping' techniques.

CRC Press

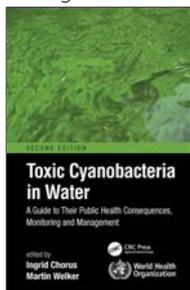
Market: Structural Engineering
December 2020: 234x156: 638pp
Hb: 978-0-367-27326-2: **£150.00**
eBook: 978-0-429-29612-3
Prev. Ed Hb: 978-1-482-22919-6

* For full contents and more information, visit: www.routledge.com/9780367273262

2nd Edition

Toxic Cyanobacteria in Water

A Guide to Their Public Health Consequences, Monitoring and Management



Edited by **Ingrid Chorus** and **Martin Welker**, Umweltbundesamt, Berlin, Germany

The protection of drinking-water, recreational waters and other water supplies from contamination by toxic cyanobacteria has a major impact on health. This second edition present the current state of knowledge regarding the impact of cyanobacteria on health through water-related exposure pathways – chiefly drinking and recreational water. This provides technical background information to support hazard analysis and assessment of the risks posed by cyanotoxins in drinking and recreational waters, and outlines strategies for their control. It sets out key practical considerations in the design and implementation of programmes and studies for monitoring

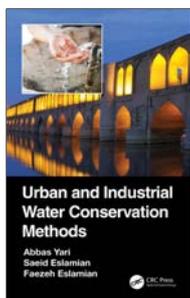
water resources and supplies.

CRC Press

Market: Water and environmental science
February 2021: 234x156: 872pp
Hb: 978-0-367-53331-1: **£140.00**
eBook: 978-1-003-08144-9

* For full contents and more information, visit: www.routledge.com/9780367533311

Urban and Industrial Water Conservation Methods



Abbas Yari, Saeid Eslamian, Ishfahan University, Princeton University and **Faezeh Eslamian**, McGill University, Canada

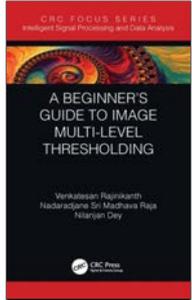
Urban and Industrial Water Conservation Methods provides comprehensive and practical information regarding water use for various different sectors and describes the most suitable conservation devices and techniques to reduce water consumption in urban environments. It demonstrates how these conservation devices and best practices can greatly and quickly increase the efficiency of water use in both new and existing buildings.

CRC Press

Market: Civil Engineering
November 2020: 235 x 156: 104pp
Hb: 978-0-367-53318-2: **£74.99**
eBook: 978-1-003-08153-1

* For full contents and more information, visit: www.routledge.com/9780367533182

A Beginner's Guide to Multilevel Image Thresholding



Venkatesan Rajinikanth, St. Joseph's College of Engineering, OMR, Chennai, TN, India, **Nadaradjane Sri Madhava Raja**, St. Joseph's College of Engineering, OMR, Chennai, TN, India and **Nilanjan Dey**, JIS University, Kolkata

Series: Intelligent Signal Processing and Data Analysis

Choosing appropriate thresholding based on the existing image (Grayscale/RGB) and the assigned task is essential to attain better result and the complexity of the image thresholding is largely reduced with the help of a chosen heuristic algorithm technique. This book emphasizes various image thresholding methods that are necessary for image pre-processing and initial level enhancement. It presents a detailed evaluation, such as choosing the threshold function, need for the heuristic algorithm, choice

of objective function, and evaluation of the outcome along with real-time applications in detail.

CRC Press

Market: Image Processing

November 2020: 234x156: 118pp

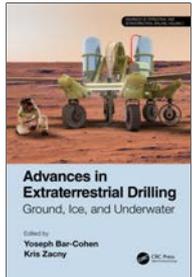
Hb: 978-0-367-50314-7: £140.00

eBook: 978-1-003-04944-9

* For full contents and more information, visit: www.routledge.com/9780367503147

Advances in Extraterrestrial Drilling:

Ground, Ice, and Underwater



Edited by **Yoseph Bar-Cohen**, Jet Propulsion Lab (JPL), Pasadena, California, USA and **Kris Zacny**

This book includes the latest advances that have been made in recent years in developing drilling and excavation mechanisms for extraterrestrial bodies. The chapters cover drill types, drilling techniques and their advantages and associated issues, rock coring including acquisition, damage control, caching and transport, and data interpretation, as well as unconsolidated soil drilling and borehole stability. This book includes a description of the basic science of the drilling process, associated processes of breaking and penetrating various media, the required hardware, and the process of excavation and analysis of the sampled media.

CRC Press

December 2020: 254 x 178: 374pp

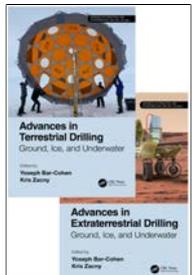
Hb: 978-0-367-65347-7: £120.00

eBook: 978-1-003-13151-9

* For full contents and more information, visit: www.routledge.com/9780367653477

Advances in Terrestrial and Extraterrestrial Drilling

Ground, Ice, and Underwater



Edited by **Yoseph Bar-Cohen**, Jet Propulsion Lab (JPL), Pasadena, California, USA and **Kris Zacny**

This book will include the latest principles behind the processes of drilling and excavation on Earth and other planets. It covers the categories of drills, the history of drilling and excavation, various drilling techniques and associated issues, rock coring (acquisition, damage control, caching and transport, restoration of "in-situ" conditions and data interpretation), as well as unconsolidated soil drilling and borehole stability. It describes the drilling process from basic science and associated process of breaking and penetrating various media and the required hardware and the process of excavation and analysis of the sampled media.

CRC Press

December 2020: 254 x 178: 684pp

Hb: 978-1-138-34150-0: £190.00

eBook: 978-1-003-00168-3

* For full contents and more information, visit: www.routledge.com/9781138341500

Advances in Terrestrial Drilling:

Ground, Ice, and Underwater



Edited by **Yoseph Bar-Cohen**, Jet Propulsion Lab (JPL), Pasadena, California, USA and **Kris Zacny**

This book includes the latest drilling and excavation principles and processes for terrestrial environments. The chapters cover the history of drilling and excavation, drill types, drilling techniques and their advantages and associated issues, rock coring including acquisition, damage control, caching and transport, and data interpretation, as well as unconsolidated soil drilling and borehole stability. This book includes a description of the basic science of the drilling process, associated processes of breaking and penetrating various media, the required hardware, and the process of excavation and analysis of the sampled media.

CRC Press

December 2020: 254 x 178: 310pp

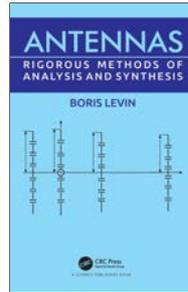
Hb: 978-0-367-65346-0: £120.00

eBook: 978-1-003-13148-9

* For full contents and more information, visit: www.routledge.com/9780367653460

Antennas

Rigorous Methods of Analysis and Synthesis



Boris Levin

The book comprises a new method of solving the integral equation of Leontovich, the most rigorous and most effective equation for the current in thin linear antennas, and describes the features of the application of the new solution method to various types of antennas. It considers new ways of analyzing antennas, in particular the method of electrostatic analogy, which permits the improvement of the directional characteristics of log-periodic and director-type antennas. A new approach to the analysis of the electrical characteristics of a microstrip antenna, which allows the expansion of its operation range, is given. New results of antenna synthesis are obtained.

CRC Press

Market: Electrodynamics

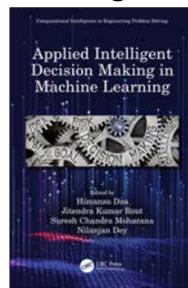
April 2021: 234x156: 322pp

Hb: 978-0-367-48923-6: £64.99

eBook: 978-1-003-04354-6

* For full contents and more information, visit: www.routledge.com/9780367489236

Applied Intelligent Decision Making in Machine Learning



Edited by **Himansu Das**, Kalinga Institute of Industrial Technology, Odisha, India, **Jitendra Kumar Rout**, Kalinga Institute of Industrial Technology, Odisha, India, **Suresh Chandra Moharana**, Kalinga Institute of Industrial Technology, Odisha, India and **Nilanjan Dey**, Dept of Information Technology, Techno India College of Technology, India

Series: Computational Intelligence in Engineering Problem Solving

The objective of this edited book is to share the outcomes on various research domains to develop efficient, adaptive, and intelligent models to handle the challenges related to decision making. It incorporates the advances of machine intelligent techniques such as data streaming, classification, clustering, pattern matching, feature selection, and deep learning in the decision-making process for several diversified applications such as agriculture, character recognition, landslide susceptibility, recommendation system, forecasting air quality, healthcare, exchange rate prediction, and image dehazing.

CRC Press

Market: Computer Science & Engineering

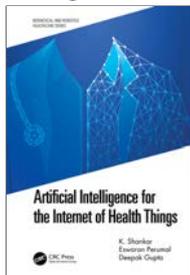
November 2020: 234x156: 262pp

Hb: 978-0-367-50336-9: £105.00

eBook: 978-1-003-04954-8

* For full contents and more information, visit: www.routledge.com/9780367503369

Artificial Intelligence for the Internet of Health Things



K. Shankar, Eswaran Perumal and Deepak Gupta
Series: Biomedical and Robotics Healthcare

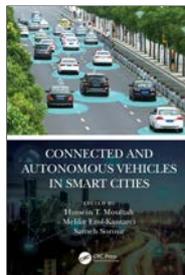
This book discusses research of Artificial Intelligence for the internet of health things. It investigates and explores the possible applications of machine learning, deep learning, soft computing and evolutionary computing techniques in design, implementation, and optimization of challenging healthcare solutions. It features a wide range of topics such as AI techniques, IoT, cloud, wearables, and secured data transmission. Written for a broad audience and specifically those interested in AI-based healthcare applications, this book will be useful for clinicians, health professionals, engineers, technology developers, IT consultants, researchers, and students.

CRC Press

Market: Computer Engineering
April 2021: 234x156: 224pp
Hb: 978-0-367-74497-7: **£110.00**
eBook: 978-1-003-15909-4

* For full contents and more information, visit: www.routledge.com/9780367744977

Connected and Autonomous Vehicles in Smart Cities



Edited by Hussein T. Mouftah, University of Ottawa, Canada, Melike Erol-Kantarci, University of Ottawa, Canada. and Sameh Sorour, Queen's University, Canada.

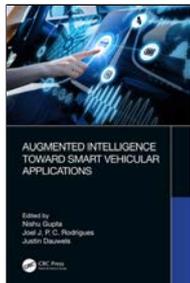
This book contains an archival collection of top quality, cutting-edge and multidisciplinary research on connected autonomous electric vehicles and smart cities. It also details the ground-breaking directions exploiting CAVs in broad spectrum of smart cities applications. The book will be an authoritative reference for smart city decision makers, automotive manufacturers, utility operators, smart-mobility service providers, telecom operators, communications engineers, power engineers, professors, researchers, and students who would like to learn more about the advances in CAEVs connectivity, autonomy, security and integration into smart cities and intelligent transportation systems.

CRC Press

Market: Engineering - Electrical
December 2020: 254 x 178: 516pp
Hb: 978-0-367-35034-5: **£130.00**
eBook: 978-0-429-32940-1

* For full contents and more information, visit: www.routledge.com/9780367350345

Augmented Intelligence Toward Smart Vehicular Applications



Edited by Nishu Gupta, Joel J. P. C. Rodrigues, Federal University of Piauí and Justin Dauwels, Nanyang Technological University, Singapore

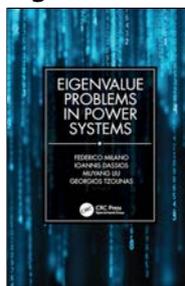
Highlighting the use of latest technologies in smart vehicles, this text will serve an ideal reference for graduate students and academic researchers in the fields of electrical engineering, electronics, and transportation engineering. It discusses important concepts including data processing techniques, graphical methods and multi-modal simulation, machine learning-based monitoring system in autonomous vehicles, edge computing and embedded storage in a comprehensive manner.

CRC Press

Market: Electrical Engineering
December 2020: 234x156: 224pp
Hb: 978-0-367-43546-2: **£115.00**
eBook: 978-1-003-00681-7

* For full contents and more information, visit: www.routledge.com/9780367435462

Eigenvalue Problems in Power Systems



Federico Milano, School of Electrical and Electronic Engineering, University College Dublin, United Kingdom, Ioannis Dassios, AMPSAS, University College Dublin, Ireland, Muyang Liu, School of Electrical and Electronic Engineering, University College Dublin, United Kingdom and Georgios Tzounas, School of Electrical and Electronic Engineering, University College Dublin, United Kingdom

The book provides a comprehensive taxonomy of non-symmetrical eigenvalues problems as applied to power systems. The book bases all formulations on mathematical concept of "matrix pencils" (MPs) and considers both regular and singular MPs for the eigenvalue problems. Each eigenvalue problem is illustrated with a variety of examples based on electrical circuits and/or power system models and controllers and related data are provided in the appendices of the book. Numerical methods for the solution of all considered eigenvalue problems are discussed. The focus is on large scale problems and, hence, attention is dedicated to the performance and scalability of the methods.

CRC Press

Market: Power Engineering
December 2020: 234x156: 406pp
Hb: 978-0-367-34367-5: **£140.00**
eBook: 978-0-429-32531-1

* For full contents and more information, visit: www.routledge.com/9780367343675

Autonomous Safety Control of Flight Vehicles



Xiang Yu, Lei Guo, Youmin Zhang and Jin Jiang

This book presents a systematic methodology for improving the safety of aerospace vehicles in the face of a range of occurrences. Several fundamental issues related to safety are explicitly analyzed according to aerospace engineering system characteristics while, focusing on these safety issues, the safety control design problems of aircraft are studied and elaborated in detail by using systematic design methods. The research results illustrate the superiority of the safety control approaches put forward.

CRC Press

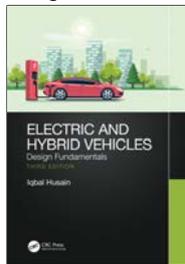
Market: Electrical Engineering, Safety system, Flight Vehicles
February 2021: 229 x 152: 224pp
Hb: 978-0-367-70115-4: **£74.99**
eBook: 978-1-003-14492-2

* For full contents and more information, visit: www.routledge.com/9780367701154

3rd Edition

Electric and Hybrid Vehicles

Design Fundamentals



Iqbal Husain, North Carolina State University, Raleigh, North Carolina, USA

This thoroughly revised third edition presents a comprehensive systems level perspective of electric and hybrid vehicles with emphasis on technical aspects, mathematical relationships, and basic design guidelines. The platform has been set in this book for system level simulations to develop models using various softwares used in academia and industry, such as Matlab/Simulink, PLECS, PSIM, Motor-CAD and Altair Flux. Examples and simulation results are provided in this edition using these software tools. Engineers of multiple disciplines can either get a broader overview or explore in depth a particular

aspect of electric or hybrid vehicles.

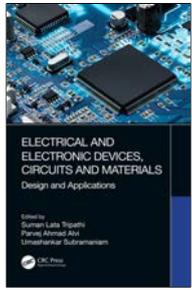
CRC Press

Market: Engineering - Electrical
February 2021: 254 x 178: 498pp
Hb: 978-1-138-59058-8: **£110.00**
eBook: 978-0-429-49092-7
Prev. Ed Hb: 978-1-439-81175-7

* For full contents and more information, visit: www.routledge.com/9781138590588

Electrical and Electronic Devices, Circuits and Materials

Design and Applications



Suman Lata Tripathi, Lovely Professional University, India, **Parvej Ahmad Alvi**, Banasthali Vidyapith, Rajasthan, India and **Umashankar Subramaniam**, College of Engineering, Prince Sultan University, Riyadh

The book will help in the development of basic concepts and fundamentals behind devices, circuits, materials and systems and to develop the understanding of new materials to improve device performance even with smaller dimensions and lower cost. Additionally, the book covers major challenges in MEMS-based device and thin-film fabrication and characterization including their applications in different filed like sensors, actuators and biomedical engineering. It will be helpful for students and researchers to find out key parameters for future

work. The researchers working on devices and circuits can correlate their work with other requirements of advanced Electronic systems.

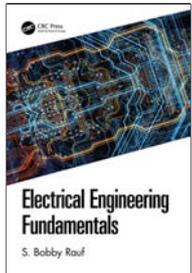
CRC Press

Market: Engineering - Electrical
February 2021: 234x156: 410pp
Hb: 978-0-367-56426-1: **£140.00**
eBook: 978-1-003-09772-3

* For full contents and more information, visit: www.routledge.com/9780367564261



Electrical Engineering Fundamentals



S. Bobby Rauf, SemTrain, LLC, USA.

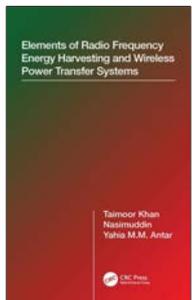
This book provides a clear and strong grasp of electrical engineering fundamentals and a better understanding of electrical engineering terms, principles, laws, analysis methods, solution strategies and computational techniques. It includes a brief introduction to the NEC and the Arc Flash Codes along with tips on improvement of electrical energy intensity in industrial and commercial environment. The readers will also gain certain skills and preparation necessary for succeeding in electrical engineering portion of various certification and licensure exams, i.e. Fundamentals of Engineering, Professional Engineering, Certified Energy Manager, and many other trade certification tests.

CRC Press

Market: Electrical Engineering
December 2020: 234x156: 466pp
Hb: 978-0-367-37608-6: **£140.00**
eBook: 978-0-429-35523-3

* For full contents and more information, visit: www.routledge.com/9780367376086

Elements of Radio Frequency Energy Harvesting and Wireless Power Transfer Systems



Taimoor Khan, Electronics and Communication Engineering Department, National Institute of Technology Silchar, India, **Nasimuddin**, Institute of Infocomm Research Singapore, Singapore and **Yahia M.M. Antar**, Royal Military College of Canada, Ontario, Canada

This is the first book which specifically focuses on RF energy harvesting and comprehensively introduces circuit design for RF energy harvesting and wireless power transfer applications. It focusses on systematic overview of key components for RF energy harvesting and wireless transfer applications. The book serves as a single point of reference for the practicing engineer and researchers for referencing potential sources and elements for RF energy harvesting, to provide rapid training and design guidelines in this area.

CRC Press

Market: Electrical Engineering
November 2020: 234x156: 200pp
Hb: 978-0-367-24678-5: **£89.99**
eBook: 978-0-429-28391-8

* For full contents and more information, visit: www.routledge.com/9780367246785

Emerging Power Converters for Renewable Energy and Electric Vehicles

Modeling, Design, and Control

Edited by **Md Rabiul Islam**, University of Wollongong, NSW, Australia, **Md Rakibuzzaman Shah**, Engineering and IT, Federation University, Australia and **Mohd. Hasan Ali**, University of Memphis, Tennessee, USA

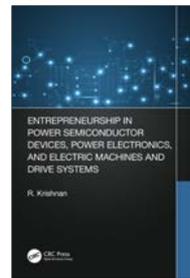
This book covers advancements of power electronic converters and their control techniques for grid integration of large-scale renewable energy sources and electrical vehicles. Major emphasis are on transformer-less direct grid integration, bidirectional power transfer, compensation of grid power quality issues, DC system protection and grounding, and interaction in mixed AC/DC system. This book is an invaluable resource for professionals active in the field of renewable energy and power conversion.

CRC Press

Market: POWER ELECTRONICS
April 2021: 234x156: 424pp
Hb: 978-0-367-52803-4: **£140.00**
eBook: 978-1-003-05847-2

* For full contents and more information, visit: www.routledge.com/9780367528034

Entrepreneurship in Power Semiconductor Devices, Power Electronics, and Electric Machines and Drive Systems



Krishnan Ramu, Ramu, Inc., Blacksburg, VA, USA

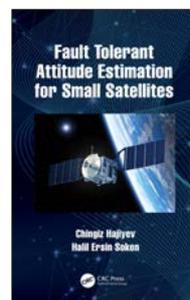
The book introduces basics and methodologies for study of entrepreneurship in electrical and other engineering fields. Entrepreneurship is considered here in three fields of electrical engineering: power semiconductor devices, power electronics and electric machines and drive systems, and their current practice. Each field's emerging applications, current and future market forecasts are introduced to understand the basis and need for emerging startups.

CRC Press

Market: Engineering - Electrical
December 2020: 229 x 152: 450pp
Hb: 978-0-367-55502-3: **£140.00**
eBook: 978-1-003-09379-4

* For full contents and more information, visit: www.routledge.com/9780367555023

Fault Tolerant Attitude Estimation for Small Satellites



Chingiz Hajjiev, Istanbul Technical University, Aeronautical Engineering Dept. and **Halil Ersin Soken**, Japan Aerospace Exploratory Agency (JAXA) Institute of Space and Astronautical Science (ISAS)

Small satellites use commercial off-the-shelf sensors and actuators for attitude determination and control (ADC) to reduce the cost. These sensors and actuators are usually not as robust as the available more expensive space-proven equipment. As a result the smaller systems are vulnerable to more errors more than larger spacecraft. The contents of the book can be categorized in two: fault tolerant attitude filtering algorithms for small satellites and sensor calibration methods to compensate the sensor errors.

CRC Press

Market: Engineering - Electrical
December 2020: 234x156: 352pp
Hb: 978-0-815-36981-3: **£130.00**
eBook: 978-1-351-24883-9

* For full contents and more information, visit: www.routledge.com/9780815369813

2nd Edition

Fieldbus and Networking in Process Automation

Sunit Kumar Sen, University of Calcutta, Kolkata, India

This new edition provides a broad spectrum of different fieldbus protocols. The most important five real time Ethernet-based fieldbuses, viz., EtherNet/IP, EtherCAT, Ethernet Powerlink, SERCOS III and Profinet IRT, have been included for discussion in the revised version. Common Industrial Protocol (CIP), which forms the communication backbone for control automation systems, is also included. Wireless sensor networks along with recently introduced wireless fieldbuses have been taken up for discussion in the last three chapters. This book will be an invaluable resource to students, trainers and industry professionals in process and automation industries.

CRC Press

Market: Engineering - Electrical
April 2021: 234x156: 368pp
Hb: 978-0-367-71238-9: **£130.00**
eBook: 978-1-003-14994-1
Prev. Ed Hb: 978-1-466-58676-5

* For full contents and more information, visit: www.routledge.com/9780367712389**Flexible, Wearable, and Stretchable Electronics**

Edited by **Katsuyuki Sakuma**, IBM Thomas J. Watson Research Center, USA.

Series: Devices, Circuits, and Systems

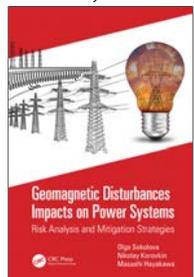
In this book, we provide a comprehensive technological review on the most state-of-the-art developments in FWS electronics. This book provides the reader a taste of what is possible with FWS electronics and how these electronics can provide unique solutions for a wide variety of applications. Furthermore, the book introduces and explains new applications of flexible technology that has opened up the future potential of FWS electronics.

CRC Press

Market: Engineering - Electrical
November 2020: 254 x 178: 372pp
Hb: 978-0-367-20890-5: **£84.99**
eBook: 978-0-429-26394-1

* For full contents and more information, visit: www.routledge.com/9780367208905**Geomagnetic Disturbances Impacts on Power Systems**

Risk Analysis and Mitigation Strategies



Edited by **Olga Sokolova**, Nikolay Korovkin, Peter the Great Saint Petersburg Polytechnic University, Russia. and **Masashi Hayakawa**, University of Electro-Communications, Japan.

This book provides an insight into the GMD as a natural hazard and to perform the risk assessment of its potential impacts on the power systems as critical infrastructures. The reaction of power systems to GMDs and mitigation strategies aiming at reducing and controlling the risks are also addressed. The GMD mitigation strategies, the power systems critical factors analysis, the high-risk zones identification and an estimation of economic loss are also brought to the attention of the reader. Risk engineers, policy-makers, technical experts and non-specialists such as power system operators will find this book useful.

CRC Press

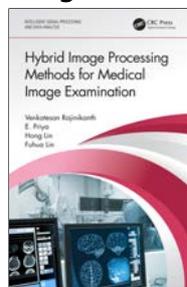
Market: Electrical Engineering
March 2021: 234x156: 268pp
Hb: 978-0-367-68086-2: **£130.00**
eBook: 978-1-003-13415-2

* For full contents and more information, visit: www.routledge.com/9780367680862**Health Informatics and Technological Solutions for Coronavirus (COVID-19)**

Edited by **Suman Lata Tripathi**, School of Electronics and Electrical Engineering, Lovely Professional University, India, **Kanav Dhir**, Department of Chemistry, DAV College, Chandigarh, India, **Deepika Ghai**, School of Electronics and Electrical Engineering, Lovely Professional University, Punjab, India and **Shashikant Patil**, Electronics and Telecommunication Engineering Department, SVKMs NIMMS Shirpur. Discussing machine learning and deep learning techniques to understand exponential behavior as well as predicting the future reachability of the COVID-19 outbreak, this text will be useful as a reference text for graduate students and professional in the field of electrical engineering, electronics and communications engineering, biomedical engineering and nanomaterials.

CRC Press

Market: Electrical and Electronics Engineering
April 2021: 234x156: 376pp
Hb: 978-0-367-70417-9: **£110.00**
eBook: 978-1-003-16106-6

* For full contents and more information, visit: www.routledge.com/9780367704179**Hybrid Image Processing Methods for Medical Image Examination**

Edited by **Venkatesan Rajinikanth**, St. Joseph's College of Engineering, Chennai, India, **E Priya**, Sri Sairam Engineering College, Chennai, India, **Hong Lin**, University of Houston- Downtown, Houston, TX and **Fuhua Lin**, Athabasca University, Canada

Series: Intelligent Signal Processing and Data Analysis

In view of better results expected from examination of medical dataset (images) with a hybrid (integration of thresholding and segmentation) image processing methods, this work focuses on implementation of such a possible Hybrid Image Examination technique for medical images. This book describes various image thresholding and segmentation methods which are essential for the development of such a hybrid processing tool. Further, this book presents the essential details, such as test image

preparation, implementation of a chosen thresholding operation, evaluation of threshold image, implementation of segmentation procedure and its evaluation, supported by pertinent case studies.

CRC Press

Market: Biomedical Imaging
December 2020: 234x156: 200pp
Hb: 978-0-367-53496-7: **£89.99**
eBook: 978-1-003-08222-4

* For full contents and more information, visit: www.routledge.com/9780367534967**Information Spread in a Social Media Age**

Modeling and Control



Edited by **Michael Muhlmeyer**, Sabre Engineering Consulting, USA. and **Shaurya Agarwal**, University of Central Florida, USA.

The book provides a general understanding of modern social media systems, network fundamentals, model development techniques, and social marketing. The mathematical modeling of information spread over social media is heavily emphasized through a review of existing epidemiology and marketing based models. The book then presents novel models developed by the authors to account for modern social media concerns such as community filter bubbles, strongly polarized groups, and contentious information spread. Readers will learn how to build and execute simple case studies using Twitter data to help verify the text's proposed models.

CRC Press

Market: Computer Science & Engineering
March 2021: 234x156: 288pp
Hb: 978-0-367-20871-4: **£100.00**
eBook: 978-0-429-26384-2

* For full contents and more information, visit: www.routledge.com/9780367208714

Intelligent Communication and Automation Systems

Edited by **Kamal Kumar Sharma**, Lovely Professional University, India, **Akhil Gupta**, Lovely Professional University, India, **Bandana Sharma**, Haryana Engineering College, India and **Suman Lata Tripathi**, Lovely Professional University, India

Discussing role of technologies including artificial intelligence and machine learning in the field of communication system, this text will be useful as a reference text for senior undergraduate and graduate students in different areas including electrical engineering, and electronics and communications engineering.

CRC Press

April 2021: 234x156: 352pp

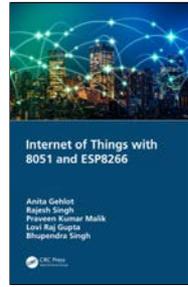
Hb: 978-0-367-60928-3: £125.00

eBook: 978-1-003-10459-9

* For full contents and more information, visit: www.routledge.com/9780367609283



Internet of Things with 8051 and ESP8266



Anita Gehlot, Lovely Professional University, India, **Rajesh Singh**, Lovely Professional University, Jalandhar, India, **Praveen Kumar Malik**, Lovely Professional University, Jalandhar, India, **Lovi Raj Gupta**, Lovely Professional University, India and **Bhupendra Singh**, Schematics Microelectronics, Dehradun, INDIA

This book provides a platform to get started with Internet of Things (IoT) with 8051 including programming basics and interfacing of the devices in designed systems. It presents a unique combination of 8051 with ESP8266 and I/O devices for IoT applications supported by case studies to provide the solutions to real time problems. The programs and circuits are tested on real hardware and explore different areas in IoT

applications. Divided into four sections, it explains the customized boards for IoT applications followed by interfacing of 8051 and ESP8266 with I/O devices. It describes basic to advanced interfacing with special devices, server design and data logger with different platforms.

CRC Press

Market: Circuits and Devices

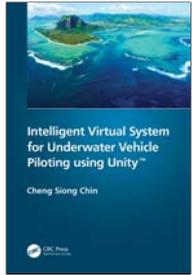
December 2020: 254 x 178: 192pp

Hb: 978-0-367-53478-3: £74.99

eBook: 978-1-003-08213-2

* For full contents and more information, visit: www.routledge.com/9780367534783

Intelligent Virtual System for Underwater Vehicle Piloting using Unity™



Cheng Siong Chin, Newcastle University, Singapore.

This book supports the readers in the development of remotely operated vehicle (ROV) pilot training simulator by exploiting open source or free gaming software and the importance of using established and widely available games design techniques in providing engaging scenarios for the ROV training developers and trainees. There is no such book to guide the users to create an open-source virtual simulator for pilot training in the marine and offshore industry. The book can be used as a reference book for undergraduate and postgraduate, engineers, researchers, and lecturers in VR simulation using Unity™ as the leading software.

CRC Press

Market: Engineering - Electrical

December 2020: 229 x 152: 154pp

Hb: 978-0-367-65394-1: £74.99

eBook: 978-1-003-12928-8

* For full contents and more information, visit: www.routledge.com/9780367653941

Interoperability in IoT for Smart Systems



Edited by **Monideepa Roy**, KIIT– Deemed University, Bhubaneswar, Odisha, India, **Pushpendu Kar**, University of Nottingham, Ningbo, China and **Sujoy Datta**, KIIT– Deemed University, Bhubaneswar, Odisha, India

Series: Intelligent Systems

Interoperability in an IoT system is essential for going through layers of physical network, communication, and application functions. A comprehensive approach is needed to address and solve then interoperability issues of IoT devices and services from different layers. Considering these factors, proposed book discusses about different facets of interoperability issues among the IoT devices and their solutions, the scalability issues in an IoT network and provide solution for plug-n-play of new devices with the existing IoT system. It also discusses the possible usage of interoperable and plug-n-play IoT networks in different systems to make them smarter.

with the existing IoT system. It also discusses the possible usage of interoperable and plug-n-play IoT networks in different systems to make them smarter.

CRC Press

Market: Intelligent Systems

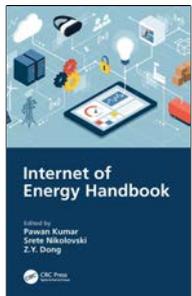
December 2020: 234x156: 254pp

Hb: 978-0-367-51986-5: £99.99

eBook: 978-1-003-05597-6

* For full contents and more information, visit: www.routledge.com/9780367519865

Internet of Energy Handbook



Edited by **Pawan Kumar**, Thapar Institute of Engineering & Technology, India, **Srete Nikolovski**, University of Osijek, Croatia and **Z Y Dong**, University of New South Wales, Australia

The Internet of Energy (IoE), with the integration of advanced information and communication technologies (ICT), has led to a transformation of traditional networks to smart systems. This handbook of research on Internet of Energy provides updated knowledge in the field of energy management with an Internet of Things (IoT) perspective. It explains the technological developments for energy management leading to reduction in energy consumption through topics like smart energy systems, smart sensors, communication, techniques and utilization. Dedicated sections cover varied aspects related to renewable

sources of energy, power distribution and generation and so forth.

CRC Press

Market: Networking Communications

April 2021: 234x156: 248pp

Hb: 978-0-367-49964-8: £99.99

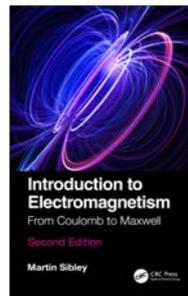
eBook: 978-1-003-04834-3

* For full contents and more information, visit: www.routledge.com/9780367499648

2nd Edition

Introduction to Electromagnetism

From Coulomb to Maxwell



Martin J N Sibley, University of Huddersfield, West Yorkshire, United Kingdom

This edition aims to expand the on the first edition and take the reader through to the wave equation on coaxial cable and free-space by using Maxwell's equations. The new chapters will include time varying signals and fundamentals of Maxwell's equation. This book is intended for first and second year electrical and electronics undergraduates, and can also be used for undergraduates in mechanical engineering, computing and physics. The book will include examples and homework problems.

CRC Press

Market: Electrical Engineering

March 2021: 234x156: 250pp

Hb: 978-0-367-46056-3: £100.00

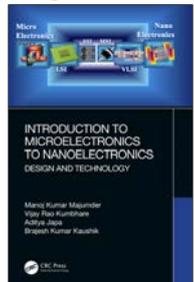
eBook: 978-0-367-46270-3

* For full contents and more information, visit: www.routledge.com/9780367460563



Introduction to Microelectronics to Nanoelectronics

Design and Technology



Manoj Kumar Majumder, IIT, Chhattisgarh, India, Vijay Rao Kumbhare, IIT, Naya Raipur, Chhattisgarh, India, Aditya Japa, IIT, Naya Raipur, Chhattisgarh, India and Brajesh Kumar Kaushik

Focussing on micro- and nanoelectronics design and technology, this book provides thorough analysis and demonstration starting from semiconductor devices to the VLSI fabrication, designing (analog and digital), on-chip interconnect modeling culminating with emerging non-silicon/ nano devices. This book gives detailed description of both theoretical as well as industry standard HSPICE, Verilog, Cadence simulation based real-time modeling approach with focus on fabrication of bulk and nano-devices. Each chapter of this proposed title primarily starts

with a brief introduction of the presented topic and ends with a summary indicating the futuristic aspect including practice questions.

CRC Press

Market: Microelectronics

November 2020: 234x156: 372pp

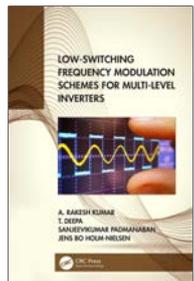
Hb: 978-0-367-50237-9: £94.99

eBook: 978-1-003-04920-3

* For full contents and more information, visit: www.routledge.com/9780367502379



Low-Switching Frequency Modulation Schemes for Multi-level Inverters



A. Rakesh Kumar, School of Electrical Engineering, Vellore Institute of Technology, India, T. Deepa, School of Electrical Engineering, Vellore Institute of Technology, India, Sanjeevikumar Padmanaban, Centre for Bioenergy and Green Engineering, Department of Energy Technology, Aalborg University, Denmark and Jens Bo Holm-Nielsen, Centre for Bioenergy and Green Engineering, Department of Energy Technology, Aalborg University, Denmark

Multi-level Inverters (MLIs) are widely used for conversion of DC to AC power. This book provides various low-switching frequency (LSF) modulation schemes (conventional and improved), which can be implemented on MLIs. The LSF modulation schemes are implemented to three different MLI topologies to demonstrate

their working and aimed at their application to reader invented MLI topologies. Highlighting the advantages of LSF over high-switching frequency (HSF) modulation schemes, the simulations are carried out using MATLAB®/Simulink along with hardware experiments. The practical application of MLIs to renewable energy sources and electric vehicles is also provided at the end of the book.

CRC Press

Market: POWER ELECTRONICS

December 2020: 234x156: 124pp

Hb: 978-0-367-51290-3: £74.99

eBook: 978-1-003-05319-4

* For full contents and more information, visit: www.routledge.com/9780367512903

Mechatronics and Robotics



Edited by Marina Indri, Politecnico di Torino, Italy, and Roberto Oboe, University of Padova, Italy.

This book offers a wide overview of new research trends and challenges for both mechatronics and robotics. The book presents several state-of-the-art solutions, like multiple-stage actuation to cope with conflicting specification of large motion-spans and ultra-high accuracy, model-based control for high-tech mechatronic systems, modern approaches of software systems engineering to robotics, humanoids for human assistance, etc. The reader can find also new techniques in approaching the design of mechatronic systems in some possible industrial and service robotics scenarios, with a particular attention for the interaction between humans and mechanisms.

CRC Press

Market: Electrical Engineering

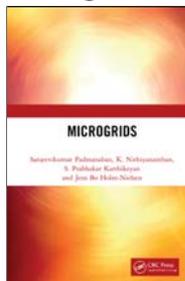
November 2020: 235 x 156: 280pp

Hb: 978-0-367-36658-2: £74.99

eBook: 978-0-429-34747-4

* For full contents and more information, visit: www.routledge.com/9780367366582

Microgrids



Sanjeevikumar Padmanaban, Aalborg University, Denmark, K. Nithyananthan, Department of Electrical and Computer Engineering Faculty of Engineering King Abdul Aziz Univeristy Rabigh, Kingdom of Saudi Arabia, S. Prabhakar Karthikeyan, School of Electrical Engineering, VIT, Vellore, Tamil Nadu, India and Jens Bo Holm-Nielsen, Center for Bioenergy and Green Engineering, Department of Energy Technology, Aalborg University, Esbjerg, Denmark

The main aim of this book is to have a complete discussion and details about micro grid and its applications including modeling of AC/DC and hybrid grid in a tied mode with simulation for the solar systems, wind turbine, bio mass and fuel cells and deployment issues. The data communications and control

mechanism implementations are analysed for proper coordination of the AC/DC micro grid. The various real time applications and future development of the micro grid is also discussed in this book with MATLAB based simulations and results.

CRC Press

Market: Power Engineering

November 2020: 234x156: 102pp

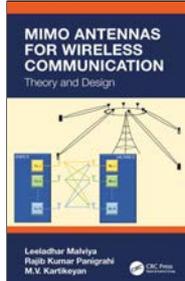
Hb: 978-0-367-41718-5: £74.99

eBook: 978-0-367-81592-9

* For full contents and more information, visit: www.routledge.com/9780367417185

MIMO Antennas for Wireless Communication

Theory and Design



Leeladhar Malviya, Shri G. S. Institute of Technology and Science, Indore (MP), India, Rajib Kumar Panigrahi, Electronics and Computer Engineering, Indian Institute of Technology (IIT), Roorkee, India and M.V. Kartikeyan, Department of Electrical Engineering, Indian Institute of Technology Tirupati, India

The desired objective of the book is to investigate diversity and mutual coupling effects on MIMO antenna designs for WLAN/WiMAX/LTE applications, controlled with diversity and ground modification techniques including equivalent circuit diagrams. Diversity techniques in MIMO antennas leading to the performance improvement ratings are demonstrated and deliberated. The book contributes towards the development of

2:1 VSWR MIMO antennas with diversity techniques for indoor/outdoor applications for high data rate, QOS, and SNR. The improved MIMO antenna structures are investigated and presented in this book including part of massive MIMO to provide the important aspects of emerging technology.

CRC Press

Market: Digital and Wireless Communication

December 2020: 234x156: 222pp

Hb: 978-0-367-53047-1: £110.00

eBook: 978-1-003-08027-5

* For full contents and more information, visit: www.routledge.com/9780367530471

Nanobiotechnology for Green Environment



Edited by Amit Kumar and Chhotu Ram

This book will focus on environmental friendly waste management, wastewater treatment and utilization of wastes for energy. The book examines environmental issues and their solutions with advancements in biotechnology and nanotechnology. This book will be useful for researchers, students, scientists and academicians who are working in multidisciplinary areas like microbiology, biotechnology, nanotechnology to address environmental issues such as water and wastewater treatment, solid waste management and energy resources. Nanobiotechnology for Green Environment covers a variety of environmental issues and how they could be solved through innovations in science, engineering and technology.

CRC Press

Market: Nanobiotechnology

February 2021: 234x156: 304pp

Hb: 978-0-367-46068-6: £99.99

eBook: 978-0-367-46136-2

* For full contents and more information, visit: www.routledge.com/9780367460686

Non-Isolated DC-DC Converters for Renewable Energy Applications

Frede Blaabjerg, Department of Energy Technology, Aalborg University, Esbjerg, Denmark, Mahajan Sagar Bhaskar, Department of Energy Technology, Aalborg University, Esbjerg, Denmark and Sanjeevikumar Padmanaban, Aalborg University, Denmark

This book presents a comprehensive review of various non-isolated DC-DC power converters. The original investigation and scope to design new families of converters, DC-DC multistage power converter topologies, multistage "X-Y converter family", Nx IMBC, Cockcroft Walton Voltage Multiplier based Multistage/Multilevel Power Converter (CW-VM-MPC) converter topologies and Z source and Quasi Z source are discussed to achieve maximum voltage conversion ratio by adapting the passive/active component in the circuits. This book serves as a guide for future development with DC-DC converters for renewable energy application based on cost-effective and reliable solutions.

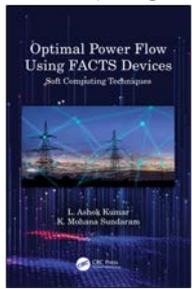
CRC Press

Market: POWER ELECTRONICS
April 2021: 234x156: 224pp
Hb: 978-0-367-65458-0: £99.99
eBook: 978-1-003-12953-0

* For full contents and more information, visit: www.routledge.com/9780367654580

Optimal Power Flow Using FACTS Devices

Soft Computing Techniques



L. Ashok Kumar, PSG College of Technology, Coimbatore, India and K. Mohana Sundaram, Department of Electrical and Electronics Engineering Vel tech Multitech, Chennai

Soft computing techniques and concept of optimization finds prominent place in the resolution of power system problems. The objective of this book is to develop intelligent algorithms for analysing optimal power flow (OPF) and to enhance the power transfer capability of the transmission line with reduced congestion. This book describes the various problems associated with power system operation and control. By providing elaborate studies on FACTS devices using Soft computing metaheuristics algorithms like Firefly, Cuckoo, Flower Pollination and so forth. It enables readers to know about algorithms in real time power

system applications and damping the Sub-Synchronous Resonance oscillations.

CRC Press

Market: Power Engineering
December 2020: 234x156: 238pp
Hb: 978-0-367-56572-5: £99.99
eBook: 978-1-003-09842-3

* For full contents and more information, visit: www.routledge.com/9780367565725

Photonics, Plasmonics and Information Optics

Research and Technological Advances

Edited by Arpan Deyasi, Department of Electronics and Communication Engineering, RCC Institute of Information Technology, Kolkata, India, Pampa Debnath, Asit Kumar Datta, University of Calcutta, Kolkata, India and Siddhartha Bhattacharyya, Christ University, Bengaluru, India

This edited volume covers technological developments and current research trends in the field of photonics, plasmonics and optics focussing on photonic crystals, semiconductor optical devices, optical communications, optical sensors with detailed emphasis on practical sectors. It broadly contains the latest research domains contributed by the experts and researchers in the respective fields with a major focus on the basic physics. Works in the area of electromagnetic bandgap structure and metasurfaces are included for applications in different aspects of communications systems. Further, it covers research phenomena of microwave photonic devices to develop miniaturized high frequency devices.

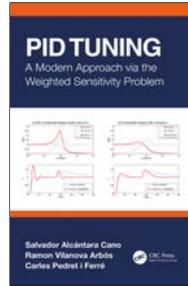
CRC Press

Market: Optics, Lasers & Photonics
April 2021: 234x156: 390pp
Hb: 978-0-367-49734-7: £140.00
eBook: 978-1-003-04719-3

* For full contents and more information, visit: www.routledge.com/9780367497347

PID Tuning

A Modern Approach via the Weighted Sensitivity Problem



Salvador Alcántara Cano, Dept. de Telecomunicació i Enginyeria de Sistemes, Escola d'Enginyeria, UAB, Bellaterra, BCN, SPAIN, Ramon Vilanova Arbós, Universitat Autònoma de Barcelona, Spain and Carles Pedret i Ferré, Dept. de Telecomunicació i Enginyeria de Sistemes, Escola d'Enginyeria, UAB, Bellaterra, BCN, SPAIN

PID controller is the most common option in the realm of control applications, dominant in the process control industry. Amongst the related analytical methods, Internal Model Control (IMC) has gained remarkable industrial acceptance due their robust nature and yield good set-point responses, but result in poor load disturbance rejection for integrating/lag-dominant plants. This book presents an H_{∞} design which avoids some of the

limitations of the IMC method, devised to work well for plants of modest complexity, for which analytical PID tuning is plausible. To alleviate the usual difficulties, plain H_{∞} weighted sensitivity problem has been used including chapters on Hinf and IMC control.

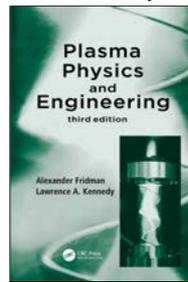
CRC Press

Market: Systems and Controls
November 2020: 254 x 178: 154pp
Hb: 978-0-367-34372-9: £99.99
eBook: 978-0-429-32533-5

* For full contents and more information, visit: www.routledge.com/9780367343729

3rd Edition

Plasma Physics and Engineering



Alexander Fridman, Drexel University, A.J. Drexel Plasma Institute, Philadelphia, Pennsylvania, USA and Lawrence A. Kennedy, University of Illinois at Chicago, Dept. of Mechanical & Industrial Engineering, USA

Plasma Physics and Engineering presents basic and applied knowledge on modern plasma physics, plasma chemistry and plasma engineering for senior undergraduate and graduate students as well as for scientists and engineers, working in academia, research labs and industry with plasmas, laser and combustion systems. This is a unique book providing a clear fundamental introduction to all aspects of modern plasma science, describing all electric discharges applied today from vacuum to atmospheric pressure and higher, from thermal

plasma sources to essentially cold non-equilibrium discharges. A solutions manual is available, which is helpful in relevant university courses.

CRC Press

Market: Physics
February 2021: 254 x 178: 742pp
Hb: 978-1-498-77221-1: £140.00
eBook: 978-1-498-77223-5
Prev. Ed Hb: 978-1-439-81228-0

* For full contents and more information, visit: www.routledge.com/9781498772211

Power and Distribution Transformers

Practical Design Guide

K.R.M. Nair, Federal Transformers Co., UAE.

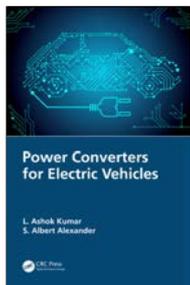
This book gives "step by step" procedures of designing a transformer. Engineers without prior knowledge or exposure to design can follow the procedures and calculation methods to acquire reasonable proficiency of designing a transformer. It can also function as a useful guide for the practicing engineers to undertake new designs, cost optimization, design automation etc., without the need for external help or consultancy. It is based on the 50+ years experience of the author in the Power and Distribution Transformer industry. In addition to the Transformer industry, the book is useful to the Power Utility Engineers, Consultants, Research Scholars and Teaching faculty.

CRC Press

Market: Engineering - Electrical
February 2021: 254 x 178: 510pp
Hb: 978-0-367-53593-3: £130.00
eBook: 978-1-003-08857-8

* For full contents and more information, visit: www.routledge.com/9780367535933

Power Converters for Electric Vehicles



L. Ashok Kumar, PSG College of Technology, Coimbatore, India and S. Albert Alexander, Department of Electrical and Electronics Engineering, Kongu Engineering College, Perundurai, INDIA

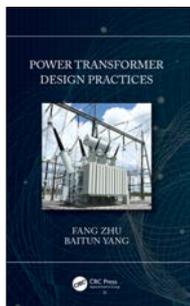
This book gives an overview, topology, design and simulation of different types of converters used in electric vehicles (EV). It covers wide range of topics ranging from the fundamentals of EV, Hybrid EV and its stepwise approach, simulation of the proposed converters for real time applications and its corresponding experimental results, performance improvement paradigms and its overall analysis. Impressing upon need of novel converter topologies, it provides the complete solution for the power converters for electric vehicle applications along with the simulation exercises and experimental results. It explains need of power electronics in the improvement of performance in EV.

CRC Press

Market: POWER ELECTRONICS
December 2020: 234x156: 272pp
Hb: 978-0-367-62685-3: **£120.00**
eBook: 978-1-003-11028-6

* For full contents and more information, visit: www.routledge.com/9780367626853

Power Transformer Design Practices



Fang Zhu, R. E. Uptegraff, USA. and Baitun Yang, R. E. Uptegraff, USA.

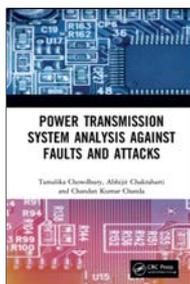
The book presents basic theories of transformer operation, design principles and methods used in power transformer designing work, and also includes limitation criteria, effective utilization of material and calculation examples to enhance reader's techniques of transformer design and testing. The ways to optimize design is also discussed throughout the book as a goal to achieve best performances on economic design. The book is a great reference material for engineers, students, teachers, researchers and anyone involved in the field associated with power transformer design, manufacture, testing, application and service maintenance.

CRC Press

Market: Electrical Engineering
March 2021: 234x156: 328pp
Hb: 978-0-367-41843-4: **£99.99**
eBook: 978-0-367-81686-5

* For full contents and more information, visit: www.routledge.com/9780367418434

Power Transmission System Analysis Against Faults and Attacks



Tamalika Chowdhury, Jain College of Engineering, Belagavi, Karnataka, India, Abhijit Chakrabarti, Jadavpur University, Kolkata, India and Indian Institute of Engineering Science and Technology, Shibpur and Chandan Kumar Chanda, IIST, Shibpur, Kolkata, India

This book deals with the methods of assessment of the grid network vulnerability and addresses the grid collapse problem due to cascaded failures of the transmission network following an attack or an unplanned contingency. It discusses basic mitigation aspects for the network and immunity of such a power transmission network.

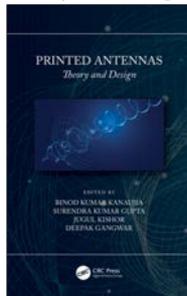
CRC Press

Market: Power Engineering
March 2021: 234x156: 230pp
Hb: 978-0-367-49777-4: **£89.99**
eBook: 978-1-003-04733-9

* For full contents and more information, visit: www.routledge.com/9780367497774

Printed Antennas

Theory and Design



Edited by Binod Kumar Kanaujia, Surendra Kumar Gupta, Jugul Kishor and Deepak Gangwar

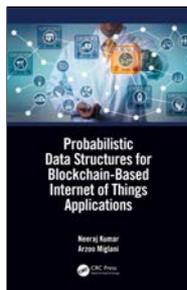
Printed antennas have become integral part of next generation wireless communication and found to be commonly used to improve system capacity, data rate, reliability, etc. This book covers theory, design techniques, and the chronological regression of the printed antennas for various applications. This book will provide readers the basics conceptual knowledge about antenna along with advanced techniques for antenna design. The book covers a variety of analytical techniques and their CAD applications and discusses new applications of printed antenna technology such as sensing. The authors also presents special reconfigurable antennas such as ME dipole, polarization, feeding, DGS.

CRC Press

Market: Electrical Engineering
November 2020: 234x156: 462pp
Hb: 978-0-367-42041-3: **£140.00**
eBook: 978-0-367-42045-1

* For full contents and more information, visit: www.routledge.com/9780367420413

Probabilistic Data Structures for Blockchain-Based Internet of Things Applications



Neeraj Kumar, Thapar Inst of Engg & Tech, INDIA and Arzoo Miglani, Thapar Inst of Engg & Tech, INDIA

This book covers theory and practical knowledge of probabilistic data structures (PDS) and blockchain (BC) concepts. It introduces the applicability of PDS in BC and each PDS has been explained through code snippets and illustrative examples. Further, it covers applications of PDS to BC along with implementation codes in Python.

CRC Press

Market: Computer Science and Engineering
January 2021: 234x156: 320pp
Hb: 978-0-367-52990-1: **£120.00**
eBook: 978-1-003-08004-6

* For full contents and more information, visit: www.routledge.com/9780367529901

Real-Time Systems Development with RTEMS and Multicore Processors



Gedare Bloom, Howard University, Washington, D.C., USA, Joel Sherrill, OAR Corporation, Huntsville, AL, USA, Tingting Hu, University of Luxembourg, Luxembourg and Ivan Cibrario Bertolotti

Series: *Embedded Systems*

This book focuses on enabling real-time embedded software engineering while providing theoretical foundations and hardware background to understand the rationale for key decisions in RTOS and application design and implementation. Some topics covered in this book are - Cross-compilation for embedded systems development; Concurrent programming models used in real-time embedded software; Usage and comparison of two application programmer interfaces (APIs): POSIX and the RTEMS Classic APIs, etc. The authors of this book are experts in the academic field of real-time embedded systems, with two of them primary open-source maintainers of the RTEMS software project.

CRC Press

Market: Engineering - Electrical
November 2020: 234x156: 534pp
Hb: 978-0-815-36597-6: **£130.00**
eBook: 978-1-351-25579-0

* For full contents and more information, visit: www.routledge.com/9780815365976

Robust Cooperative Control of Multi-Agent Systems

A Prediction and Observation Prospective

Chunyan Wang, Zongyu Zuo, Jianan Wang and Zhengtao Ding

This book presents a concise introduction to the latest advances in robust cooperative control design for multi-agent systems with input delay and external disturbances, especially from a predictive and observation perspective. The volume covers a wide range of applications, such as the trajectory tracking of quadrotors, formation flying of multiple unmanned aerial vehicles (UAVs) and fixed-time formation of ground vehicles.

CRC Press

Market: Electrical Engineering, Robust Control, Multi-system Control

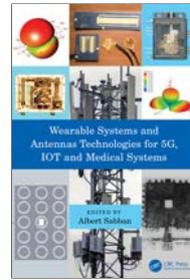
April 2021: 234x156: 232pp

Hb: 978-0-367-75822-6: **£74.99**

eBook: 978-1-003-16414-2

* For full contents and more information, visit: www.routledge.com/9780367758226

Wearable Systems and Antennas Technologies for 5G, IOT and Medical Systems



Edited by **Albert Sabban**, ORT Braude College, Karmiel, Israel

This book covers wearable antennas, RF measurements techniques and measured results in the vicinity of the human body, setups, and design considerations. New topics and design methods are presented for the first time in the area of wearable antennas, metamaterial antennas and fractal antennas. They are increasingly common in consumer electronics and for healthcare and medical applications. Each chapter covers enough mathematical detail and explanations to enable electrical, electromagnetic and biomedical engineers and students, and scientists from all areas, to follow and understand the topics presented.

CRC Press

Market: Electrical Engineering

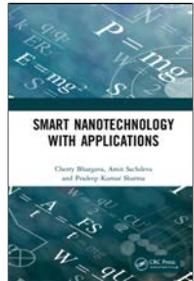
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Cherry Bhargava, Lovely Professional University, Punjab,
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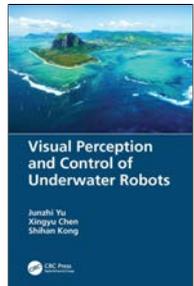
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Junzhi Yu, Xingyu Chen and Shihan Kong

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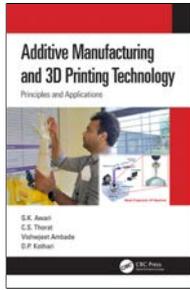
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Additive Manufacturing and 3D Printing Technology

Principles and Applications



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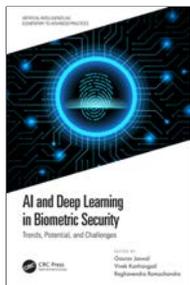
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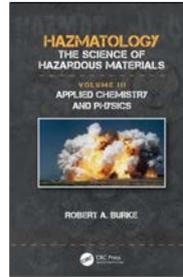
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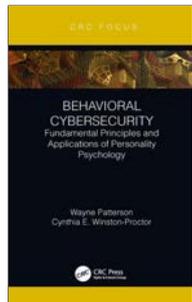


Behavioral Cybersecurity

Fundamental Principles and Applications of Personality Psychology

Wayne Patterson, Private Consultant for Howard University and Cynthia E. Winston-Proctor, Howard University, USA

Since the introduction and proliferation of the Internet, cybersecurity maintenance issues have grown exponentially. The importance of behavioral cybersecurity has recently been amplified by current events, such as misinformation and cyber-attacks related to election interference in the United States and internationally. More recently, similar issues have occurred in the context of the COVID-19 pandemic.



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This book will be of interest to industrial and manufacturing engineers, as well as those involved with engineering management.



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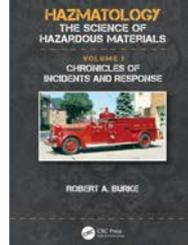
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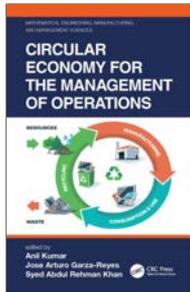
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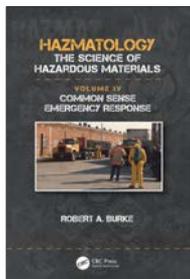
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Common Sense Emergency Response



Robert A. Burke

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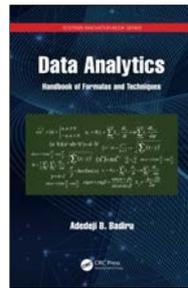
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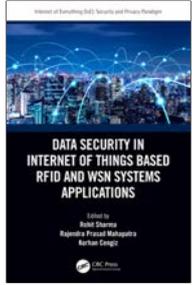
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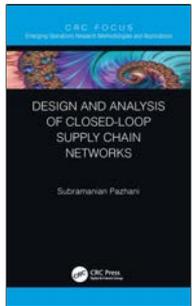
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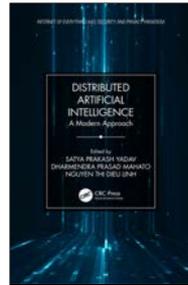
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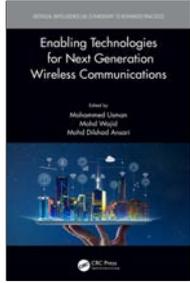
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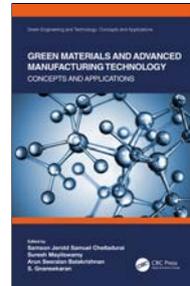
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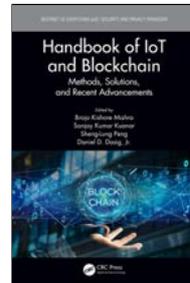
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This book is perfect for academics, aspiring academics, and research students in a wide range of design fields.

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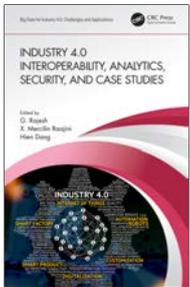
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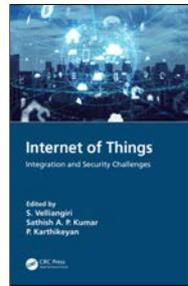
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Internet of Things

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Internet of Things (IoT) is expanding at a rapid rate and it is becoming increasingly important for professionals to understand what it is, how it works, and how to harness its power to improve business. Because of this it's very important to make sure that security is integrated into all IoT systems. This book is ideal for practitioners, undergraduate or graduate students, and researchers.

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This book introduces readers to the inherent concepts of IoT. It offers case studies showing how IoT counteracts the cyber-security concerns for domains, provide suggestions on how to mitigate cyber threats by compiling a catalogue of threats that currently comprise the contemporary threat landscape. It then examines different security measures that can be applied to system installations or operational environment, and the discusses how these measures may alter the threat exploitability level and/or the level of the technical impact.

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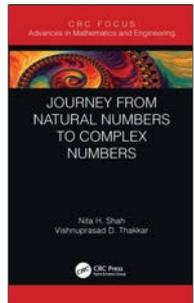
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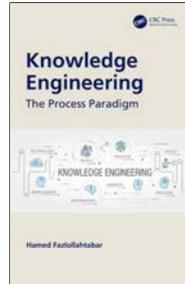
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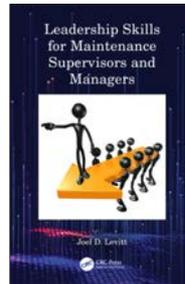
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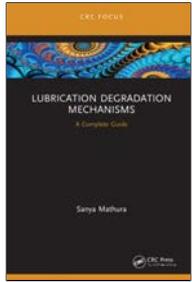
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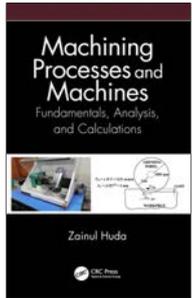
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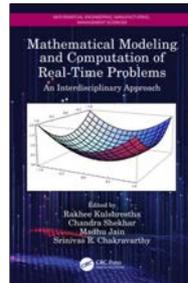
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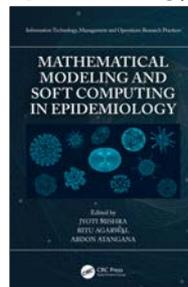
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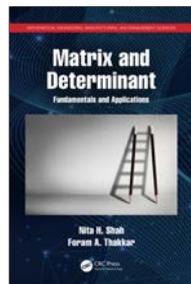
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Christopher Langer, Independent Human Factors Consultant, Psychologist, M4 Initiative, UK

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CRC Press

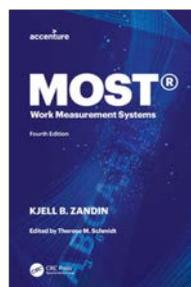
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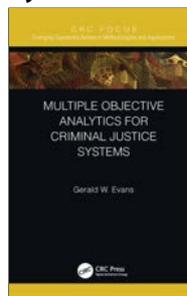
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Gerald W. Evans, University of Louisville, Department of Industrial Engineering, Louisville, KY, USA

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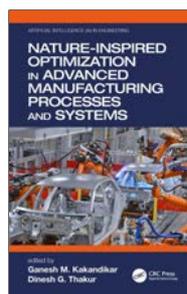
This book reviews the use of analytics to address issues in criminal justice system and discusses the various sources of data associated with the systems. This book is meant to be used by those who would like an introduction to criminal justice systems and an illustration of how some of the various methodologies of analytics can be used to address specific issues in criminal justice systems. This book will be of interest to faculty, students, and researchers in schools/departments of criminal justice, law, public affairs, political science, industrial engineering, and management. The book should be of use to government analysts who study the effects of criminal programs and laws.

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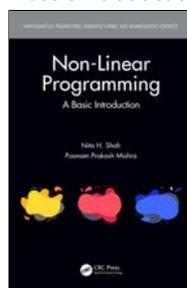
CRC Press

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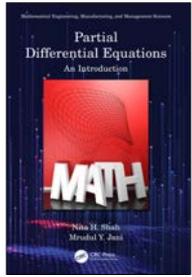
CRC Press

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This book is intended to provide a straightforward introduction to the concept of partial differential equations. It provides a diversity of numerical examples framed to nurture the intellectual level of scholars. It includes enough examples to provide students with a clear concept, and also offers short questions for reader comprehension. Construction of real-life problems are considered in the last chapter along with applications.

Research scholars and students working in the fields of engineering, physics, and different branches of mathematics need to learn the concepts of partial differential equations to solve their problems

CRC Press

Market: Engineering: Industrial and Manufacturing

December 2020: 234x156: 96pp

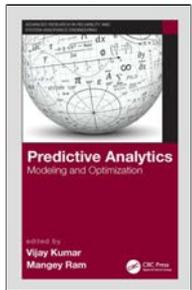
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the desired results for an oil and gas project.

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Muddling Through with Purpose, Volume 6

Edited by Jeffrey Braithwaite, Erik Hollnagel and Garth Hunte

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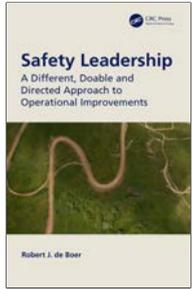
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Robert J. de Boer, Director, Amsterdam Campus, Northumbria University

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CRC Press

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Next Generation Intelligence



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CRC Press

Market: Engineering - Industrial and Manufacturing

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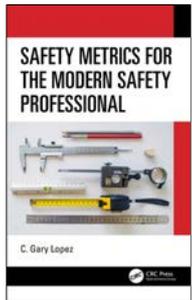
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Safety Metrics for the Modern Safety Professional



C. Gary Lopez

The safety and health profession has been hindered by ineffective metrics for decades, with the primary metrics of choice being the OSHA incident rate and lost time accident rate. This narrow focus on what constitutes loss is not in line with the new concepts of managing the total risk that an organization faces. The book looks at indicators on a tactical level where they can be very effective in providing management with clear direction and "manageable" items they can do to promote the safety efforts of an organization.

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Blockchain to the Rescue



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CRC Press

Market: Engineering - Industrial and Manufacturing

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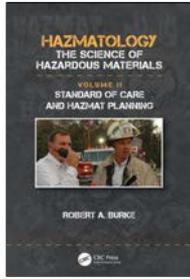
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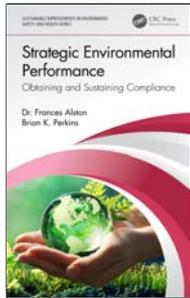
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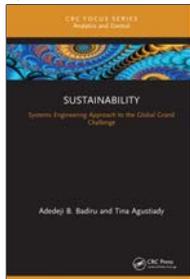
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Sustainability

Systems Engineering Approach to the Global Grand Challenge



Adedeji B. Badiru, Air Force Institute of Technology, Dayton, Ohio, USA and Tina Agustyadi, BASF Chemical, Quincy, Florida, USA

Series: Analytics and Control

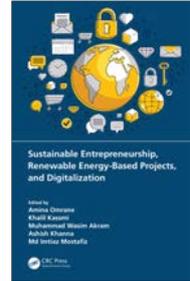
Sustainability is one of the most embraced topics nowadays. Everybody is affected by issues of sustainability. Every organization needs to pay attention to these issues. As long as more people and more organizations are engaging in business and industry activities, there will always be a need for sustainability. The book is ideal for all engineering, business, and management fields.

CRC Press

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March 2021: 216 x 140: 168pp
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eBook: 978-1-003-00502-5

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Sustainable Entrepreneurship, Renewable Energy-Based Projects, and Digitalization



Edited by Amina Omrane, University of Sfax, Tunisia, Khalil Kassmi, University of Oujda, Morocco, Muhammad Wasim Akram, Universiti Teknologi, Malaysia, Ashish Khanna, Maharaja Agrasen Institute of Technology, India and Md Imtiaz Mostafiz, Sheffield Hallam University, UK

Sustainable Entrepreneurship is nowadays considered as a discipline at the cross-roads of many others. This book describes recent cases, techniques and tools proposed for leaders, entrepreneurs, and practitioners who are involved and responsible for making strategic decisions in their companies and aiming at sustainable development. The book walks the reader through the emerging trends in digitalization that can support practitioners, managers, entrepreneurs, and researchers

to help them appreciate the application of sustainable solutions in various functional domains.

CRC Press

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eBook: 978-1-003-09792-1

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Sustainable Product Design and Development



Anoop Desai, Associate Professor, Mechanical Engineering, Georgia Southern University, GA and Anil Mital, Professor, Mechanical Engineering (Retd), University of Cincinnati, OH
Series: Industrial Engineering

This book discusses sustainable product design and development. It considers prolonging the life of a product and minimizing the environmental impact. The book will not only present design practices, but also costing information on designing products for Sustainability.

This book will be of interest to professionals, engineering students, environmental scientists, and those in the business environment.

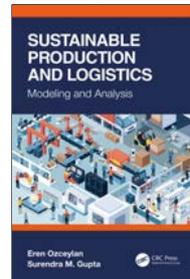
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Sustainable Production and Logistics

Modeling and Analysis



Edited by Eren Ozceylan, Associate Professor, Industrial Engineering Dept., Gaziantep University, Turkey and Surendra M. Gupta, Northeastern University, Boston, Massachusetts

This book presents issues faced by planners of production and distribution operations in terms of smart manufacturing and sustainability, using efficient quantitative techniques in a variety of decision-making situations. The book will be useful worldwide, especially in Europe, Turkey, and Japan. It is written for academicians, researchers, practitioners, and students.

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The Patient Factor

Applications of Patient Ergonomics

Edited by **Rupa S. Valdez**, Associate Professor, Division of Biomedical Informations, School of Medicine, and Systems and Information Engineering, University of Virginia, Charlottesville, Virginia and **Richard J. Holden**, Associate Professor of Medicine, Division of General International Medicine and Geriatrics, Dept. of Medicine, Indiana University School of Medicine, Indianapolis, IN

Patients have always been encouraged to be active participants in managing their health. New technologies, cultural shifts, trends in healthcare delivery, and policies have brought the patients' role in healthcare to the forefront. This volume closely examines notable application areas for the emerging discipline of Patient Ergonomics.

The book is ideal for academics working in healthcare and patient-centered research, their students, human factors practitioners, healthcare professionals, and organizational leaders.

CRC Press

Market: Ergonomics & Human Factors

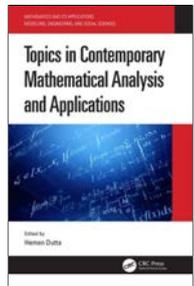
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A Tutorial Approach

Kaushik Kumar, Associate Professor, Department of Mechanical Engineering, Birla Institute of Technology, Mesra, India, **Chikesh Ranjan**, Assistant Professor, Dept. of Mechanical Engineering, RTC Institute of Technology, India and **J. Paulo Davim**, University of Aveiro, Portugal

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This book provides a key understanding of CATIA which is a solid modeling software. By using screen shots of step-by-step training, the reader will obtain comprehensive knowledge of all tools provided in CATIA for use in a variety of engineering fields. The content and treatment of the subject matter is most appropriate for university students studying engineering and practicing engineers who wish to learn the use of CATIA.

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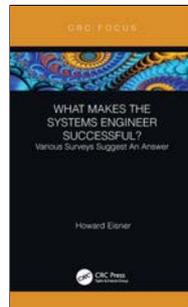
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This book offers a survey of successful attributes of the systems engineer. It focuses on the key positive attributes of what today's systems engineer should be and puts a model in place for achievement and behavior for future systems engineers.

The book, in survey form, provides a description of how and why systems engineers can be, and have been, successful. It offers successful attributes, focuses on the key positive qualities, drills down to the success features to aim for and the failure characteristics to avoid. The ending result is that it sets a model for achievement and behavior for future systems engineers to follow a successful path.

CRC Press

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Acid Mine Drainage

From Waste to Resources

Edited by **Geoffrey S. Simate**, School of Chemical and Metallurgical Engineering, University of the Witwatersrand, Johannesburg, South Africa and **Sehliselo Ndlovu**, School of Chemical and Metallurgical Engineering, University of the Witwatersrand, Johannesburg, South Africa

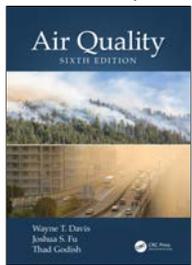
Acid Mine Drainage (AMD) is basically the flow of water polluted with metals and other substances from existing/old mining areas and is considered as one of the source of pollution. A wide range of technologies are available for preventing AMD generation and/or treating the AMD before discharge, but there is a shift towards recovery of industrially useful materials and products from AMD. Therefore, this book explores novel methods developed for the reuse and/or recovery of industrially useful materials from AMD including discussing generation, prediction, prevention, and remediation processes. It includes legislation and policy framework governing AMD and its environmental/health impacts. CRC Press

Market: Mining Engineering
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worldwide air quality conditions.

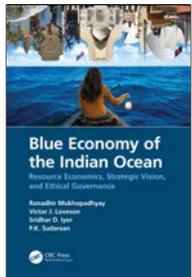
CRC Press
Market: Environmental Engineering
February 2021: 254 x 178: 414pp
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Blue Economy of the Indian Ocean

Resource Economics, Strategic Vision, and Ethical Governance



Ranadhir Mukhopadhyay, **Victor J. Loveson**, **Sridhar D. Iyer** and **P.K. Sudarsan**

This book explores the immense potential of the Indian Ocean region, and how best to maintain sustainable and responsible economic and strategic activities. The combination of science, innovation, and entrepreneurship will create the new blue economy business model, which has the potential to transform society. Based on critical analysis of the model and its practical applications, including risks as well as opportunities, the topics discussed range from food security, energy, resilience to climate change, trade and investments, improved maritime connectivity to tourism, poverty alleviation, and socio-economic growth, crossing a wide range of interests and expertise.

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Paul Mac Berthouex, University of Wisconsin, Madison, USA (retired) and **Linfield C. Brown**, Tufts University, Medford, MA, USA

Cost Engineering for Pollution Prevention and Control examines how monetary and non-monetary factors are evaluated to select the best alternative from competitive engineering proposals-judged with respect to some measure of system performance, such as total capital cost, annual cost, annual net profit, return on investment, cost-benefit ratio, net present worth, minimum production time, maximum production rate, minimum energy utilization, and so on.

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2nd Edition

Cost-Benefit Analysis of Groundwater Policy and Projects, with Case Studies

Charles A. Job, U.S. Environmental Protection Agency, Montgomery Village, Maryland, USA

Series: Groundwater Economics, Second Edition, Two-Volume Set

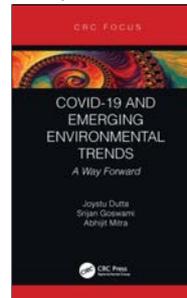
The competition for groundwater sources as a water supply reinforces the need for a strong economic rationale in decision-making. Evaluating economic decisions in the context of total water management and life-cycle water use is essential to making critical development and remediation choices. This revised volume provides fundamental economic and policy concepts related to groundwater, discusses important factors in cost-benefits and life-cycle evaluation, and explains triple-bottom-line analysis for different groundwater projects. It includes new and updated case studies on groundwater issues with solutions for a range of situations based on economic data.

CRC Press
Market: Water Science and Engineering
April 2021: 254 x 178: 410pp
Hb: 978-0-367-20551-5: **£120.00**
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COVID-19 and Emerging Environmental Trends

A Way Forward



Joystu Dutta, Sant Gahira Guru University, Chhattisgarh, India, **Srijan Goswami**, Indian School of Complementary Therapy & Allied Sciences, India and **Abhijit Mitra**, Department of Marine Science, University of Calcutta, Kolkata, India

This book revolves around the COVID-19 and its influence on all biotic and abiotic components on earth, with focus on regulatory role of air quality during this pandemic, municipal solid waste management and COVID-19, how herd immunity influences COVID-19 and so on. With amalgamation of emerging environmental issues and the direct and indirect influences of COVID-19 on all these issues, it explains how pandemics change our thought and reset our priorities for action on a global scale.

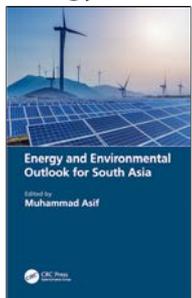
The book also explains control and mitigation of COVID-19 and

cutting-edge research on COVID-19 with an empirical review on scientific efforts.

CRC Press
Market: Environmental Sciences
November 2020: 216x138: 139pp
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Energy and Environmental Outlook for South Asia



Edited by **Muhammad Asif**

South Asia constitutes a key geography in the world today considering its large population and related daunting energy and environmental challenges. Many countries in the region are faced with a growing gap between energy demand and local resources, resulting in an increased dependence on imports. According to the International Energy Agency (IEA), the energy demand in South Asia will grow at a rate more than double that of the world average in the coming decades. This book addresses the critical subject of energy and environmental outlook for South Asia and presents the wider challenges and the responses at the national and regional level.

CRC Press

Market: Environmental Engineering
January 2021: 234x156: 285pp
Hb: 978-0-367-67343-7: **£99.99**
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Environmental Impact Assessments and Mitigation



Edited by **Musaida Mercy Manyuchi**, University of Johannesburg, South Africa, **Charles Mbohwa**, University of Johannesburg, South Africa, **Edison Muzenda**, University of Johannesburg, South Africa and **Nita Sukdeo**

Environmental Impact Assessments and Mitigation examines various assessments for developmental projects in the housing, mining, energy, and waste management areas. As the world continues to shift toward concerns over climate change and environmental protection issues, developmental projects must have environmental impact assessments (EIA) conducted as well as environmental management plans (EMP). This book describes how all phases of a project, from planning, to operation, to post operation, must consider potential environmental impacts and

their mitigation.

CRC Press

Market: Environmental Engineering
December 2020: 235 x 156: 230pp
Hb: 978-0-367-22011-2: **£89.99**
eBook: 978-0-429-27030-7

* For full contents and more information, visit: www.routledge.com/9780367220112

2nd Edition

Environmental Impacts of Mining

Monitoring, Restoration, and Control, Second Edition

Edited by **Mritunjay Sengupta**, University of Alaska

This second edition examines the problems facing the mining industry, and offers practical case studies, as well as new solutions for environmental restoration and remediation. New topics include bioremediation technology, mountaintop surface coal mining, reclamation procedures, environmental impacts of gold mining, mining in different countries worldwide, and the resulting environmental problems. The book is considered a "must have" book for environmental engineers and professionals in the mining industry, geologists, hydrologists, hazardous waste professionals, and academics.

CRC Press

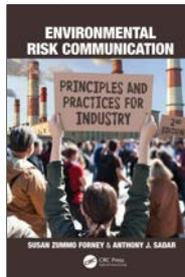
Market: Engineering-Mining
April 2021: 254 x 178: 344pp
Hb: 978-0-367-86100-1: **£120.00**
eBook: 978-1-003-16401-2
Prev. Ed Hb: 978-0-873-71441-9

* For full contents and more information, visit: www.routledge.com/9780367861001

2nd Edition

Environmental Risk Communication

Principles and Practices for Industry



Edited by **Susan Zummo Forney**, EHS Communication Partners, Inc. and **Anthony J. Sadar**, Pittsburgh, Pennsylvania, USA

Modern industry faces many communication challenges, including social media. This second edition is thoroughly updated, expanded, and reorganized to help industry communicators remain effective in addressing these new challenges. At the core of the book are foundational building blocks that address the human factors responsible for driving success or failure when communicating about environmental risk. Coupled with tools and best practices from decades of research, this insider's guide provides CEOs, plant managers, environmental compliance and health and safety officers, etc., with the direction and the confidence needed to prepare for

difficult dialogue and high-pressure encounters.

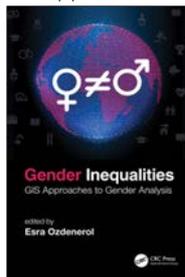
CRC Press

Market: Environmental Science
February 2021: 234x156: 220pp
Hb: 978-0-367-46977-1: **£74.99**
eBook: 978-1-003-08344-3
Prev. Ed Hb: 978-1-566-70490-8

* For full contents and more information, visit: www.routledge.com/9780367469771

Gender Inequalities

GIS Approaches to Gender Analysis



Edited by **Esra Ozdenerol**, Department of Earth Sciences, University of Memphis, TN, USA

Gender inequality is entrenched in the cultural, political and market systems that operate at household, community, and national levels. Global changes in market access, climatic conditions, and the availability of natural resources intensify disparities in income, in assets and in power among genders. This book aims to explain these gender dynamics at macro and micro levels through GIS and spatial analysis. The first part of the book introduces key concepts of how to integrate GIS in gender inequality research. The second part presents more in-depth case studies, carefully selected such as mapping gender-based violence, gender-inequality in the labor force, refugee mapping,

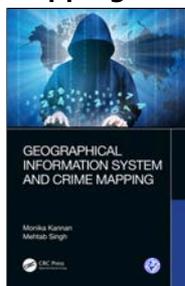
etc.

CRC Press

Market: Environmental Science
February 2021: 234x156: 272pp
Hb: 978-0-367-18473-5: **£74.99**
eBook: 978-0-429-19658-4

* For full contents and more information, visit: www.routledge.com/9780367184735

Geographical Information System and Crime Mapping



Edited by **Monika Kannan**, Sophia Girls' College (Autonomous), Mirshahli, Jaipur Road, Ajmer (Rajasthan), India and **Mehtab Singh**, Department of Geography, M.D. University, Rohtak, India

This book features a diverse array of Geographic Information System (GIS) applications in crime analysis, from general issues as GIS as a communication process, inter-jurisdictional mapping and data sharing to specific applications in tracking serial killers and predicting violence-prone zones. It supports readers in developing and implementing crime mapping techniques. The distribution of crime is explained with reference to theories of human ecology, transport network, the built environment, housing markets, and forms of urban management, including

policing. Concepts are supported with relevant case studies and real time crime data to illustrate concepts and applications of crime mapping.

CRC Press

Market: Environmental Sciences
November 2020: 234x156: 221pp
Hb: 978-0-367-35903-4: **£74.99**
eBook: 978-0-429-34255-4

* For full contents and more information, visit: www.routledge.com/9780367359034

GIS and Machine Learning for Small Area Classifications in Developing Countries



Adegbola Ojo

This book exposes researchers, practitioners, and students to small area segmentation techniques for understanding, interpreting, and visualizing the configuration, dynamics, and correlates of development policy challenges at small scales. It presents strategic and operational responses to these challenges in cost effective ways. Using two developing countries as case studies, the book connects new transdisciplinary ways of thinking about social and spatial inequalities from a scientific perspective with GIS and Data Science. This offers all stakeholders a framework for engaging in practical dialogue on development policy within urban and rural settings, based on real-world examples.

CRC Press

Market: Geodemographics / Developing Countries

December 2020: 234x156: 268pp

Hb: 978-0-367-32244-1: **£99.99**

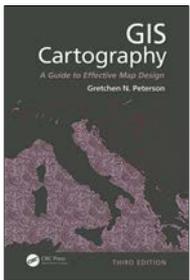
eBook: 978-0-429-31834-4

* For full contents and more information, visit: www.routledge.com/9780367322441

3rd Edition

GIS Cartography

A Guide to Effective Map Design, Third Edition



Gretchen N. Peterson, PetersonGIS, Seattle, Washington, USA

Discussing map design theory and technique rather than map design tools, this book focuses on digital cartography and its best practices. The third edition has completely new sections on how to deal with maps that go viral and the ethics, presentation techniques, features such as amenities, climate data, and hazards, the Equal Earth projection, and vector tile design considerations. All chapters are thoroughly updated with new illustrations and sections for datasets that didn't exist when the 2nd edition was published, as well as new techniques and trends in cartography. This edition is faithful to the original vision that cartography instruction should be software agnostic.

CRC Press

Market: Environmental Science

November 2020: 234x156: 336pp

Hb: 978-0-367-85794-3: **£99.99**

eBook: 978-1-003-04632-5

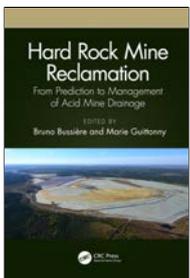
Prev. Ed Hb: 978-1-482-22067-4

* For full contents and more information, visit: www.routledge.com/9780367857943



Hard Rock Mine Reclamation

From Prediction to Management of Acid Mine Drainage



Edited by **Bruno Bussière**, Université du Québec en Abitibi-Témiscamingue, Canada and **Marie Guittonny**, Université du Québec en Abitibi-Témiscamingue, Canada

Hard rock mines affect the territory where they operate through infrastructure construction and resource use. Due to their extractive activities, they store large quantities of wastes at the surface, which can be physically and chemically unstable. Reclamation aims to return a mine site to a satisfactory state that doesn't threaten human health and the surrounding ecosystems. This book focuses on the reclamation of waste storage areas, which constitute the main source of pollution during and after mine operations, especially issues with acid mine drainage and neutral contaminated drainage. It prioritizes the chemical stability

of mine wastes over their physical stability.

CRC Press

Market: Engineering - Environmental

December 2020: 254 x 178: 408pp

Hb: 978-1-138-05451-6: **£130.00**

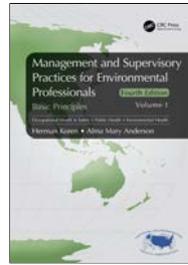
eBook: 978-1-315-16669-8

* For full contents and more information, visit: www.routledge.com/9781138054516

4th Edition

Management and Supervisory Practices for Environmental Professionals

Basic Principles, Volume I



Herman Koren, Indiana State University, Terre Haute, USA and Alma Mary Anderson, Indiana State University Department of Art and Design, Indiana, U.S.A.

Based on the author's lifelong experience as a supervisor and teacher, the fourth edition of this bestseller provides up to date information for professionals and engineers in the fields of environmental health, occupational health and safety, public health and others, who are newly promoted to supervision or aspiring for promotion into management. An excellent resource for students interested in learning management skills before they enter the workforce. The first volume explains the basic principles through 9 sets of tools supervisors need to understand

the structure of the organization, leadership, planning, budgeting, people management, best practices etc.

CRC Press

Market: Environmental Studies

February 2021: 254 x 178: 258pp

Hb: 978-0-367-64702-5: **£110.00**

Pb: 978-0-367-67520-2: **£42.99**

eBook: 978-1-003-13052-9

* For full contents and more information, visit: www.routledge.com/9780367675202

Marine Geology and Geotechnology of the South China Sea and Taiwan Strait



Ronald C. Chaney, Humboldt State University, California, USA

Marine Geology and Geotechnology of the South China Sea and Taiwan Strait examines the physiology, geology, and potential development of this important portion of the western Pacific Ocean's largest marginal sea. The book covers multiple oceanographic topics, and further discusses topography, sedimentation, wave generation, and hazards such as earthquakes, storm surges, and tsunamis. In addition, it explains the engineering issues and design considerations involved regarding a potential Taiwan Strait Crossing, as well as the development of near-shore ocean communities.

CRC Press

Market: Environmental Engineering

November 2020: 234x156: 264pp

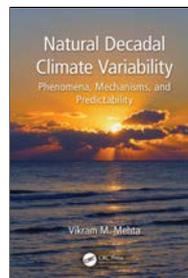
Hb: 978-0-367-60872-9: **£94.99**

eBook: 978-1-003-10232-8

* For full contents and more information, visit: www.routledge.com/9780367608729

Natural Decadal Climate Variability

Phenomena, Mechanisms, and Predictability



Vikram M. Mehta

Natural decadal climate variability (DCV) and anthropogenic climate change (ACC), primarily global warming, are both important to understand to predict the future of climate. They are both also key factors for the adaptation to and mitigation of adverse climate impacts. This book, after familiarizing readers with the importance of understanding and predicting DCV phenomena and its distinction from ACC phenomena, explains comprehensively the physics of DCV and clarifies the results of new observations and research. It addresses the potential questions that can be raised and presents possible solutions, for both observation system requirements and model developments related to DCV.

CRC Press

Market: Environmental Science

November 2020: 234x156: 374pp

Hb: 978-1-138-48414-6: **£120.00**

eBook: 978-1-351-05290-0

* For full contents and more information, visit: www.routledge.com/9781138484146

Principles of Spinning

Fibres and Blow Room Cotton Processing in Spinning



Ashok R. Khare

Series: *Principles of Spinning*

Fibres and Blow Room Cotton Processing initiates by giving basic information about the various types of fibres (natural/artificial) used as textile raw material, for fibre to yarn conversion, including essential and desirable fibre characteristics along with cotton growing. It further offers a brief description of conventional methods of blow room machinery including shortcomings and automation aspects. Pertaining to calculations, many day-to-day examples that a spinner should know are created and solved with an aim to give an idea of how to use the various technical parameters in arriving at the required working data.

CRC Press

Market: Industrial and Manufacturing Engineering

March 2021: 234x156: 296pp

Hb: 978-1-138-59291-9: £120.00

eBook: 978-0-429-48658-6

* For full contents and more information, visit: www.routledge.com/9781138592919

2nd Edition

Production, Use, and Sustainability of Groundwater

Charles A. Job, U.S. Environmental Protection Agency, Montgomery Village, Maryland, USA

Groundwater is becoming increasingly scarce while the demand for water continues to grow at a global scale. Understanding groundwater resources and their sustainable management is imperative for the future of groundwater use, conservation, and protection. This revised and updated volume, focused on sustainability, covers the economic values of groundwater production and use including: micro- and macro-economic factors, economic evaluation tools, climate change, boundary issues, and policy evaluation. It explores numerous applications and describes ways to evaluate the economics of groundwater use in the context of the larger ecosystem and the natural capital it provides.

Market: Water Science and Engineering

April 2021: 254 x 178: 456pp

Hb: 978-0-367-20547-8: £120.00

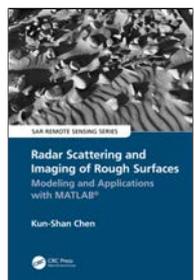
eBook: 978-0-429-26219-7

Prev. Ed Hb: 978-1-439-80900-6

* For full contents and more information, visit: www.routledge.com/9780367205478

Radar Scattering and Imaging of Rough Surfaces

Modeling and Applications with MATLAB®



Kun-Shan Chen, Chinese Academy of Sciences, Beijing, China

Series: *SAR Remote Sensing*

Radar scattering and imaging of rough surfaces is an active, interdisciplinary area of research with many practical applications in fields such as mineral and resource exploration, ocean and physical oceanography, military and national defense, planetary exploration, city planning and land use, environmental science and many more. Focusing on most advanced analytical and numerical modeling, describing both forward and inverse modeling, this book connects scattering process to imaging techniques by vivid examples through numerical and experimental demonstrations and provides computer codes

and practical uses. This book is unique in treating radar scattering and imaging simultaneously.

CRC Press

Market: Environmental Science

November 2020: 234x156: 339pp

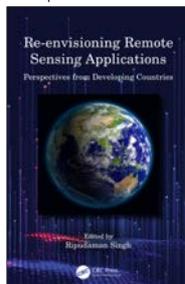
Hb: 978-1-138-54126-9: £115.00

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* For full contents and more information, visit: www.routledge.com/9781138541269

Re-envisioning Remote Sensing Applications

Perspectives from Developing Countries



Edited by Ripudaman Singh, Lovely Professional University, Punjab, INDIA

Re-envisioning Remote Sensing Applications: Perspectives from Developing Countries aims at discussing varied applications of remote sensing, with respect to upcoming technologies with varied themes. Organized into six sections of overlapping areas of research, the book covers chapters with themes related to agricultural, soil and land degradation studies, hydrology, microclimates and climate change, land-use/land cover analysis, resource analysis and watershed management, urbanization and urban problems, and applications of remote sensing in disaster management and planning, culminating with future research agenda. All the topics are supported via case studies

and spatial data analysis.

CRC Press

Market: Remote Sensing and Photogrammetry

March 2021: 229 x 152: 354pp

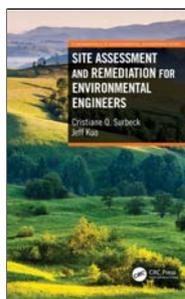
Hb: 978-0-367-50239-3: £110.00

eBook: 978-1-003-04921-0

* For full contents and more information, visit: www.routledge.com/9780367502393



Site Assessment and Remediation for Environmental Engineers



Cristiane Q. Surbeck and Jeff Kuo, California State University, Fullerton, USA

Series: *Fundamentals of Environmental Engineering*

This book serves as a primary textbook for environmental site investigation and remediation of subsurface soil and groundwater. It introduces concepts and principles of field investigative techniques to adequately determine the extent of contamination in the subsurface for the selection of clean-up alternatives. It then focuses on practical calculations and skills needed to design and operate remediation systems that will both educate students and be useful for entry-level professionals in the field.

CRC Press

Market: Environmental Engineering

February 2021: 234x156: 314pp

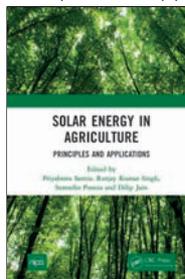
Hb: 978-1-138-38545-0: £99.99

eBook: 978-0-429-42710-7

* For full contents and more information, visit: www.routledge.com/9781138385450

Solar Energy in Agriculture

Principles and Applications



Edited by Priyabrata Santra, Ranjay Kumar Singh, Surendra Poonia and Dilip Jain

The book focuses on all the possible options of solar energy use and generation in agriculture sector. The book covers basic fundamentals of solar energy resources and technologies which are discussed in detail.; Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. The title is co-published with New India Publishing Agency.

CRC Press

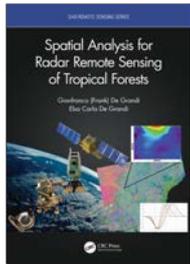
Market: Renewable Energy

January 2021: 229 x 152: 280pp

Hb: 978-0-367-72659-1: £89.99

* For full contents and more information, visit: www.routledge.com/9780367726591

Spatial Analysis for Radar Remote Sensing of Tropical Forests



Gianfranco D. De Grandi and Elsa Carla De Grandi
Series: *SAR Remote Sensing*

This book is based on authors' extensive involvement in large Synthetic Aperture Radar (SAR) mapping projects, targeting the health of an important earth ecosystem, the tropical forests. It highlights past achievements, explains the underlying physics that allow the radar practitioners to understand what radars image, and can't yet image, and paves the way for future developments including wavelet-based techniques to estimate tropical forest structural measures combined with InSAR and Lidar techniques. As first book on this topic, this composite approach makes it appealing for students, learning through

important case studies; and for researchers finding new ideas for future studies.

CRC Press

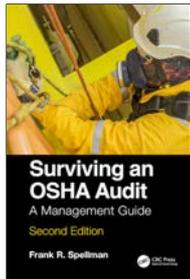
Market: Environmental Science
March 2021: 254 x 178: 504pp
Hb: 978-0-367-25940-2: **£120.00**
eBook: 978-0-429-29065-7

* For full contents and more information, visit: www.routledge.com/9780367259402

2nd Edition

Surviving an OSHA Audit

A Management Guide



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

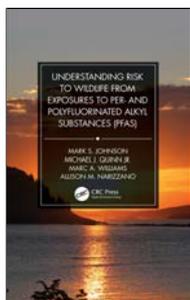
Hailed on its first publication as a masterly account detailing a roadmap for compliance with workplace standards, regulations, and rules, *Surviving an OSHA Audit: A Management Guide, Second Edition*, is specifically designed for managers and other professionals who seek to provide a safe work environment. It also serves as a helpful reference for those who want to keep OSHA from repeatedly knocking on the door and issuing citations that can be both embarrassing and expensive. Completely revised and updated with eight important chapters added, emphasis is placed on compliance through vigilance and proper work practices.

CRC Press

December 2020: 254 x 178: 260pp
Hb: 978-0-367-65074-2: **£74.99**
eBook: 978-1-003-12773-4
Prev. Ed Hb: 978-1-566-76638-8

* For full contents and more information, visit: www.routledge.com/9780367650742

Understanding Risk to Wildlife from Exposures to Per- and Polyfluorinated Alkyl Substances (PFAS)



Mark S. Johnson, Michael J. Quinn Jr., Marc A. Williams and Allison M. Narizzano

This provides the most recent summary of toxicity data relevant to mammals, birds, reptiles, and amphibians and provides values for use in risk assessment applications. Predicting the bioaccumulation of PFAS in terrestrial wildlife (including humans) has proven to be extremely complex. As a group, they act differently than traditional non-ionic organic molecules where they can breakdown and reform, while some are demonstrated to be extremely persistent. Where sufficient data are provided, the book establishes toxicity reference values (TRVs), which are derived to assist in characterizing environmental sources and making risk-based decisions.

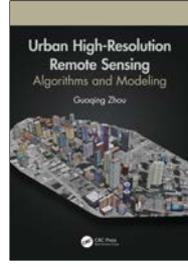
CRC Press

Market: Environmental Engineering
April 2021: 234x156: 192pp
Hb: 978-0-367-75407-5: **£99.99**
eBook: 978-1-003-16247-6

* For full contents and more information, visit: www.routledge.com/9780367754075

Urban High-Resolution Remote Sensing

Algorithms and Modeling



Guoqing Zhou

Advanced sensor technologies and image processing methodologies such as deep learning, and data mining, facilitate the wide applications of remote sensing technology in urban areas. This book presents advanced image processing methods and algorithms focused on three very important roots of urban remote sensing: 3D urban modelling using different remotely sensed data, urban orthophotomap generation, and urban feature extraction. Readers are provided with valuable research studies and applications-oriented chapters in areas such as urban trees, soil moisture mapping, city transportation, urban remote sensing big data, etc.

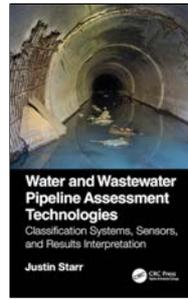
CRC Press

Market: Environmental Studies
December 2020: 254 x 178: 368pp
Hb: 978-0-367-85750-9: **£115.00**
eBook: 978-1-003-08243-9

* For full contents and more information, visit: www.routledge.com/9780367857509

Water and Wastewater Pipeline Assessment Technologies

Classification Systems, Sensors, and Results Interpretation



Justin Starr

Water and Wastewater Pipeline Assessment Technologies: Classification Systems, Sensors, and Results Interpretation provides a thorough guide to the technical workings of some of the most popular water and wastewater assessment technologies available, including CCTV crawlers, acoustic listening devices, laser sensors, 360° video cameras, pipe penetrating radar, and more. This book provides a mixture of theory and real-world, practical considerations ranging from deployment tips and data exchange formats to the technical limitations of different technologies.

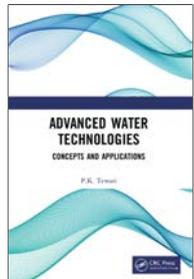
CRC Press

Market: Environmental Engineering
May 2021: 234x156: 288pp
Hb: 978-0-367-18845-0: **£99.99**
eBook: 978-0-429-19873-1

* For full contents and more information, visit: www.routledge.com/9780367188450

Advanced Water Technologies

Concepts and Applications



P.K. Tewari, Bhabha Atomic Research Centre, Mumbai, India

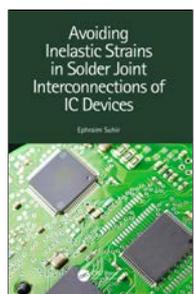
The book aims to provide the basic concepts and advanced topics in the field of water technologies in an easy to understand manner. It will extensively deal with advances in materials, material selection, preparation, characterization and application aspects including relevance of water technologies in industries. Emphasis will be given to nuclear desalination, low carbon desalination and water purification technologies to address the climate change issues as well as adverse impact of climate change both from adaptation and mitigation point of view. Section will be dedicated to description and analysis for technologies needed for water reuse and advanced purification including desalination.

CRC Press

Market: Chemical Engineering
December 2020: 234x156: 272pp
Hb: 978-1-138-10660-4: **£120.00**
eBook: 978-1-315-10151-4

* For full contents and more information, visit: www.routledge.com/9781138106604

Avoiding Inelastic Strains in Solder Joint Interconnections of IC Devices



Ephraim Suhir, Portland State University, Portland, USA

The book addresses analytical (mathematical) modeling approaches aimed at understanding the underlying physics and mechanics of the behavior and performance of solder materials and solder joint interconnections of IC devices. The emphasis is on design for reliability, including probabilistic predictions of the solder lifetime. It helps the reader predict and minimize, at the design stage and using analytical modeling concepts and approaches, the stresses and strains in solder joint interconnects of IC devices.

CRC Press

Market: Materials Science
January 2021: 234x156: 398pp
Hb: 978-1-138-62473-3: **£130.00**
eBook: 978-0-429-46047-0

* For full contents and more information, visit: www.routledge.com/9781138624733

Carbon Membrane Technology

Fundamentals and Applications



Edited by Xuezhong He and Izumi Kumakiri

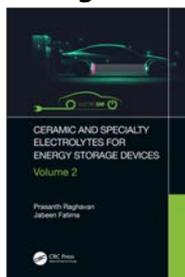
Carbon membranes have great advantages of strong mechanical strength and high chemical stabilities, as well as high separation performance to reach the industrial attractive region. The aim of this book is to provide the fundamentals on carbon membrane materials for the young researchers and engineers to develop frontier membrane materials for energy efficient separation process. This book describes the status and perspectives of both self-supported and supported carbon membranes from fundamentals to applications. In the end, different potential applications both in gas and liquids separation are well described, and the future directions for carbon membrane development were pointed out.

CRC Press

Market: Chemical Engineering
November 2020: 234x156: 184pp
Hb: 978-1-138-33337-6: **£115.00**
eBook: 978-0-429-44598-9

* For full contents and more information, visit: www.routledge.com/9781138333376

Ceramic and Specialty Electrolytes for Energy Storage Devices



Edited by Prasanth Raghavan, Cochin University of Science and Technology, India and Jabeen Fatima, Cochin University of Science and Technology, India

This book will be of high value to researchers and engineers working on the development of next-generation energy storage devices, including materials and chemical engineers, as well as those involved in related disciplines.

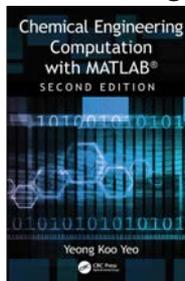
CRC Press

March 2021: 234x156: 344pp
Hb: 978-0-367-70144-4: **£120.00**
eBook: 978-1-003-14481-6

* For full contents and more information, visit: www.routledge.com/9780367701444

2nd Edition

Chemical Engineering Computation with MATLAB®



Yeong Koo Yeo, Hanyang University, Seoul, South Korea

This new edition continues to present basic to advanced levels of problem-solving techniques using MATLAB. It provides even more examples and problems extracted from core chemical engineering subject areas and all code is updated to MATLAB version 2020. It also includes a new chapter on computational intelligence. This essential textbook readies engineering students, researchers, and professionals to be proficient in the use of MATLAB to solve sophisticated real-world problems within the interdisciplinary field of chemical engineering.

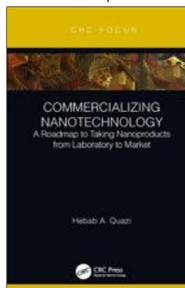
CRC Press

Market: Engineering - Chemical
December 2020: 254 x 178: 847pp
Hb: 978-0-367-54782-0: **£115.00**
eBook: 978-1-003-09060-1
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Commercializing Nanotechnology

A Roadmap to Taking Nanoproducts from Laboratory to Market



Hebab A. Quazi, MARTECH International, Inc. Houston, TX, USA

Millions of dollars are being invested in basic research and engineering, but practical resources for taking these potentials through technology development, testing, and commercialization are quite limited. This book provides a step-by-step roadmap for taking the results of laboratory research on nanotechnology and nanomaterials and developing them into successful and profitable commercial ventures. It details the methodology, techniques, and pathways for technology-readiness assessment, testing protocols, and commercialization and discusses manufacturing techniques including their limitations and challenges.

CRC Press

Market: Nanoscience & Technology
November 2020: 216x138: 80pp
Hb: 978-1-138-03191-3: **£68.99**
eBook: 978-0-429-18891-6

* For full contents and more information, visit: www.routledge.com/9781138031913

Concise Handbook of Waste Treatment Technologies



Saleh S. Al Arni and Mahmoud M. Elwaheidi

With specialized and succinct coverage, this book provides readers with an integrated overview of various waste treatment technologies and related issues. Instead of dealing separately with each type of waste material, the book summarizes important waste treatments from a holistic perspective. This guidebook is written for early career professionals, non-specialists, and specialists seeking to understand waste and its proper management and disposal techniques.

CRC Press

Market: Environmental and Chemical Engineering

December 2020: 234x156: 158pp

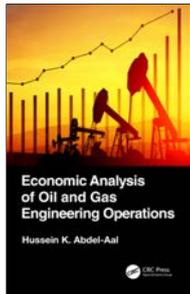
Hb: 978-0-367-63130-7: **£170.00**

Pb: 978-0-367-63129-1: **£68.99**

eBook: 978-1-003-11226-6

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Economic Analysis of Oil and Gas Engineering Operations



Hussein K. Abdel-Aal

This book focuses on economic treatment of petroleum engineering operations and serves as a helpful resource for making practical and profitable decisions in oil and gas field development. This work will be of value to practicing engineers and industry professionals, managers, and executives working in the petroleum industry who have the responsibility of planning and decision making, as well as advanced students in petroleum and chemical engineering studying engineering economics, petroleum economics and policy, project evaluation and plant design.

CRC Press

Market: Petroleum Engineering

February 2021: 234x156: 382pp

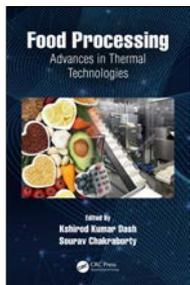
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eBook: 978-1-003-13769-6

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Food Processing

Advances in Thermal Technologies



Edited by **Kshirod Kumar Dash**, Department of Food Engineering and Technology, Tezpur University, Tezpur, Assam, India and **Sourav Chakraborty**, Department of Food Engineering and Technology, Tezpur University, Tezpur, Assam, India

In food processing, thermal operations are the most common and conventional methods for obtaining and treating different products. This book covers basics and advancements in thermal processing of food including drying processes, evaporation, blanching, deep fat frying, crystallization, extraction, and ohmic heating and so forth, in terms of food engineering and process design aspect. It further describes theoretical aspects, the basics of rate kinetics, and their application for the analysis of food

quality indices including practical oriented issues related to food technology. Traditional as well as new extraction techniques are also covered.

CRC Press

Market: Food Engineering and Processing

April 2021: 234x156: 248pp

Hb: 978-0-367-33720-9: **£140.00**

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Hazards and Safety in Process Industries

Case Studies

Mihir Kumar Purkait, Chemical Engineering Department, Indian Institute of Technology, Guwahati, India, **Piyal Mondal**, Chemical Engineering Department, Indian Institute of Technology, Guwahati, India, **Murchana Changmai**, Indian Institute of Technology Guwahati, Assam, India, **Vikranth Volli**, National Yunlin University of Science and Technology, Douliu City, Taiwan (ROC) and **Chi-Min Shu**, National Yunlin University of Science and Technology, Douliu City, Taiwan (ROC)

Safety in process industries is of utmost necessity to ensure protection from hazards. The aim of this book is to elucidate the hazards and preventive measures for a few of such specific industrial process. Starting with overview of the prevalent industrial accidents, types of hazards and safety provisions, the book contains nineteen chapters with each one of them consists of a unique case study comprising of basic causes, results and discussion, and protective measures to be adopted to overcome the situation. Topics covered include caprolactam storage tank accident, fire explosion accident caused by static electricity and human factors risk and management in process safety and so forth.

CRC Press

Market: Chemical Processing and Design

March 2021: 234x156: 312pp

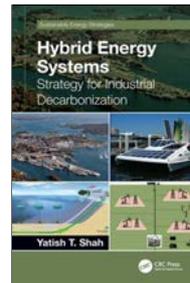
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CRC Press

Market: Energy Engineering

April 2021: 234x156: 632pp

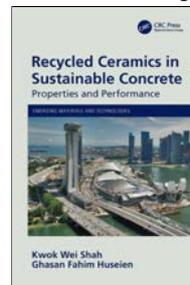
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Hybrid energy systems integrate multiple sources of power generation, storage, and transport mechanisms and can facilitate increased usage of cleaner, renewable, and more efficient energy sources. This book discusses hybrid energy systems from fundamentals through applications and discusses generation, storage, and grids. The book will be of interest to advanced students and researchers in academia, government, and industry seeking a comprehensive overview of the basics, technologies, and applications of hybrid energy systems.

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An Introduction to Electrochemical Impedance Spectroscopy

Ramanathan Srinivasan, Department of Chemical Engineering, IIT Madras, Chennai, India and Fathima Fasmin, Department of Chemical Engineering, NIT Calicut, Calicut, India

This book covers fundamental aspects and application of electrochemical impedance spectroscopy (EIS), with emphasis on step-by-step procedure for mechanistic analysis of data. It enables the reader to learn the EIS technique, correctly acquire data from a system of interest, and effectively interpret the same. Detailed illustrations of how to validate the impedance spectra, use equivalent circuit analysis, and identify the reaction mechanism from the impedance spectra are given, supported by derivations and examples. MATLAB® programs for generating EIS data under various conditions are provided along with free online video lectures to enable easier learning.

CRC Press

Market: Chemical Engineering

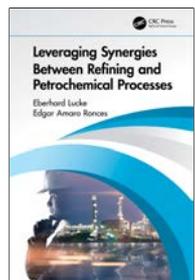
May 2021: 234x156: 288pp

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Leveraging Synergies Between Refining and Petrochemical Processes



Eberhard Lucke, NiQuan Energy LLC and Edgar Amaro Ronces, Jacobs Engineering

This book provides a detailed description of the interfaces and connections between crude oil refining and petrochemicals. It offers a view of global and regional markets and economic opportunities for synergies between these sectors. The work serves as a reference that provides introductory and explanatory material as well as in-depth insight into future technology and market developments to help engineers and industry professionals understand the challenges and the potential benefits of developing expansion or optimization projects that may bridge the line between refining and petrochemicals.

CRC Press

Market: Engineering- Chemical

December 2020: 234x156: 147pp

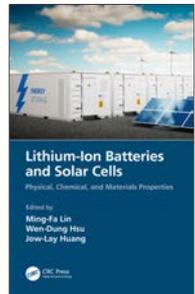
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Lithium-Ion Batteries and Solar Cells

Physical, Chemical, and Materials Properties



Ming-Fa Lin, Department of Physics, National Cheng Kung University, Wen-Dung Hsu, National Cheng Kung University Department of Materials Science and Engineering 1st Daxue Road Tainan City, Taiwan 70101 and Jow-Lay Huang

This book presents a thorough investigation of diverse physical, chemical, and material properties and special functionalities of lithium-ion batteries and solar cells. It covers theoretical simulations and high-resolution experimental measurements that promote a full understanding of the basic science to develop excellent device performance. This book will be of interest to materials scientists and engineers developing enhanced batteries and solar cells for peak performance.

CRC Press

Market: Materials Science

January 2021: 234x156: 308pp

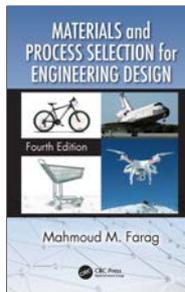
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Mahmoud M. Farag, The American University in Cairo, Egypt

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CRC Press

Market: Materials Science

December 2020: 234x156: 562pp

Hb: 978-0-367-43834-0: £190.00

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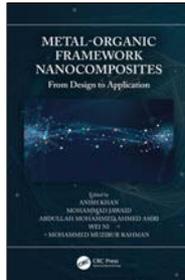
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Metal-Organic Framework Nanocomposites

From Design to Application



Edited by Anish Khan, King Abdulaziz University, Makkah, Saudi Arabia, Mohammad Jawaid, Universiti Putra Malaysia, Serdang, Abdullah Mohammed Ahmed Asiri, Wei Ni and Mohammed Muzibur Rahman, King Abdulaziz University, Saudi Arabia

This book assembles the latest advances in MOF nanocomposites, emphasizing their design, characterization, manufacturing, and application, and offers a wide-ranging view of these materials with exceptional physical and chemical properties. The book discusses various types of MOF materials, such as polyaniline MOF nanocomposites, magnetic MOF nanocomposites, and carbon nanotube-based MOF nanocomposites. Chapters on the usage of these materials in pollutant removal, electrochemical devices, photocatalysts, biomedical applications, and other applications are also included.

CRC Press

Market: Materials Science and Engineering

November 2020: 234x156: 355pp

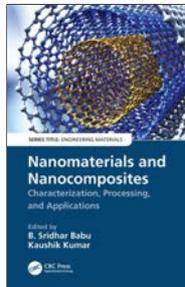
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Nanomaterials and Nanocomposites

Characterization, Processing, and Applications



Edited by B. Sridhar Babu, Professor, CMR Institute of Technology, India and Kaushik Kumar

Series: *Engineering Materials*

This book discusses the most recent research in nanomaterials and nanocomposites for a range of applications, as well as modern characterization tools and techniques. It deals with nanocomposites that contain a dispersion of nanosized particulates and carbon nanotubes in their matrices (polymer, metal, and ceramic). This book enables an efficient comparison of properties and capabilities for these advanced materials, making it relevant for academic research and industrial R&D into nanomaterials processing and application.

CRC Press

Market: Materials Science and Engineering

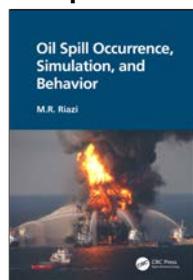
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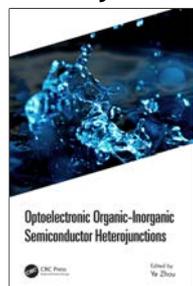
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Optoelectronic Organic-Inorganic Semiconductor Heterojunctions



Edited by Ye Zhou

The book summarizes advances in development of organic-inorganic semiconductor heterojunctions, challenges and possible solutions for material/device design, and prospects for commercial applications. It introduces the concept and basic mechanism of semiconductor heterojunctions. It describes a series of organic-inorganic semiconductor heterojunctions with desirable electrical and optical properties for optoelectronic devices. Typical devices such as solar cells, photo-detectors and optoelectronic memories are discussed. Materials, device challenges, and strategies are discussed to promote the commercial translation of semiconductor heterojunction based optoelectronic devices.

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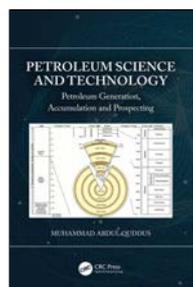
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Muhammad Abdul Quddus, Retired Petroleum Professional, Pakistan

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These volumes will be of high value to researchers and engineers working on the development of next-generation energy storage devices, including materials and chemical engineers, as well as those involved in related disciplines.

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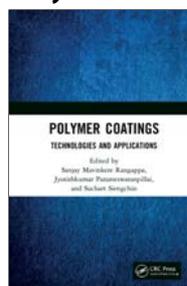
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Polymer Coatings: Technologies and Applications



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This book provides a comprehensive account of recent developments in polymer coatings, encompassing novel methods, techniques, and a broad spectrum of applications. Chapters explore key aspects of polymer coatings, highlighting fundamental research, different types, and technology advances. It also integrates various aspects of these materials from synthesis to application. Current status, trends, future directions, and opportunities are also discussed. With contributions from top

international researchers from industry, academia, government, and private research institutions, new and experienced readers will benefit from this applications-oriented book.

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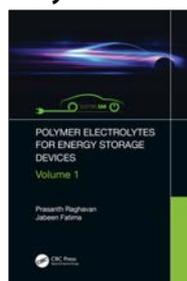
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Polymer Electrolytes for Energy Storage Devices



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This book will be of high value to researchers and engineers working on the development of next-generation energy storage devices, including materials, chemical, electrical, and mechanical engineers, as well as those involved in related disciplines.

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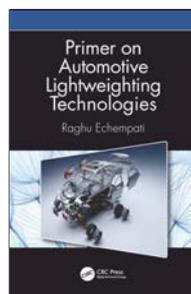
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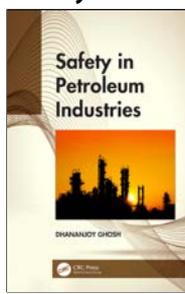
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Dhananjay Ghosh, Petroleum Consultant, Kolkata, India

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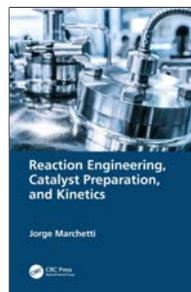
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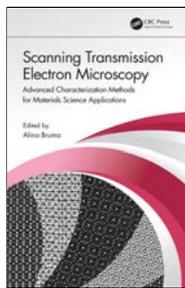
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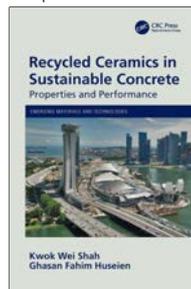
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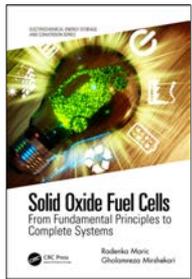
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From Fundamental Principles to Complete Systems



Radenka Maric, University of Connecticut, Storrs, USA and
Gholamreza Mirshekari, University of Connecticut, Storrs
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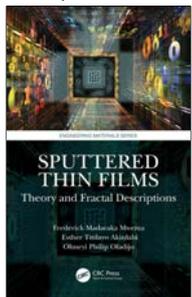
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Sputtered Thin Films

Theory and Fractal Descriptions



Frederick Madaraka Mwema, **Esther Titilayo Akinlabi** and
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biomedical engineering.

CRC Press

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April 2021: 234x156: 256pp
Hb: 978-0-367-49256-4: **£130.00**
eBook: 978-1-003-05350-7

* For full contents and more information, visit: www.routledge.com/9780367492564

Sustainable Bioprocessing for a Clean and Green Environment

Concepts and Applications

Edited by **M. Jerold**, **A. Santhiagu**, **Rajulapati Sathish Babu** and **Narasimhulu Korapatti**

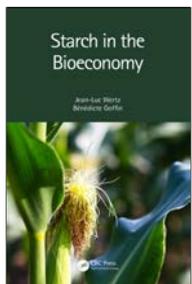
This book highlights the importance of waste to health in which waste is safely converted to value-added products via bioprocess technologies. Providing fundamental concepts and applications, this book also offers readers the methodology behind the operation of a variety of biological processes used in developing valuable products from waste. This interdisciplinary book is essential for researchers in chemical, environmental, and bioprocess engineering.

CRC Press

Market: Chemical Engineering
April 2021: 234x156: 336pp
Hb: 978-0-367-45908-6: **£120.00**
eBook: 978-1-003-03539-8

* For full contents and more information, visit: www.routledge.com/9780367459086

Starch in the Bioeconomy



Jean-Luc Wertz and **Bénédicte Goffin**

Starch is the most widespread and abundant reserve carbohydrate in plants and is unique in that it can be used for food, materials in biobased products, and energy. This book covers structure, biosynthesis, biodegradation, properties, and applications of starch in the context of the bioeconomy. The book is aimed at researchers and industry professionals focused on the development of starch science, technology, and economics. Built on a reliable and well-documented base of information, the book presents the paths that remain to be taken to decipher this still mysterious resource that has contributed so much to the rise of humanity.

CRC Press

Market: Chemical Engineering
December 2020: 234x156: 200pp
Hb: 978-0-367-63040-9: **£99.99**
eBook: 978-1-003-11198-6

* For full contents and more information, visit: www.routledge.com/9780367630409

Sustainable Urban Mining of Precious Metals

Sadia Ilyas, Department of Chemistry, University of Agriculture Faisalabad (UAF), Pakistan, **Hyunjung Kim**, Jeonbuk National University, Jeonju, Republic of Korea and **Rajiv Ranjan Srivastava**, Duy Tan University, Vietnam

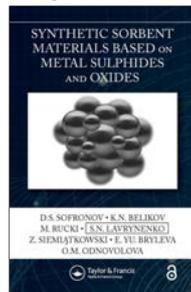
This book provides a detailed review of extraction techniques for urban mining of precious metals like gold, silver and platinum groups. Periodical growth levels of spent sources, management necessities and correlation with circular economy, merits and demerits of methods, and environmental impact of every process is described.

CRC Press

Market: Metals and Alloys
March 2021: 234x156: 268pp
Hb: 978-0-367-51750-2: **£120.00**
eBook: 978-1-003-05506-8

* For full contents and more information, visit: www.routledge.com/9780367517502

Synthetic Sorbent Materials Based on Metal Sulphides and Oxides



D.S. Sofronov, K.N. Belikov, M. Rucki, S.N. Lavrynenko, Z. Siemiątkowski, E. Yu. Bryleva and O.M. Odnovolova

This monograph focuses on development of inorganic nanomaterials for removal of metallic species from the aqueous environment. General synthetic methods to prepare such materials are lacking. This book investigates problems of controlled synthesis of these materials and the effect of their morphological characteristics on their sorption capacity. This book is of interest to researchers and scientists working with inorganic synthesis and properties of sorption materials.

Taylor & Francis

Market: Materials Science and Engineering

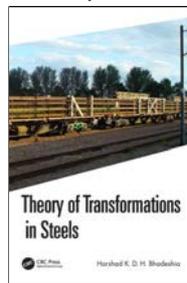
November 2020: 234x156: 126pp

Hb: 978-0-367-56675-3: £140.00

eBook: 978-1-003-10233-5

* For full contents and more information, visit: www.routledge.com/9780367566753

Theory of Transformations in Steels



Harshad K. D. H. Bhadeshia, University of Cambridge, Cambridge, England

Written by the leading authority in the field, this work is the first to provide readers with a complete discussion of the theory of transformations in steel. It offers comprehensive treatment of solid-state transformations, covering the vast number in steels. It features discussion of physical properties, thermodynamics, diffusion, and kinetics and covers ferrites, martensite, cementite, carbides, nitrides, substitutionally-alloyed precipitates, and pearlite. It also contains a comprehensive list of references as further and recommended reading. With its broad and deep coverage of the subject, this work aims at inspiring research within the field of materials science and metallurgy.

CRC Press

Market: Materials Science and Engineering/Metallurgy

March 2021: 254 x 178: 602pp

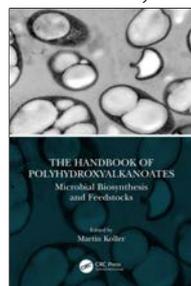
Hb: 978-0-367-51808-0: £140.00

eBook: 978-1-003-05678-2

* For full contents and more information, visit: www.routledge.com/9780367518080

The Handbook of Polyhydroxyalkanoates

Microbial Biosynthesis and Feedstocks



Edited by Martin Koller, Graz University of Technology, Graz, Austria Graz University of Technology, Graz, Austria

The first volume of the "Handbook of Polyhydroxyalkanoates (PHA): Microbial Biosynthesis and Feedstocks" focusses on feedstock aspects, enzymology, metabolism and genetic engineering of PHA biosynthesis. It addresses better understanding the mechanisms of PHA biosynthesis in scientific terms and profiting from this understanding in order to enhance PHA biosynthesis in bio-technological terms and in terms of PHA microstructure. It further discusses making PHA competitive

for outperforming established petrol-based plastics on industrial scale and obstacles for market penetration of PHA.

CRC Press

Market: Polymer Science

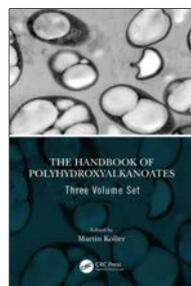
November 2020: 235 x 156: 452pp

Hb: 978-0-367-27559-4: £150.00

eBook: 978-0-429-29661-1

* For full contents and more information, visit: www.routledge.com/9780367275594

The Handbook of Polyhydroxyalkanoates, Three Volume Set



Edited by Martin Koller

The Handbook of Polyhydroxyalkanoates includes three volumes wherein each volume addresses varying sections of PHA biosynthesis and processing. The first volume focusses on feedstock aspects, enzymology, metabolism and genetic engineering of PHA biosynthesis. This second volume focusses on thermodynamic and mathematical considerations of PHA biosynthesis, bioengineering aspects regarding bioreactor design and downstream processing for PHA recovery from microbial biomass.

CRC Press

Market: Polymer Science

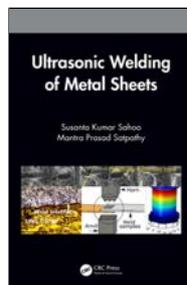
November 2020: 235 x 156: 1416pp

Hb: 978-0-367-27566-2: £425.00

eBook: 978-1-003-08071-8

* For full contents and more information, visit: www.routledge.com/9780367275662

Ultrasonic Welding of Metal Sheets



Susanta Kumar Sahoo and Mantra Prasad Satpathy

This book aims to provide an accessible, comprehensive and up-to-date exposition of the various aspects of joining of dissimilar metal sheets ranging from its fundamentals thorough to metallurgical characteristics covering fundamental concepts, in-detailed explanation about the USW including its implementation, design criteria, work material, welding, thermo-mechanical and research scopes. The book is aimed at researchers, professionals and graduate students in manufacturing, welding, mechanical engineering.

CRC Press

Market: Materials Science

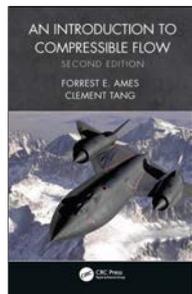
November 2020: 234x156: 238pp

Hb: 978-0-367-26577-9: £89.99

eBook: 978-0-429-29405-1

* For full contents and more information, visit: www.routledge.com/9780367265779

2nd Edition

An Introduction to Compressible Flow

Forrest E. Ames, University of North Dakota, USA and
Clement C. Tang, University of North Dakota, USA

This book is designed to better support and cover compressible flow material in gas turbine and aerodynamics courses. It begins with a brief review of thermodynamics and control volume fluid dynamics, which sets the entry point for the study of compressible flow. The book proceeds to cover isentropic flow, normal shock waves, shock tubes, oblique shock waves, Prandtl-Meyer expansion fans, Fanno-line flow, Rayleigh-line flow, and conical shock waves. The book is intended for senior undergraduate engineering students studying thermal-fluids and practicing engineers in the areas of aerospace or energy conversion.

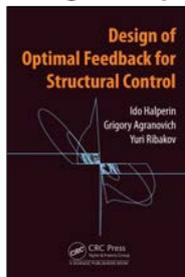
CRC Press

Market: Engineering - Mechanical

March 2021: 234x156: 224pp

Hb: 978-0-367-89567-9: **£84.99**

eBook: 978-1-003-04294-5

* For full contents and more information, visit: www.routledge.com/9780367895679**Design of Optimal Feedback for Structural Control**

Ido Halperin, Ariel University, Isreal, Grigory Agronovich,
Ariel university, Isreal and Yuri Ribakov, Ariel University,
Haifa, Israel

This book addresses problems in optimal structural control. It provides solutions and techniques for optimal control design problems related to passive and semi-active controlled structures. Optimal control theory is used in order to solve these problems in a rigorous manner. Modern theoretical notions, such as dissipativity and passivity of dynamic systems, are discussed in the context of the addressed problems. Novel solutions for optimal passive and semi-active control design problems are derived and verified by rigorous theoretical derivations and numerical simulations of typical civil structures

which are subjected to different types of dynamic excitations.

CRC Press

Market: Mechanical Engineering

July 2021: 234x156: 200pp

Hb: 978-0-367-35412-1: **£140.00**

eBook: 978-0-429-34633-0

* For full contents and more information, visit: www.routledge.com/9780367354121

2nd Edition

Compliant Mechanisms

Design of Flexure Hinges



Nicolae Lobontiu, University of Alaska Anchorage, USA

With a rigorous and comprehensive coverage, the second edition of *Compliant Mechanisms: Design of Flexure Hinges* provides practical answers to the design and analysis of devices that incorporate flexible hinges. The book offers easy-to-use mathematical tools to investigate a wealth of flexible hinge configurations and two- or three-dimensional compliant mechanism applications. The book should serve as a reference to students, researchers, academics and to anyone interested to investigate precision flexible-hinge mechanisms by linear model-based methods.

CRC Press

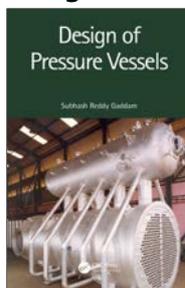
Market: Mechanical Engineering

November 2020: 229 x 152: 562pp

Hb: 978-1-439-89369-2: **£130.00**

eBook: 978-0-429-18466-6

Prev. Ed Hb: 978-0-849-31367-7

* For full contents and more information, visit: www.routledge.com/9781439893692**Design of Pressure Vessels**

Subhash Reddy Gaddam, Retired Boiler Professional,
Hyderabad, India

Pressure vessels are prone to explosion while in operation, due to possible errors in material selection, design and other engineering activities. Addressing issues at hand for a working professional, this book covers material selection, testing and design of pressure vessels which enables users to effectively use code rules and available design softwares. Relevant equation derivations have been simplified with comparison to ASME codes. Analysis of special components flange, bellow and tube sheet are included with their background. Topics on tube bend, supports and non-pressure parts are described from structural perspective.

CRC Press

Market: Mechanical Engineering

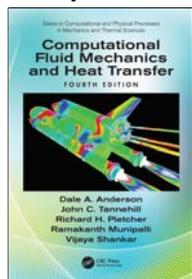
December 2020: 234x156: 250pp

Hb: 978-0-367-55064-6: **£89.99**

eBook: 978-1-003-09180-6

* For full contents and more information, visit: www.routledge.com/9780367550646

4th Edition

Computational Fluid Mechanics and Heat Transfer

Dale Anderson, University of Texas at Arlington, USA, John
C. Tannehill, Iowa State University, Ames, USA, Richard H.
Pletcher, Iowa State University, Ames, USA, Ramakanth
Munipalli, HyPerComp, Inc., USA and Vijaya Shankar,
HyPerComp, Inc., USA

Series: Computational and Physical Processes in Mechanics and Thermal Sciences

This book is a fully updated version of the classic text on finite-difference and finite-volume computational methods. As an introductory text for advanced undergraduates and first-year graduate students, the new edition provides the background necessary for solving complex problems in fluid mechanics and

heat transfer. Divided into two parts, the text covers essential concepts in the first part, and then moves on to fluids equations in the second. Designed as a valuable resource for practitioners and students, new examples and homework problems have been added to further enhance the student's understanding of the fundamentals and applications.

CRC Press

Market: Engineering - Mechanical

December 2020: 254 x 178: 974pp

Hb: 978-0-815-35712-4: **£120.00**

eBook: 978-1-351-12402-7

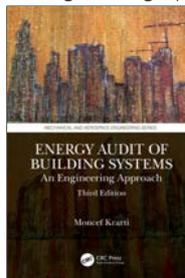
Prev. Ed Hb: 978-1-591-69037-5

* For full contents and more information, visit: www.routledge.com/9780815357124

3rd Edition

Energy Audit of Building Systems

An Engineering Approach



Moncef Krarti, University of Colorado at Boulder, USA

Series: Mechanical and Aerospace Engineering Series

Updated to include recent advances, the third edition presents strategies and analysis methods for conserving energy and reducing operating costs in residential and commercial buildings. Auditors, managers, and students of energy systems will find this to be an invaluable resource for their work. The book explores the latest approaches to measuring and improving energy consumption levels, with calculation examples and case studies. It covers field testing, energy simulation, and retrofit analysis of existing buildings. It examines subsystems - such as lighting, heating, and cooling - and techniques needed for accurately evaluating them.

CRC Press

Market: Engineering - Mechanical

December 2020: 234x156: 658pp

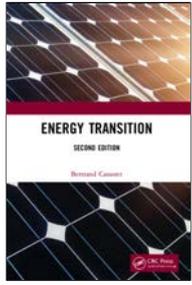
Hb: 978-0-367-82046-6: **£140.00**

eBook: 978-1-003-01161-3

Prev. Ed Hb: 978-1-439-82871-7

* For full contents and more information, visit: www.routledge.com/9780367820466

2nd Edition

Energy Transition

Bertrand Cassoret, Université d'Artois, France

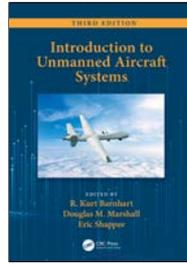
This book presents both the importance of energy transition and its associated difficulties and dangers. It discusses the current state of energy consumption and the links between the economy and energy. The book also offers commentary on energy pollution. Reviewing future energy resources, it evaluates several transition scenarios. It will interest engineers working in various fields of energy, producers of fossil, gas, oil, coal, electric, renewable, and nuclear energy. In addition, undergraduate and graduate students studying energy and power should consider the global discussion to develop better processes, from energy sources to production to consumption.

CRC Press

Market: Engineering - Energy
February 2021: 234x156: 163pp
Hb: 978-0-367-54278-8: **£130.00**
Pb: 978-0-367-54277-1: **£52.99**
eBook: 978-1-003-08848-6

* For full contents and more information, visit: www.routledge.com/9780367542771

3rd Edition

Introduction to Unmanned Aircraft Systems

Edited by **R. Kurt Barnhart**, Kansas State Polytechnic, Salina, USA, **Douglas M. Marshall**, TrueNorth Consulting LLC, Grand Forks, North Dakota, USA and **Eric Shappee**, Kansas State Polytechnic, Salina, USA

Featuring chapters by leading experts, this fully updated bestseller fills the need for an accessible and effective university textbook. Focussing on the civilian applications of UAS, the text begins with an historical overview of unmanned aerial vehicles, and proceeds to examine each major UAS subsystem. Its combination of understandable technical coverage and up-to-date information on policy and regulation makes the text appropriate for both Aerospace Engineering and Aviation

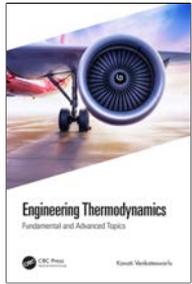
programs.

CRC Press

Market: Engineering-Mechanical
January 2021: 254 x 178: 516pp
Hb: 978-0-367-36659-9: **£110.00**
eBook: 978-0-429-34749-8
Prev. Ed Hb: 978-1-482-26393-0

* For full contents and more information, visit: www.routledge.com/9780367366599**Engineering Thermodynamics**

Fundamental and Advanced Topics



Kavati Venkateswarlu, Gokaraju Rangaraju Institute of Engineering & Technology, India

The proposed textbook covers fundamental and advanced concepts of engineering thermodynamics with the help of pedagogical features including solved problems and unsolved exercises. It presents detailed discussion of vapor power cycles including reheat Rankine cycle, regenerative Rankine cycle and Carnot vapor cycle. It will be a valuable resource for senior undergraduate and graduate students in the field of mechanical engineering, civil engineering and aerospace engineering.

CRC Press

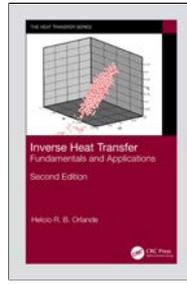
Market: Engineering - Mechanical
December 2020: 234x156: 487pp
Hb: 978-0-367-64628-8: **£120.00**
eBook: 978-1-003-12836-6

* For full contents and more information, visit: www.routledge.com/9780367646288

2nd Edition

Inverse Heat Transfer

Fundamentals and Applications



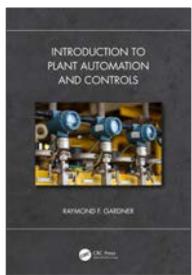
Helcio R.B. Orlande, Coppe - UFRJ, Brazil

Series: Heat Transfer

This book introduces the fundamental concepts of inverse heat transfer solutions and their application for solving problems in convective, conductive, radiative, and multi-physics problems. By modernizing the classic work of the late Dr. Ozisik, and adding new examples and problems, this new edition provides a powerful tool for instructors, researchers, and graduate students studying thermal-fluid systems and heat transfer. The textbook includes based on generalized coordinates for the solution of inverse heat conduction problems in two-dimensional regions, involving the introduction of techniques within the Bayesian framework of statistics for solution of inverse problems.

CRC Press

Market: Engineering- Mechanical
March 2021: 254 x 178: 308pp
Hb: 978-0-367-82067-1: **£120.00**
eBook: 978-1-003-15515-7
Prev. Ed Hb: 978-1-560-32838-4

* For full contents and more information, visit: www.routledge.com/9780367820671**Introduction to Plant Automation and Controls**

Raymond F. Gardner, U.S. Merchant Marine Academy, USA

The increasing complexity of plant control systems requires engineers who can relate plant operations and behaviors to their control requirements. This book is ideal for readers with limited electrical and electronic experience, particularly those looking for a multidisciplinary approach for obtaining a practical understanding of control systems related to the best operating practices of large or small plants. It is an invaluable resource for becoming an expert in this field or as a single-source reference for plant control systems.

CRC Press

Market: Mechanical Engineering
November 2020: 254 x 178: 558pp
Hb: 978-0-367-49420-9: **£105.00**
eBook: 978-1-003-09113-4

* For full contents and more information, visit: www.routledge.com/9780367494209**Linear and Nonlinear Waves in Microstructured Solids**

Homogenization and Asymptotic Approaches

Igor V. Andrianov, RWTH Aachen University, Germany, **Jan Awrejcewicz**, Lodz University of Technology, Poland and **Vladyslav Danishevsky**, Prydniprovsk State Academy of Civil Engineering and Architecture, Ukraine

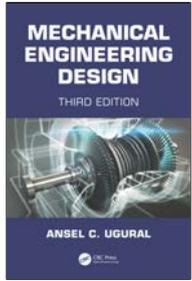
Presenting original solutions to common issues within mechanics, this book builds upon years of research to demonstrate the benefits of implementing asymptotic techniques within mechanical engineering and material science. Focusing on linear and nonlinear wave phenomena in complex micro-structured solids, the book determines their global characteristics through analysis of their internal structure, using homogenization and asymptotic procedures, in line with the latest thinking within the field. The book's cutting-edge methodology can be applied to optimal design, non-destructive control and in deep seismic sounding, providing a valuable alternative to widely used numerical methods.

CRC Press

Market: Mechanical Engineering
April 2021: 234x156: 248pp
Hb: 978-0-367-70412-4: **£74.99**
eBook: 978-1-003-14616-2

* For full contents and more information, visit: www.routledge.com/9780367704124

3rd Edition

Mechanical Engineering Design

Ansel C. Ugural, New Jersey Institute of Technology, Newark, USA

Mechanical Engineering Design, Third Edition strikes a balance between theory and application, and prepares students for more advanced study or professional practice. Updated throughout, it outlines basic concepts and provides the necessary theory to gain insight into mechanics with numerical methods in design. Divided into three sections, the text presents background topics, addresses failure prevention across a variety of machine elements, and covers the design of machine components as well as entire machines. Optional sections treating special and advanced topics are also included.

CRC Press

Market: Engineering - Mechanical
December 2020: 254 x 178: 852pp
Hb: 978-0-367-51347-4: **£120.00**
eBook: 978-1-003-09928-4
Prev. Ed Hb: 978-1-498-73536-0

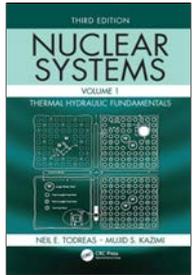
* For full contents and more information, visit: www.routledge.com/9780367513474



3rd Edition

Nuclear Systems Volume I

Thermal Hydraulic Fundamentals, Third Edition



Neil E. Todreas, Massachusetts Institute of Technology, Cambridge, USA and Mujid S. Kazimi, Massachusetts Institute of Technology, Cambridge, USA

This book provides an in-depth introduction to nuclear power, focussing on thermal hydraulic design and analysis of the nuclear core and other key nuclear plant components. The authors stress the integration of fluid flow and heat transfer as applied to all power reactor types and energy source distribution. The text features new chapter examples and problems using concept parameters, full color text and art, computer programs, figure slides, and a solutions manual. Readers will develop the knowledge and design skills needed to improve the next generation of nuclear reactors.

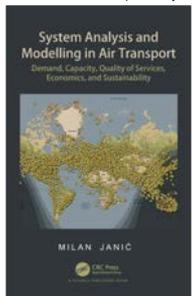
CRC Press

Market: Engineering - Mechanical
January 2021: 254 x 178: 926pp
Hb: 978-1-138-49244-8: **£130.00**
eBook: 978-1-351-03050-2
Prev. Ed Hb: 978-1-439-80887-0

* For full contents and more information, visit: www.routledge.com/9781138492448

**System Analysis and Modelling in Air Transport**

Demand, Capacity, Quality of Services, Economic, and Sustainability



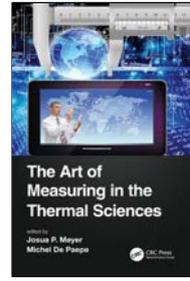
Milan Janić

Air Transport System Analysis and Modelling is a unique book dealing with analysis and modelling of the demand, capacity, quality of services, economics, and sustainability of three main components of the air transport system - airports, ATC (Air Traffic Control), and airlines. The existing and prospective modelling approach embraces the illustrative analytical and simulation models supported by corresponding applications and real-life examples. Graduates, researchers, consultants, engineers, experts, and other practitioners dealing with analysis, modelling, planning, design, and operations of the air transport system will find this book of interest and useful.

CRC Press

Market: Air Transport
January 2021: 235 x 156: 390pp
Hb: 978-0-367-32160-4: **£150.00**
eBook: 978-0-429-32127-6

* For full contents and more information, visit: www.routledge.com/9780367321604

The Art of Measuring in the Thermal Sciences

Edited by Josua Meyer, Built Engineering and Information Technology, South Africa and Michel De Paepe, Ghent University, Belgium

Series: *Heat Transfer*

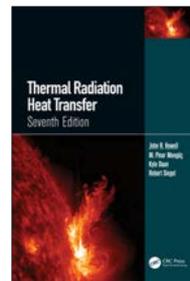
THE ART OF MEASURING IN THERMAL SCIENCES is aimed at providing engineers, researchers, and graduate students a state of the art overview of best practises for conducting sound measurements in the thermal sciences. It is a guide for people who want to conduct thermal experiments in their research and development of thermal systems, and in the industries of energy generation, transport, manufacturing, mining, processes, HVAC, and other industries. The text provides insights into advanced measurement techniques and systems, goes into the fundamentals where possible, and focuses on advanced measurement techniques now used in the precise analysis and design of thermal systems.

CRC Press

Market: Mechanical Engineering
November 2020: 235 x 156: 482pp
Hb: 978-0-367-19290-7: **£115.00**
eBook: 978-0-429-20162-2

* For full contents and more information, visit: www.routledge.com/9780367192907

7th Edition

Thermal Radiation Heat Transfer

John R. Howell, The University of Texas at Austin, Austin, USA, M. Pinar Mengüç, Ozyegin Universities, Istanbul, Turkey, Kyle Daun and Robert Siegel, Heat Transfer Consultant, Shaker Heights, Ohio, USA

The Seventh Edition of this classic text outlines the fundamental physical principles of thermal radiation, as well as analytical and numerical techniques for quantifying radiative transfer between surfaces and within participating media. The textbook includes newly expanded sections on surface properties, electromagnetic theory, scattering and absorption of particles, near-field radiative transfer, and emphasizes the broader connections to thermodynamic principles. Sections on inverse analysis and Monte Carlo methods have been updated, along with new

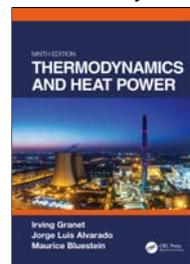
material on manufacturing, renewable energy, climate change, building energy efficiency, and biomedical applications.

CRC Press

Market: Mechanical Engineering
December 2020: 254 x 178: 1040pp
Hb: 978-0-367-34707-9: **£140.00**
eBook: 978-0-429-32730-8
Prev. Ed Hb: 978-1-466-59326-8

* For full contents and more information, visit: www.routledge.com/9780367347079

9th Edition

Thermodynamics and Heat Power

Irving Granet, Queensborough Community College, City University of New York, Bayside, USA, Jorge Alvarado, Texas A&M University, USA and Maurice Bluestein, Indiana University-Purdue University, Indianapolis, USA

The ninth edition of *Thermodynamics and Heat Power* offers a revised sequence of thermodynamics concepts, processes, and energy systems to enable learning outcomes for Engineering and Engineering Technology students taking an introductory course. Built around an easily understandable approach, this updated text focuses on thermodynamics fundamentals and explores renewable energy generation, IC engines, power plants, HVAC, and applied heat transfer. Energy, heat, and work are examined in relation to thermodynamics cycles, and the effects of fluid properties on system performance are explained. Numerous step-by-step examples and problems make this text ideal for student readers.

CRC Press

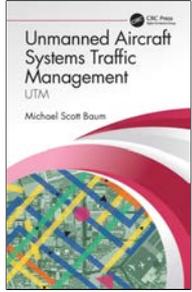
Market: Mechanical Engineering
November 2020: 254 x 178: 864pp
Hb: 978-0-367-28091-8: **£125.00**
eBook: 978-0-429-29962-9
Prev. Ed Hb: 978-1-482-23855-6

* For full contents and more information, visit: www.routledge.com/9780367280918



Unmanned Aircraft Systems Traffic Management

UTM



Michael S. Baum

The book introduces Unmanned Aircraft Systems Traffic Management and explains how it integrates unmanned aircraft operations into a national airspace system for innovative, viable new services. It is an essential, in-depth annotated resource for developers, operators, policy makers, researchers, and academics engaged in unmanned systems, transportation management, and the future of aviation. The book explains how the UTM concept has progressed through research and testing and considers the boundaries of UTM, ATM, and advancing surveillance technologies. It discusses governance challenges and approaches to the approval, management, and oversight of UTM components and ecosystem.

CRC Press

Market: Engineering - Aerospace

April 2021: 234x156: 316pp

Hb: 978-0-367-64473-4: £79.99

eBook: 978-1-003-12468-9

* For full contents and more information, visit: www.routledge.com/9780367644734

Ventilation of Normobaric and Hyperbaric Objects

Ryszard Klos, The Naval Academy, Poland

Considering the increased need to test and develop ventilation both for normobaric and hyperbaric use in underwater technology industries (diving equipment, submarines and other underwater facilities), mining and other relevant industries, this book presents a complete study in the field of norm- and hyperbaric ventilation. It focusses on development and verification of the research-based mathematical modeling approach for deterministic modelling of ventilation processes, both for objects with semi-closed and closed circulation of breathing gas. It also proposes validated analytical models of ventilation processes and a new type of carbon dioxide emission simulator was also developed.

CRC Press

Market: Heating, Ventilation and Air Conditioning

March 2021: 234x156: 272pp

Hb: 978-0-367-67523-3: £120.00

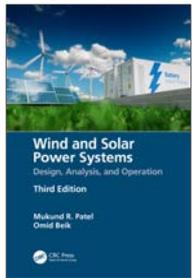
eBook: 978-1-003-13164-9

* For full contents and more information, visit: www.routledge.com/9780367675233

3rd Edition

Wind and Solar Power Systems

Design, Analysis, and Operation



Mukund R. Patel, U.S. Merchant Marine Academy, Kings Point, New York, USA and Omid Beik, Enercs Inc., Canada

This book provides technological and socio-economic coverage of renewable energy. It discusses wind power technologies, solar photovoltaic technologies, large-scale energy storage technologies, and ancillary power systems. In this new edition, the book addresses advancements that have been made in renewable energy: solar systems have seen great transformation, the power electronics converters, their control and operation, have been improved, and multi-stage, multi-phase systems have been proposed and put into installation. The text has been revised to include up-to-date material, statistics, and current technology trends.

CRC Press

Market: Mechanical Engineering - Energy & Clean Technology

March 2021: 234x156: 376pp

Hb: 978-0-367-47693-9: £130.00

eBook: 978-1-003-04295-2

Prev. Ed Hb: 978-0-849-31570-1

* For full contents and more information, visit: www.routledge.com/9780367476939

3rd Edition

Analytical Pyrolysis Handbook

Edited by **Karen D. Sam**, CDS Analytical LLC, Oxford, PA and **Thomas P. Wampler**, CDS Analytical, Inc., Oxford, Pennsylvania, USA

Provides a comprehensive view of analytical pyrolysis, beginning with theory and instrumentation, and a vast view of current applications. Provides readers with an essential, one-stop guide for determining if pyrolysis meets application-specific needs, performing pyrolysis, and handling data. The book reviews the types of instrumentation available to perform pyrolysis and offers guidance for interfacing instruments and integrating other analytical techniques, including gas chromatography and mass spectrometry. Fully updated with new sample pyrograms, figures, references, and real-world examples.

CRC Press

Market: Chemistry

March 2021: 254 x 178: 280pp

Hb: 978-0-367-19232-7: **£140.00**

eBook: 978-0-429-20120-2

Prev. Ed Hb: 978-1-574-44641-8

* For **full contents** and more information, visit: www.routledge.com/9780367192327**Batch Adsorption Process of Metals and Anions for Remediation of Contaminated Water**

Edited by **Deepak Gusain**, Institute for Water and Wastewater Technology, Durban University of Technology, Republic of South Africa and **Faizal Bux**

Adsorption is one of the method that is in use for remediation of contaminated water. The experimental factors affecting the batch mode of adsorption of various metals and inorganic anions are discussed in this book. The elemental contaminants have been categorized into four major categories i.e. major toxic elements; essential elements having toxicity on excessive exposure; miscellaneous elements having undetermined effects; non-toxic elements having trivial or unidentified significance. In addition, anions like nitrate, perchlorate and sulphate as water contaminants are considered. This unique volume fills a niche in the area of water treatment.

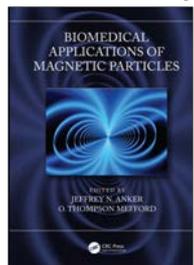
CRC Press

Market: Chemistry

March 2021: 234x156: 296pp

Hb: 978-0-367-43648-3: **£150.00**

eBook: 978-1-003-00636-7

* For **full contents** and more information, visit: www.routledge.com/9780367436483**Biomedical Applications of Magnetic Particles**

Edited by **Jeffrey N. Anker** and **O. Thompson Mefford**

This book discusses fundamental magnetic nanoparticle physics and chemistry and explores important biomedical applications and future challenges. The first section presents the fundamentals of the field by explaining the theory of magnetism, describing techniques to synthesize magnetic particles, detailing methods to characterize magnetic particles, and quantitatively describing the applied magnetic forces, torques, and the resultant particle motions. The second section describes the wide range of biomedical applications, including chemical sensors, cellular actuators, drug delivery, magnetic hyperthermia, magnetic resonance imaging contrast enhancement, and

toxicity.

CRC Press

Market: Chemistry

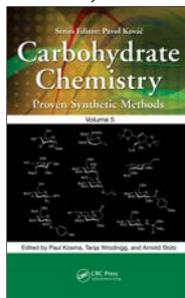
December 2020: 254 x 178: 370pp

Hb: 978-1-439-83968-3: **£170.00**

eBook: 978-1-439-83969-0

* For **full contents** and more information, visit: www.routledge.com/9781439839683**Carbohydrate Chemistry**

Proven Synthetic Methods, Volume 5



Edited by **Paul Kosma**, University of Natural Resources and Life Sciences, Vienna, **Tanja M. Wrodnigg**, Graz University of Technology, Austria and **Arnold Stütz**, Graz University of Technology, Austria

Series: *Carbohydrate Chemistry: Proven Synthetic Methods*

Carbohydrate Chemistry: Proven Synthetic Methods, Volume 5 compiles reliable protocols for the preparation of intermediates for carbohydrate synthesis or other uses in the glycosciences.

CRC Press

Market: Chemistry

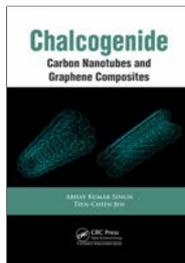
December 2020: 234x156: 328pp

Hb: 978-0-815-36788-8: **£115.00**

eBook: 978-1-351-25608-7

* For **full contents** and more information, visit: www.routledge.com/9780815367888**Chalcogenide**

Carbon Nanotubes and Graphene Composites



Abhay Kumar Singh, Dept. of Mechanical Engineering, University of Johannesburg, South Africa Auckland Park 2006 Johannesburg, Gauteng 524 S. Africa and **Tien-Chien Jen**, University of Johannesburg 83 Lab 203 Dept. of Mech. Engineering Sc. Johannesburg, Gauteng 2006 South Africa

This is introductory book for researchers, scientists and students in the area of organic and inorganic composite materials. This book has addressed timely the innovative topic "chalcogenide – multiwalled carbon nanotubes and chalcogenide – bilayer graphene" composite materials under a glassy regime. This book will give a clear idea on the concepts of the newly established composite materials area, by providing interpretations of inside physio-chemical mechanism. The remarkable landmark innovations related to this newly introduced research field are included in this book.

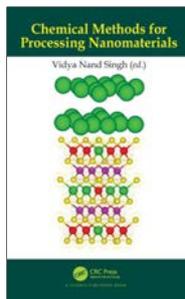
CRC Press

Market: Nanoscience & Technology

April 2021: 254 x 178: 308pp

Hb: 978-0-367-20314-6: **£150.00**

eBook: 978-0-429-26082-7

* For **full contents** and more information, visit: www.routledge.com/9780367203146**Chemical Methods for Processing Nanomaterials**

Edited by **Vidya Nand Singh**, CSIR- National Physical Laboratory, New Delhi, India

This book discusses the latest advancements in the processing of various types of nanomaterials. The main objective of the book is to provide the reader with a comprehensive review of the latest advances in synthesis as well as processing of almost all kinds of nanomaterials using various physical and chemical methods. The book includes chapters on Chemical Methods such as microemulsions, colloidal route, wet chemical method, chemical vapor deposition technique, sol-gel method, electrodeposition for growing different kinds of nanomaterials including Chalcogenides, Metal Oxide nanostructures.

CRC Press

Market: Nanoscience & Technology

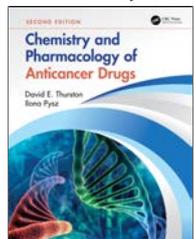
March 2021: 234x156: 262pp

Hb: 978-0-367-08588-9: **£150.00**

eBook: 978-0-429-02318-7

* For **full contents** and more information, visit: www.routledge.com/9780367085889

2nd Edition

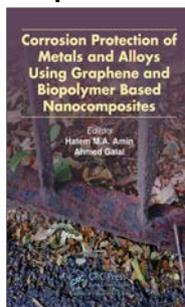
Chemistry and Pharmacology of Anticancer Drugs

David E. Thurston, Kings College London and Ilona Pysz
This book is a comprehensive survey of all families of anticancer agents and therapeutic approaches currently in use or in advanced stages of clinical trials, including biological-based therapies. The book is unique in providing molecular structures for all anticancer agents, discussing them in terms of history of development, chemistry, mechanism of action, structure-function relationships and pharmacology. This book is an indispensable resource for cancer researchers, medicinal chemists and other biomedical scientists. The new edition of this book will have a Companion Website offering regular updates to the twelve chapters useful for both students and instructors.

CRC Press

Market: Biomedical Science
March 2021: 210 x 280: 620pp
Hb: 978-1-138-32358-2: **£270.00**
Pb: 978-1-439-85326-9: **£110.00**
eBook: 978-1-315-37472-7
Prev. Ed Pb: 978-0-849-39219-1

* For full contents and more information, visit: www.routledge.com/9781439853269

**Corrosion Protection of Metals and Alloys Using Graphene and Biopolymer Based Nanocomposites**

Edited by Hatem M.A. Amin and Ahmed Galal, Cairo University

This book covers corrosion protection of metals and alloys using graphene and biopolymer composites, which currently represent the greener alternatives to anti-corrosive coatings. Several investigations have been carried out to better understand the corrosion process in metals and alloys, particularly steel, and its control. The flexibility of graphene film, or its oxide, and its variability to combine has a significant impact in corrosion protection. Nanocomposites of graphene provide an eco-friendly, strong, and efficient inhibitor of corrosion, and biopolymers and organic films also provide promising and enhanced corrosion resistant technology.

CRC Press

Market: Materials Science
February 2021: 234x156: 224pp
Hb: 978-1-138-04665-8: **£115.00**
eBook: 978-1-315-17136-4

* For full contents and more information, visit: www.routledge.com/9781138046658

Chiral Ligands

Evolution of Ligand Libraries for Asymmetric Catalysis

Edited by Montserrat Diéguez

Series: New Directions in Organic & Biological Chemistry

Many new drugs on the market are chiral compounds, that is, they can exist in two non-superimposable mirror-image forms. This book describes the most relevant ligand libraries for some key processes, including an overview of the state of art and the key mechanistic aspects that favor a high catalytic performance.

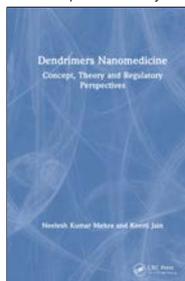
CRC Press

Market: Chemistry
May 2021: 234x156: 352pp
Hb: 978-0-367-42848-8: **£150.00**
eBook: 978-0-367-85573-4

* For full contents and more information, visit: www.routledge.com/9780367428488

Dendrimers in Nanomedicine

Concept, Theory and Regulatory Perspectives



Neelesh Kumar Mehra, Sentiss Pharma Pvt Ltd, India and Keerti Jain, Delhi Pharmaceutical Sciences and Research University, India

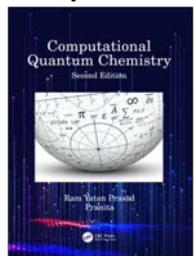
Nanomaterials and nanotechnology are extensively being developed, designed, engineered, tailored, manipulated, explored and investigated for variety of applications in Healthcare, Pharmaceutical, and Biotechnological Research and Innovation area. Nanotechnology based products are rapidly growing and multifunctional engineered nanomaterials (ENM) are emerging as useful tools in biotherapeutics delivery as well.

CRC Press

Market: Biomedical Science
February 2021: 254 x 178: 320pp
Hb: 978-0-367-46605-3: **£160.00**
eBook: 978-1-003-02991-5

* For full contents and more information, visit: www.routledge.com/9780367466053

2nd Edition

Computational Quantum Chemistry

Ram Yatan Prasad, Vinoba Bhawe University, India and Pranita, Vinoba Bhawe University, India

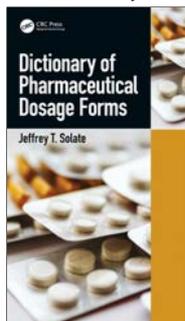
Computational Quantum Chemistry is an extremely useful tool for teaching and research alike. It stipulates information in an accessible manner for scientific investigators, researchers and entrepreneurs. The book supplies an overview of the field and explains the fundamental underlying principles. It also gives the knowledge of numerous comparisons of different methods. The book consists of a wider range of applications in each chapter. It also provides a number of references which will be useful for academic and industrial researchers. It includes a large number of worked out examples and unsolved problems for enhancing

the computational skill of the users.

CRC Press

Market: Chemistry
March 2021: 254 x 178: 718pp
Hb: 978-0-367-67969-9: **£150.00**
eBook: 978-1-003-13360-5

* For full contents and more information, visit: www.routledge.com/9780367679699

Dictionary of Pharmaceutical Dosage Forms

Jeffrey T. Solate, Canadian Food Safety Institute, Mississauga, Ontario

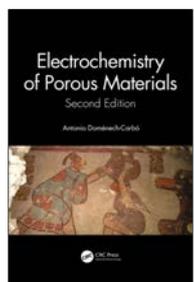
The *Dictionary of Pharmaceutical Dosage Forms* is a collection of terms and definitions prepared to assist healthcare practitioners and students as a companion or reference resource when reading notes and completing routine care. It can also provide reference material for hospital and medical staff, consultants, nursing instructors and pharmaceutical science students. This first edition classifies and organizes the forms in an easily readable format, so readers will find it a quick and simple reference.

CRC Press

November 2020: 178 x 102: 168pp
Pb: 978-1-138-06579-6: **£42.99**
eBook: 978-1-315-15944-7

* For full contents and more information, visit: www.routledge.com/9781138065796

2nd Edition

Electrochemistry of Porous Materials

Antonio Doménech Carbó, University of Valencia, Spain
Describes essential theoretical aspects of the electrochemistry of nanostructured materials and primary applications, incorporating the advances in the field in the last ten years including recent theoretical formulations and the incorporation of novel materials. Concentrating on nanostructured micro- and mesoporous materials, the book offers a more focused and practical analysis of key porous materials considered relatively homogeneous from an electrochemical point of view. Details the use of electrochemical methods in materials science for characterization and their applications in the fields of analysis, energy production and storage, environmental remediation, and the biomedical arena.

CRC Press

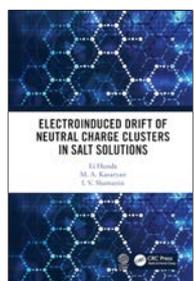
Market: Materials Science

April 2021: 254 x 178: 368pp

Hb: 978-0-367-36650-6: **£150.00**

eBook: 978-0-429-35162-4

Prev. Ed Hb: 978-1-439-80633-3

* For full contents and more information, visit: www.routledge.com/9780367366506**Electroinduced Drift of Neutral Charge Clusters in Salt Solutions**

Li Hunda, M. A. Kazaryan, Russian Academy of Sciences, Moscow and I.V. Shamanin

This book presents studies of the processes accompanying the effect of periodic electric and magnetic fields on salt solutions in polar dielectric liquids. The authors explain phenomena from a physical point of view, without theoretical constructions and mathematical calculations. This is done in order to make the book accessible to a wide audience and to help the reader navigate in a multilateral topic that is touched upon when studying processes that occur in liquid media under the external influence of an electromagnetic nature. The book will be useful to specialists, engineers and graduate students especially those recording and transmitting information in liquid media.

CRC Press

Market: Chemical Physics

November 2020: 234x156: 222pp

Hb: 978-0-367-48973-1: **£150.00**

eBook: 978-1-003-04704-9

* For full contents and more information, visit: www.routledge.com/9780367489731**Functionalized Nanomaterials**

Vineet Kumar, Department of Chemistry, Panjab University, Chandigarh, UT, India, Praveen Guleria, Nandita Dasgupta, Nano-food Research Group, VIT University, Vellore, Tamil Nadu, India and Shivendu Ranjan, Nano-food Research Group, VIT University, Vellore, Tamil Nadu, India

Nanomaterials contain some unique properties due to their nanometric size and surface functionalization. Nanomaterial functionalization also affects their compatibility to biocompatibility and toxicity behaviors, environment and living organism. This makes functionalized nanomaterials a material with huge scope and few challenges. This book provides detailed information about the nanomaterial functionalization and their application. Recent advancements, challenges and opportunities in the preparation and applications of functionalized nanomaterials are also highlighted.

CRC Press

Market: Biomedical Science

April 2021: 279 x 216: 648pp

Hb: 978-0-815-39606-2: **£255.00**

eBook: 978-1-003-15577-5

* For full contents and more information, visit: www.routledge.com/9780815396062**Functionalized Nanomaterials II**

Applications

Vineet Kumar, Department of Chemistry, Panjab University, Chandigarh, UT, India, Praveen Guleria, Nandita Dasgupta, Nano-food Research Group, VIT University, Vellore, Tamil Nadu, India and Shivendu Ranjan

This book can serve as a reference book for scientific investigators including doctoral and post-doctoral scholars; undergrad and grad students in context to scope of applications of functionalized nanomaterial. It also highlights recent advancements, challenges and opportunities in the applications of nanomaterials. This book will provide critical and comparative data for nanotechnologists. It may also be beneficial for multidisciplinary researchers, industry personnel's, journalists, policy makers, and the common public to understand the scope of functionalized nanomaterials in detail and in-depth.

CRC Press

Market: Materials Science

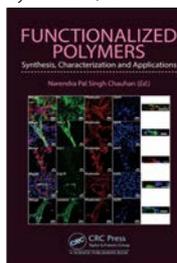
April 2021: 279 x 216: 320pp

Hb: 978-0-815-37049-9: **£140.00**

eBook: 978-1-351-02138-8

* For full contents and more information, visit: www.routledge.com/9780815370499**Functionalized Polymers**

Synthesis, Characterization and Applications



Edited by Narendra Pal Singh Chauhan, Bhupal Nobles'University, Rajasthan, India

Functionalized polymers are macromolecules to which chemically bound functional groups are attached which can be used as catalysts, reagents, protective groups, etc. Chemical reactions for the introduction of functional groups in polymers and the conversion of functional groups in polymers depend on different properties. Such properties are of great importance for functionalization reactions for possible applications of reactive polymers. This book deals with the synthesis and design of various functional polymers, the modification of preformed polymer backbones and their various applications.

CRC Press

Market: Polymer Science

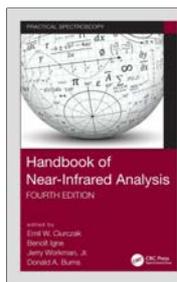
May 2021: 234x156: 304pp

Hb: 978-0-367-42061-1: **£170.00**

eBook: 978-0-367-82191-3

* For full contents and more information, visit: www.routledge.com/9780367420611

4th Edition

Handbook of Near-Infrared Analysis

Edited by Emil W. Ciurczak, Benoît Igne, Jerry Workman, Jr., Unity Scientific LLC, Brookfield, Connecticut, USA and Donald A. Burns, NIR Resources, Los Alamos, New Mexico, USA

Series: Practical Spectroscopy

Fast, inexpensive, and easy-to-use, near-infrared (NIR) spectroscopy can be used to analyze small samples of virtually any composition. This practical handbook explains how to perform accurate and time- and cost-effective analyses across a growing spectrum of disciplines. This edition incorporates the latest advances in instrumentation, computerization, calibration, and method development in NIR spectroscopy and underscores current trends in sample preparation, calibration transfer, process control, data analysis, and commercial NIR instrumentation. The work offers readers an unparalleled combination of theoretical foundations, cutting-edge applications, and practical experience.

CRC Press

Market: Chemistry

April 2021: 254 x 178: 920pp

Hb: 978-1-138-57648-3: **£230.00**

eBook: 978-1-351-26988-9

Prev. Ed Hb: 978-0-849-37393-0

* For full contents and more information, visit: www.routledge.com/9781138576483

4th Edition

Handbook of Pharmaceutical Granulation Technology

Edited by **Dilip M. Parikh**, Synthon Pharmaceuticals, Inc., Ellicott City, Maryland, USA
Series: Drugs and the Pharmaceutical Sciences

This fully revised edition of *Handbook of Pharmaceutical Granulation Technology* covers the rapid advances in the science of agglomeration, process control, process modelling, scale-up, emerging particle engineering technologies, along with current regulatory changes presented by some of the prominent scientist and subject matter experts around the globe. Learn from more than 50 global subject matter experts who share their years of experience in areas ranging from drug delivery and pharmaceutical technology to advances in nanotechnology. Every pharmaceutical scientist should own a copy of this *fourth edition* resource.

CRC Press

Market: Chemistry

May 2021: 254 x 178: 816pp

Hb: 978-0-367-33477-2: £190.00

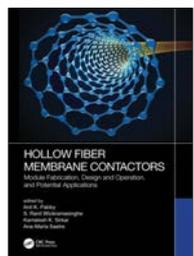
eBook: 978-0-429-32005-7

Prev. Ed Hb: 978-1-439-80789-7

* For full contents and more information, visit: www.routledge.com/9780367334772

Hollow Fiber Membrane Contactors

Module Fabrication, Design and Operation, and Potential Applications



Edited by **Anil K. Pabby**, BARC Complex, TRP, Tarapur, Boisar, India, **S. Ranil Wickramasinghe**, University of Arkansas, Fayetteville, USA, **Kamalesh K. Sirkar**, New Jersey Institute of Technology, Newark, NJ, USA and **Ana-Maria Sastre**, Univ. Politcnica de Catalunya, Barcelona, Spain

This book on hollow fiber contactors explores the most recent developments and milestones in this membrane technology. Top international research teams provide comprehensive, up-to-date coverage and case studies detailing hollow fiber membrane applications in biotechnology and chemical, food, and nuclear engineering. This book is equally suited for newcomers to the field as well as for engineers and scientists

that have basic knowledge in this field but are interested in obtaining more information about specific applications.

CRC Press

Market: Chemistry

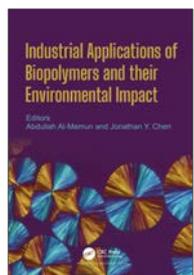
November 2020: 210 x 280: 324pp

Hb: 978-0-367-02578-6: £160.00

eBook: 978-0-429-39888-9

* For full contents and more information, visit: www.routledge.com/9780367025786

Industrial Applications of Biopolymers and their Environmental Impact



Edited by **Abdullah Al Mamun**, HP Pelzer Holding GmbH, Witten, Germany and **Jonathan Y. Chen**, University of Texas at Austin, USA

Biopolymers represent a carbon emission solution: they are green and eco-friendly with a variety of uses in biomedical engineering, the automotive industry, the packaging and paper industries, and for the development of new building materials. This book describes the various raw materials of biopolymers and their chemical and physical properties, the polymerization process, and the chemical structure and properties of biopolymers. Furthermore, this book identifies the drawbacks of biopolymers and how to overcome them through modification methods to enhance the compatibility, flexibility, physicochemical properties, thermal stability, impact response, and rigidity.

CRC Press

Market: Polymer Science

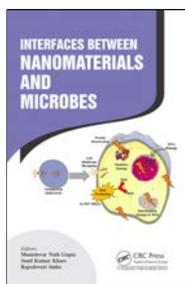
November 2020: 254 x 178: 312pp

Hb: 978-1-498-76965-5: £130.00

eBook: 978-1-315-15419-0

* For full contents and more information, visit: www.routledge.com/9781498769655

Interfaces Between Nanomaterials and Microbes



Edited by **Sunil Kumar Khare**, PROFESSOR OF BIOCHEMISTRY, DEPARTMENT OF CHEMISTRY, IIT DELHI, **MN Gupta** and **Rajeshwari Sinha**

Nanomaterials are becoming ubiquitous; microbes similarly are everywhere. This book focuses on various ways the diverse nanomaterials interact with microbial communities and implications of such interactions. Both toxicity and beneficial effects of nanomaterial-microbe interactions have been covered. This includes areas such as fate and bioavailability of nanomaterials in environments, microbial synthesis of nanomaterials and antimicrobial action of nanomaterials. Fairly comprehensive but with narrow focus, the book provides useful insights into these interactions which need to be factored in

while designing nanoscience based new technologies.

CRC Press

Market: Life Sciences

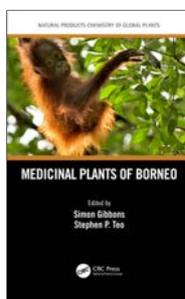
July 2021: 234x156: 304pp

Hb: 978-0-367-27182-4: £140.00

eBook: 978-0-429-32126-9

* For full contents and more information, visit: www.routledge.com/9780367271824

Medicinal Plants of Borneo



Edited by **Simon Gibbons**, UCL School of Pharmacy, UK and **Stephen P. Teo**, Forest Department Sarawak, Malaysia

Series: Natural Products Chemistry of Global Plants

The rich biodiversity of Borneo provides many useful plants for medicinal uses. Written by experts in the field, Medicinal Plants of Borneo provides a guide and introduction to the medicinal plants from Borneo used traditionally, as well as those plants with medicinal uses from recent discoveries. These include anti-HIV plants – *Calophyllum lanigerum* (calanolide A) and anti-cancer plant- *Aglaia foveolata* (silvestrol). It also provides information on the relevant medicinal chemistry, such as bioactive compounds isolated, and the mode of action, where available. This book features relevant photos and illustrations as well as interesting facts that can be found in boxes throughout the text.

CRC Press

Market: Chemistry

May 2021: 234x156: 168pp

Hb: 978-0-367-75875-2: £74.95

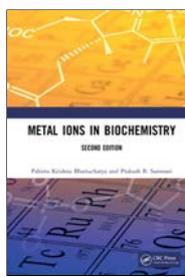
Pb: 978-1-138-60107-9: £74.99

eBook: 978-0-429-47033-2

* For full contents and more information, visit: www.routledge.com/9781138601079

2nd Edition

Metal Ions in Biochemistry



Pabitra Krishna Bhattacharya and **Prakash B. Samnani**

The second edition of the book "Metal Ions in Biochemistry" deals exhaustively with the role of metal and non-metal ions in biochemical reactions, and also the effect of deficiency of metal ions, toxic effects of metal ions and use of metal complexes in therapeutics. As the nature of binding of the metal ions with the biochemicals and further progress of biochemical reactions, depends on the basic concepts of thermodynamics and kinetics of the metal ligand binding, the first two chapters have been devoted to understanding the structure of biochemicals and their metal coordinating sites.

CRC Press

Market: Chemistry

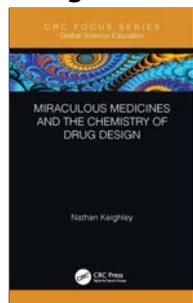
December 2020: 254 x 178: 292pp

Hb: 978-0-367-62225-1: £74.99

eBook: 978-1-003-10842-9

* For full contents and more information, visit: www.routledge.com/9780367622251

Miraculous Medicines and the Chemistry of Drug Design



Nathan Keighley

Series: *Global Science Education*

The subject of chemistry is widely acknowledged as being conceptually challenging, and regarded with a perceived elitism. This book aims to address this dilemma by breaking down the fundamentals of organic chemistry and its importance in medicine, so that readers with any or no background education in chemistry can access the material and gain an appreciation and understanding for the subject. The text is written in a clear and concise manner, using appropriate figures, to explain how the medicine we are so familiar with is designed and produced. Undergraduate students, medical and nursing students, and general audiences will benefit from the accessible format and enjoyable read.

CRC Press

December 2020: 216x138: 134pp

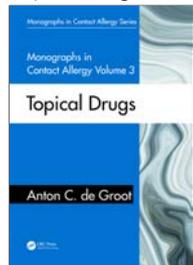
Hb: 978-0-367-64403-1: £49.99

eBook: 978-1-003-12439-9

* For full contents and more information, visit: www.routledge.com/9780367644031

Monographs in Contact Allergy, Volume 3

Topical Drugs



Anton C. de Groot, Consultant, Wapserveen, The Netherlands

Series: *Monographs in Contact Allergy*

This third volume in an exciting and detailed series on contact allergens provides monographs of all 384 topical drugs which have caused contact allergy/allergic contact dermatitis. The monographs present: Identification section; Contact allergy (general population, patients with dermatitis, case reports and case series); Cross-reactions; Patch test sensitization; Photocontact allergy; Immediate contact reactions (contact urticaria). Separate chapters present an overview of all aspects of allergic contact dermatitis to topical drugs, contact allergy to

non-drug ingredients in topical pharmaceuticals and a preview of delayed-type allergy to systemic drugs (to be discussed in volume 4).

CRC Press

Market: Chemistry

February 2021: 297x210: 894pp

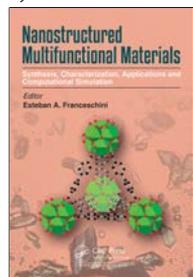
Hb: 978-0-367-23693-9: £155.00

eBook: 978-1-003-15936-0

* For full contents and more information, visit: www.routledge.com/9780367236939

Nanostructured Multifunctional Materials

Synthesis, Characterization, Applications and Computational Simulation



Edited by Esteban A. Franceschini

This book provides a broad overview of the effect of nanostructuring in the multifunctionality of different widely studied nanomaterials. This book is divided into four sections constituting a road map that groups materials sharing certain types of nanostructuring, including nanoporous, nanoparticled, 2D laminar nanomaterials, and computational methods for characterizations of nanostructures. This structured approach in nanomaterials research will serve as a valuable reference material for chemists, (bio)engineers, physicists, nanotechnologists, undergraduates, and professors.

CRC Press

Market: Science Publisher

July 2021: 254 x 178: 368pp

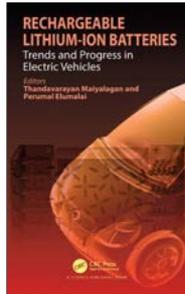
Hb: 978-0-367-42069-7: £155.00

eBook: 978-0-367-82219-4

* For full contents and more information, visit: www.routledge.com/9780367420697

Rechargeable Lithium-Ion Batteries

Trends and Progress in Electric Vehicles



Edited by Thandavarayan Maiyalagan, SRM University, India and Perumal Elumalai, Pondicherry University, India

The book contains ten chapters, each focusing on a specific topic pertaining to the application of lithium-ion batteries in Electric Vehicles. Basic principles, electrode materials, electrolytes, high voltage cathodes, recycling spent Li-ion batteries and battery charge controller are addressed. This book is unique among the countable books focusing on the lithium-ion battery technologies for vehicular applications. It provides fundamentals and practical knowledge on the lithium-ion battery for vehicular application. Students, scholars, academicians, and battery and automobile industries will find this volume useful.

CRC Press

Market: Materials Science

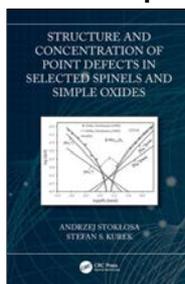
December 2020: 235 x 156: 380pp

Hb: 978-1-138-48409-2: £160.00

eBook: 978-1-351-05270-2

* For full contents and more information, visit: www.routledge.com/9781138484092

Structure and Concentration of Point Defects in Selected Spinel and Simple Oxides



Andrzej Stokłosa and Stefan S. Kurek

This work presents diagrams and numerical data of important properties of spinels and oxides based on experimental results published in the literature. The values of many parameters presented can be used for optimization of preparation of new systems, to predict the practical properties of these systems. Building upon the data presented, material scientists and engineers developing new metal or oxide-based systems can easily calculate other useful parameters and compare the properties of different materials to select the best candidates for an intended use.

CRC Press

Market: Materials Science

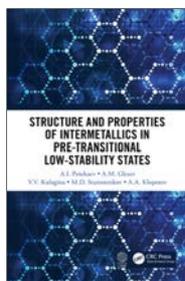
March 2021: 210 x 280: 296pp

Hb: 978-0-367-61712-7: £120.00

eBook: 978-1-003-10616-6

* For full contents and more information, visit: www.routledge.com/9780367617127

Structure and Properties of Intermetallics in Pre-Transitional Low-Stability States



A.I. Potekaev, A.M. Glezer, V.V. Kulagin, M.D. Starostenkov and A.A. Klopot

This book is dedicated to the fundamental physical aspects of stability, the influence of structural defects on the properties and structural phase transformations of BCC alloys. The authors present patterns that occur in the structural-phase states of functional alloys with low stability or instability under thermal cycling effects. Structural-phase transformations and the physical laws governing the influence of the thermomechanical effect on the properties of alloys are examined to advance development of technological processes for processing functional materials.

CRC Press

Market: Metallurgy

December 2020: 234x156: 260pp

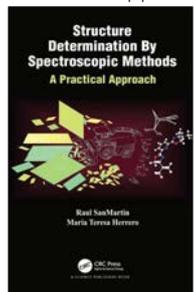
Hb: 978-0-367-48972-4: £150.00

eBook: 978-1-003-04740-7

* For full contents and more information, visit: www.routledge.com/9780367489724

Structure Determination By Spectroscopic Methods

A Practical Approach



Raul SanMartin, Dept of Chemistry II, Faculty of Science and Technology, University of the Basque, Spain and **Maria Teresa Herrero**, Department of Organic Chemistry II, Faculty of Science and Technology, University of the Basque, Spain

The authors travel with the reader through the challenging maze of structure determination, showing how to distinguish between valuable and deceiving data from IR, NMR and MS spectra, and putting all the pieces together to solve the structure elucidation puzzle. Indeed, human reasoning is the key to combine the information contained in those bands, signals and peaks by a rationale that enables the makeup of a chemical structure. A number of increasingly more complex problems will act as trip segments, and in addition to the spectra themselves, each

chapter is supplemented with figures and tables that decipher the above data and serve as maps for the journey.

CRC Press

Market: Chemistry

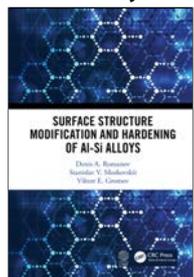
November 2020: 234x156: 250pp

Hb: 978-1-138-49158-8: **£150.00**

eBook: 978-1-351-03250-6

* For full contents and more information, visit: www.routledge.com/9781138491588

Surface Structure Modification and Hardening of Al-Si Alloys



Denis A. Romanov, **Stanislav V. Moskovskii** and **Viktor E. Gromov**

This reference explores the hardening of material surfaces using concentrated energy flows resulting in the nanostructuring of surface layers. The authors demonstrate how these methods achieve a reduction in plastic deformation of the surface, and a more uniform distribution of elastic stresses near the surface during operational use significantly reducing part failure. The book is intended for specialists in the field of physical material science, condensed state physics, metal science and thermal treatment and will be of interest to undergraduate and post-graduate students in these fields.

CRC Press

Market: Material Science and Condensed Matter Physics

November 2020: 234x156: 266pp

Hb: 978-0-367-53125-6: **£150.00**

eBook: 978-1-003-08058-9

* For full contents and more information, visit: www.routledge.com/9780367531256

Sustainability of Biomass through Bio-based Chemistry

Edited by **Valentin I Popa**

Series: *Sustainability: Contributions through Science and Technology*

The process of photosynthesis is a potential source of energy and bioproducts. Renewable sources of polymeric materials offer an answer to maintaining sustainable development of economically and ecologically attractive technology. The innovations in the development of materials from biopolymers, preservation of fossil-based raw materials, complete biological degradability, reduction in the volume of garbage and compostability in the natural cycle, climate protection through reduction of carbon dioxide released, and the application possibilities of agricultural resources for the production of bio/green materials, are some of the reasons why such materials are attracting the public interest.

CRC Press

Market: Chemistry

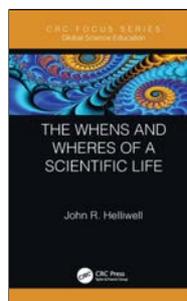
March 2021: 234x156: 318pp

Hb: 978-0-367-36595-0: **£150.00**

eBook: 978-0-429-34799-3

* For full contents and more information, visit: www.routledge.com/9780367365950

The Whens and Wheres of a Scientific Life



John R. Helliwell, University of Manchester, School of Chemistry, United Kingdom

Series: *Global Science Education*

Big questions and issues arise about the role of the scientific life in our society and in our world. These have to do with trusting science at all, or with the wider roles of the scientist. *The Whens and Wheres of a Scientific Life* acts as an epilogue to a scientific life trilogy of books on the Hows (i.e. skills) the Whys and the Whats of a scientific life. When and where questions play a big role in major science facility decisions. When and where plays a big role in controlling a pandemic like the coronavirus covid-19. The consequences of these decisions and the role science plays in society are discussed in this book.

CRC Press

Market: Chemistry

February 2021: 216x138: 176pp

Hb: 978-0-367-48971-7: **£49.99**

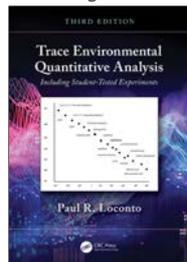
eBook: 978-1-003-04374-4

* For full contents and more information, visit: www.routledge.com/9780367489717

3rd Edition

Trace Environmental Quantitative Analysis

Including Student-Tested Experiments



Paul R. Loconto, Michigan Department of Community Health, Lansing, USA

A thorough and timely update, this new edition presents principles, techniques and applications in this sub-discipline of analytical chemistry for quantifying traces of potentially toxic organic and inorganic chemical substances found in air, soil, fish and water as well as serum, plasma, urine, and other body fluids.

CRC Press

December 2020: 254 x 178: 766pp

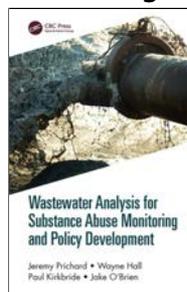
Hb: 978-0-367-44533-1: **£190.00**

eBook: 978-1-003-01060-9

Prev. Ed Hb: 978-0-824-75853-0

* For full contents and more information, visit: www.routledge.com/9780367445331

Wastewater Analysis for Substance Abuse Monitoring and Policy Development



Jeremy Prichard, University of Tasmania, Hobart, Australia, **Wayne Hall**, Centre for Youth Centre Substance Abuse Research, **Paul Kirkbride**, Flinders University, College of Science and Engineering, South Australia, Australia and **Jake O'Brien**, Queensland Alliance for Environmental Health Science (QAEHS), Coopers Plains, Australia

Wastewater Analysis for Substance Abuse Monitoring and Policy Development addresses how to estimate substance use and thereby evaluate policies intended to reduce the harms caused by drugs and other substances. Wastewater analysis (WWA) can provide efficient, affordable, fine-grained and objective data on population substance use trends on a very large scale.

CRC Press

Market: Chemistry

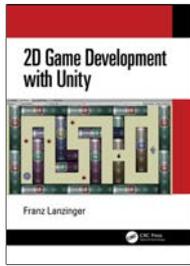
November 2020: 234x156: 178pp

Hb: 978-0-367-13290-3: **£99.99**

eBook: 978-0-429-02570-9

* For full contents and more information, visit: www.routledge.com/9780367132903

2D Game Development with Unity



Franz Lanzinger, Franz Lanzinger

This book teaches beginners and aspiring game developers how to develop 2D games with Unity. Thousands of commercial games have been built with Unity. The reader will learn the complete process of 2D game development, step by step with the theory behind each step fully explained and reinforced with exercises, quizzes and larger projects. The book contains numerous color illustrations and access to companion videos.

CRC Press

Market: Games & Animation
December 2020: 254 x 178: 444pp
Hb: 978-0-367-34911-0: **£120.00**
Pb: 978-0-367-34907-3: **£52.99**
eBook: 978-0-429-32866-4

* For full contents and more information, visit: www.routledge.com/9780367349073

2nd Edition

3D Rendering

Interiors & Exteriors with V-Ray and 3ds Max

Jamie Cardoso, 3D Consultant, variety of professional organizations worldwide

Series: 3D Photorealistic Rendering

Increase the photorealism of your 3d visualizations with enhanced toolsets of V-Ray 5 for 3ds Max 2020. The book is filled with colourful illustrations depicting step-by-step tutorials about the process of creating a photorealistic day and night exterior scenes.

Each tutorial includes a 3d project scene to guide users through the production and the post-production process.

CRC Press

Market: Architecture
March 2021: 254 x 178: 432pp
Hb: 978-0-367-72429-0: **£130.00**
Pb: 978-0-367-62550-4: **£52.99**
eBook: 978-1-003-15476-1
Prev. Ed Pb: 978-1-138-78072-9

* For full contents and more information, visit: www.routledge.com/9780367625504



3ds Max Basics for Modeling Video Game Assets

Volume 2: Model, Rig and Animate Characters for Export to Unity or Other Game Engines

William Culbertson

A textbook for learning the fundamentals of modeling, rigging and animating 3d modeled characters for use in video games. This step-by-step lesson book builds on the readers modeling skills acquired from reading Volume One.

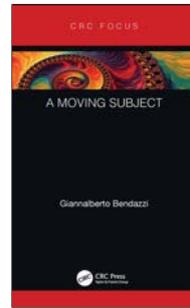
CRC Press

March 2021: 254 x 178: 492pp
Hb: 978-0-367-70781-1: **£115.00**
Pb: 978-0-367-70780-4: **£52.99**
eBook: 978-1-003-14796-1

* For full contents and more information, visit: www.routledge.com/9780367707804



A Moving Subject



Giannalberto Bendazzi

Series: Focus Animation

On a Moving Subject offers a collection of essays from around the world. From Italy to the Middle East, from an analysis of "Night on Bald Mountain" to African cinema animation, these articles help to paint the world of animation in a comprehensive and international manner. Hand chosen by renowned Animation historian and researcher Giannalberto Bendazzi, the text offers a look at the global foundations of animation from disparate regions, peoples, and methods and helps to demonstrate animation as a unifying factor of the human race.

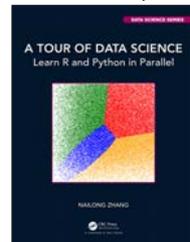
CRC Press

Market: Games and Animation
November 2020: 216x138: 144pp
Hb: 978-0-367-56185-7: **£115.00**
Pb: 978-0-367-56689-0: **£46.99**
eBook: 978-1-003-09897-3

* For full contents and more information, visit: www.routledge.com/9780367566890

A Tour of Data Science

Learn R and Python in Parallel



Nailong Zhang

Series: Chapman & Hall/CRC Data Science Series

This book covers the fundamentals of data science, including programming, statistics, optimization, and machine learning in a single and short book. It does not cover everything, but instead, teaches the key concepts and topics. It also covers two of the most popular programming languages used in Data Science, R and Python, in one source.

Chapman and Hall/CRC

Market: Computer Science
November 2020: 254 x 178: 216pp
Hb: 978-0-367-89706-2: **£115.00**
Pb: 978-0-367-89586-0: **£44.99**
eBook: 978-1-003-02064-6

* For full contents and more information, visit: www.routledge.com/9780367895860

AI for Immunology



Louis J. Catania

The bioscience of immunology has given us a better understanding of human health and disease. Artificial intelligence (AI) has elevated that understanding and its applications in immunology to new levels. Together, AI for immunology is an advancing horizon in health care, disease diagnosis, and prevention. From simple colds to the most advanced autoimmune disorders and now, pandemics, AI for immunology is unlocking the causes and cures. Features: a highly accessible and wide-ranging short introduction to artificial intelligence for immunology; includes a chapter on COVID-19 and pandemics; includes scientific and clinical considerations as well as immune and autoimmune diseases.

Chapman and Hall/CRC

Market: Computer Science/Artificial Intelligence
January 2021: 198x129: 120pp
Hb: 978-0-367-68521-8: **£56.99**
Pb: 978-0-367-65465-8: **£14.99**
eBook: 978-1-003-13793-1

* For full contents and more information, visit: www.routledge.com/9780367654658

2nd Edition

An Essential Introduction to Maya Character Rigging

Cheryl Briggs, Autodesk Certified Instructor in Maya; Professor at the University of Central Florida

While some rigging books focus too much on the theory of rigging and provide little instruction; others do the exact opposite and offer no reasoning behind the button-pushing. The Essential Introduction to Maya Character Rigging, 2nd Edition, however, offers a perfect balance.

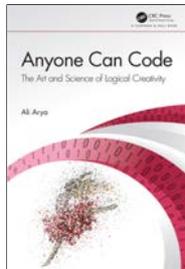
CRC Press

Market: Animation & Gaming
January 2021: 254 x 178: 474pp
Hb: 978-0-367-69406-7: **£115.00**
Pb: 978-1-138-77798-9: **£38.99**
eBook: 978-1-315-77140-3
Prev. Ed Pb: 978-0-240-52082-7

* For full contents and more information, visit: www.routledge.com/9781138777989

Anyone Can Code

The Art and Science of Logical Creativity



Ali Arya, Carleton University, Canada

This textbook starts by reviewing creative processes such as visual and algorithmic thinking. It then moves to establish a basic understanding of software programs as a combination of code and data. This is demonstrated through engaging examples, including video games and visual effects. Then, the concept of modularization is used to understand programming constructs. The book uses a reflective approach based on the notion that learning is done not only through "doing" but also "sense-making". To help readers with this approach, the book borrows from different creative activities, such as visual arts, game design, and storytelling, and provides plenty of exercises and reflective questions.

Chapman and Hall/CRC

Market: Computer Science
November 2020: 254 x 178: 600pp
Hb: 978-0-367-19974-6: **£130.00**
Pb: 978-0-367-19969-2: **£52.99**
eBook: 978-0-429-24442-1

* For full contents and more information, visit: www.routledge.com/9780367199692

An Introduction to Computational Systems Biology

Systems-Level Modelling of Cellular Networks

Karthik Raman, Indian Institute of Technology Madras, Chennai

Series: *Chapman & Hall/CRC Computational Biology Series*

The main objective of this book is to deliver a comprehensive and insightful account of applying mathematical modelling approaches to very large biological systems and networks, a fundamental aspect of computational systems biology. Several key modelling paradigms will be discussed in detail. The area is itself highly multi-disciplinary, and the audience will therefore include biologists, engineers, computer scientists, mathematicians and others. The idea is to present a sufficiently compelling account of the modelling strategies, but at the same time, retaining simplicity so as to appeal to those from less quantitative fields.

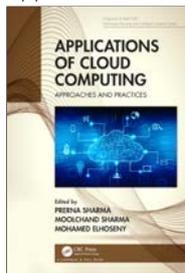
CRC Press

Market: Computer Science & Engineering
May 2021: 234x156: 360pp
Hb: 978-1-138-59732-7: **£69.99**
eBook: 978-0-429-48695-1

* For full contents and more information, visit: www.routledge.com/9781138597327

Applications of Cloud Computing

Approaches and Practices



Prerna Sharma, Maharaja Agrasen Institute of Technology, Delhi, India, **Moolchand Sharma**, Maharaja Agrasen Institute of Technology, Rohini, Delhi, India and **Mohamed Elhoseny**, Mansoura University, Egypt

Series: *Chapman & Hall/CRC Distributed Sensing and Intelligent Systems Series*

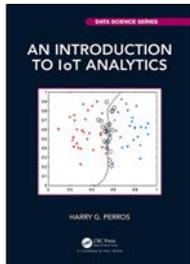
This book lays a good foundation for the core concepts and principles of cloud computing applications, walking the reader through the fundamental ideas with expert ease. The book progresses on the topics in a step-by-step manner. It reinforces theory with a full-fledged pedagogy designed to enhance students' understanding and offer them a practical insight into

the applications of it. It is a valuable source of knowledge for researchers, engineers, practitioners, and graduate and doctoral students working in the field of cloud computing. It will also be useful for faculty members of graduate schools and universities.

Chapman and Hall/CRC

Market: Computer Science
November 2020: 254 x 178: 210pp
Hb: 978-0-367-90412-8: **£99.99**
eBook: 978-1-003-02569-6

* For full contents and more information, visit: www.routledge.com/9780367904128

An Introduction to IoT Analytics

Harry G. Perros

Series: *Chapman & Hall/CRC Data Science Series*

This book covers techniques that can be used to analyze data from IoT sensors and also addresses questions regarding the performance of an IoT system. It strikes a balance between practice and theory so that one can learn how to apply these tools in practice with a good understanding of their inner workings. It is an introductory book for readers that have no familiarity with these techniques. The techniques presented in the book come from the areas of Machine Learning, Statistics, and Operations Research.

Chapman and Hall/CRC

Market: Internet of Things
January 2021: 254 x 178: 378pp
Hb: 978-0-367-68782-3: **£105.00**
Pb: 978-0-367-68631-4: **£42.99**
eBook: 978-1-003-13904-1

* For full contents and more information, visit: www.routledge.com/9780367686314

Applied Evolutionary Algorithms for Engineers using Python

Leonardo Azevedo Scardua, Instituto Federal do Espirito Santo Rodovia ES010, KM 6,5 Serra, ES 29173-087 Brazil

This book meant for students, scientists and engineers to help in the application of evolutionary algorithms to practical optimization problems. The presentation of theoretical background is complemented with didactical Python implementations of evolutionary algorithms that researchers have recently applied to complex optimization problems. Successful cases of application of evolutionary algorithms to real-world like optimization problems are presented, together with source code that gives readers an insight into the idiosyncrasies of the practical application of evolutionary algorithms.

CRC Press

Market: Computer Science & Engineering
July 2021: 234x156: 225pp
Hb: 978-0-367-26313-3: **£130.00**
eBook: 978-0-429-29802-8

* For full contents and more information, visit: www.routledge.com/9780367263133

Applied User Data Collection and Analysis Using JavaScript and PHP

Kyle Goslin and Markus Hofmann

Applied User Data Collection and Analysis Using JavaScript and PHP is designed to provide the technical skills and competency to gather a wide range of user data from web applications in both active and passive methods.

Chapman and Hall/CRC

Market: Computer Science

April 2021: 234x156: 336pp

Hb: 978-0-367-75682-6: **£115.00**

Pb: 978-0-367-75680-2: **£57.32**

eBook: 978-1-003-16354-1

* For full contents and more information, visit: www.routledge.com/9780367756802

Artificial Intelligence Techniques in IoT Sensor Networks



Edited by Mohamed Elhoseny, K Shankar and Mohamed Abdel-Basset

Series: *Chapman & Hall/CRC Distributed Sensing and Intelligent Systems Series*

Artificial Intelligence Techniques in IoT Sensor Networks is a technical book which can be read by researchers, academicians, students and professionals interested in Artificial Intelligence (AI), Sensor Networks and Internet of Things (IoT). This book intends to develop a shared understanding of applications of AI techniques in the present and near term. The book maps the technical impacts of AI technologies, applications, and their implications on the design of solutions for sensor networks. This

book introduces the researchers and aspiring academicians the subject of latest developments and trends in AI applications for sensor networks in a clear and well-organized manner.

Chapman and Hall/CRC

Market: Computer Science

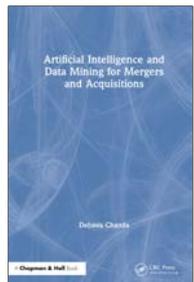
December 2020: 254 x 178: 231pp

Hb: 978-0-367-43925-5: **£99.99**

eBook: 978-1-003-00726-5

* For full contents and more information, visit: www.routledge.com/9780367439255

Artificial Intelligence and Data Mining for Mergers and Acquisitions



Debasis Chanda

The goal of this work is to present a modeling framework for Virtual Enterprise focused on process composition by consolidating individual process models into consolidated process model. This framework uses Artificial Intelligence (Predicate Calculus) Knowledge Bases. It also proposes a Data Mining model using a fuzzy mathematical approach, which aims to discover knowledge in banking databases and determines those candidate organizations that are suitable for merger.

Chapman and Hall/CRC

Market: Computer Science and Engineering

March 2021: 254 x 178: 304pp

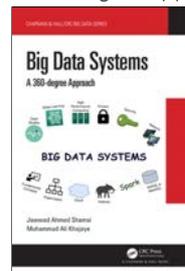
Hb: 978-1-138-35473-9: **£120.00**

eBook: 978-0-429-42457-1

* For full contents and more information, visit: www.routledge.com/9781138354739

Big Data Systems

A 360-degree Approach



Jawwad Ahmed Shamsi, National University of Computer and Emerging Sciences, Karachi, Sindh, Pakistan and Muhammad Ali Khojaye, Sopra Steria, Glasgow, United Kingdom

Series: *Chapman & Hall/CRC Big Data Series*

Big Data Systems encompass massive challenges related to data diversity, storage mechanisms, and requirements of massive computational power. Further, capabilities of big data systems also vary with respect to the type of problems. For instance, distributed memory systems are considered ill-suited for iterative algorithms. Similarly, variations in big data systems also exist related to consistency and fault tolerance. The purpose of this

book is to provide a detailed overview of big data systems. The book adopts a challenge-centric approach in which platforms are evaluated based on their capabilities to solve specific challenges.

Chapman and Hall/CRC

Market: Computer Science & Engineering

May 2021: 254 x 178: 320pp

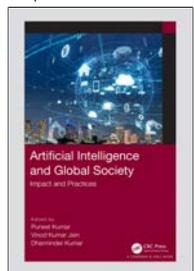
Hb: 978-1-498-75270-1: **£74.99**

eBook: 978-0-429-15544-4

* For full contents and more information, visit: www.routledge.com/9781498752701

Artificial Intelligence and Global Society

Impact and Practices



Edited by Puneet Kumar, Vinod Kumar Jain and Dharminder Kumar

This book is an attempt to throw spotlight on the areas where AI is proving to be a boon. The salient features of the book include:

Impact of digitalization and AI on Governance The novel AI practices being followed across the global community in the domain of security, health care, crime prevention and detection, education, agriculture, sensor networks etc. Innovative techniques which can be adopted in future

This book will prove to be a guide for university students especially from the technical background, industries, NGOs and

Policy makers.

Chapman and Hall/CRC

Market: Computer Science and Engineering

March 2021: 254 x 178: 274pp

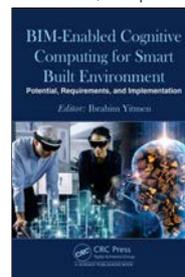
Hb: 978-0-367-43943-9: **£120.00**

eBook: 978-1-003-00660-2

* For full contents and more information, visit: www.routledge.com/9780367439439

BIM-Enabled Cognitive Computing for Smart Built Environment

Potential, Requirements and Implementation



Edited by Ibrahim Yitmen, Department of Construction Engineering and Lighting Science, School of Engineering, Jonkoping University

The book brings together the Building Information Model (BIM)-enabled cognitive computing methods for smart built environment, and focuses on the potential, requirements and implementation of cognitive Internet of Things (CIoT) paradigm to buildings, Augmented Reality/Mixed Reality into cognitive building concepts, cognitive smart cities in its complexity, heterogeneity, and scope, and challenges of utilizing the big data generated by smart cities from a machine learning perspective.

CRC Press

Market: Computer Sciences

June 2021: 234x156: 220pp

Hb: 978-0-367-86183-4: **£120.00**

eBook: 978-1-003-01754-7

* For full contents and more information, visit: www.routledge.com/9780367861834

Blockchain, Internet of Things, and Artificial Intelligence

Edited by **Naveen Chilamkurti, T. Poongodi and Balamurugan Balusamy**

This book provides an integrated overview and technical description of the fundamental concepts of blockchain, IoT and AI technologies. State-of-the-art techniques are explored in-depth to discuss the challenges faced in each domain. Discussions about an integrated perspective on the influence of AI, BC and IoT for smart cities, healthcare, and other business sectors illuminates the benefits and opportunities in the ecosystems world-wide. This book is suitable for graduates, academic professors, research scholars, IT professionals, and industry experts.

Chapman and Hall/CRC

Market: Computer Science & Engineering

April 2021: 254 x 178: 358pp

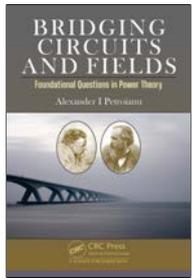
Hb: 978-0-367-37153-1: **£140.00**

eBook: 978-0-429-35289-8

* For full contents and more information, visit: www.routledge.com/9780367371531

Bridging Circuits And Fields

Foundational Questions in Power Theory



Alexander I. Petroianu, University of Cape Town, South Africa; University of Calgary, Canada

The book proposes a new paradigm for power theory that can be used in power systems and electrical networks. This new approach links electromagnetic and circuit theories in a coherent way by taking a fresh look at the old debates of poynting vector and reactive power as well as offering a mathematically consistent and physically coherent interpretation of the power concept and the mechanism of power transmission. Seeing the advances in geometrical optics, quantum mechanics, and geometric algebra, the monograph illustrates that, to paraphrase *Heaviside*, there is no finality in the development of a vibrant discipline such as power theory.

CRC Press

Market: Engineering - Electrical

June 2021: 234x156: 175pp

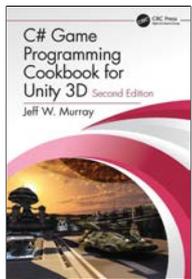
Hb: 978-1-138-71043-6: **£120.00**

eBook: 978-1-315-20067-5

* For full contents and more information, visit: www.routledge.com/9781138710436

2nd Edition

C# Game Programming Cookbook for Unity 3D



Jeff W. Murray, Psychic Parrot Games, Ottawa, Ontario, Canada

This second edition of C# Game Programming Cookbook for Unity expounds upon the first with more details and techniques. With a fresh array of chapters, updated C# code and examples, Jeff W. Murray's book will help the reader understand structured game development in Unity unlike ever before.

New to this edition is a step-by-step tutorial for building a 2D infinite runner game from the framework and scripts included in the book. The book contains a flexible and reusable framework in C# suitable for all game types. From game state handling to audio mixers to asynchronous scene loading, the focus of this book is building a reusable structure to take care of many of the

most used systems.

CRC Press

Market: Computer Science

March 2021: 254 x 178: 418pp

Hb: 978-0-367-32170-3: **£105.98**

Pb: 978-0-367-32164-2: **£52.99**

eBook: 978-0-429-31713-2

Prev. Ed Pb: 978-1-466-58140-1

* For full contents and more information, visit: www.routledge.com/9780367321642

Campus Network Architectures and Technologies

Ningguo Shen, Bin Yu, Mingxiang Huang and Hailin Xu

The book will provide readers with a comprehensive understanding of next-generation campus network solutions, technical implementation, planning, design, and additional know-how. Leveraging Huawei's years of technical expertise and practices in the network field, this book systematically describes the use of technical solutions such as virtualization, big data, AI, and SDN in campus networks. The book is intended for network planning engineers, network technical support engineers, network administrators, and enthusiasts of campus network technologies.

CRC Press

Market: Campus Network, Local Area Network, IT

April 2021: 229 x 152: 456pp

Hb: 978-0-367-69574-3: **£74.99**

eBook: 978-1-003-14331-4

* For full contents and more information, visit: www.routledge.com/9780367695743

Cloud Data Center Network Architectures and Technologies

Lei Zhang and Le Chen

This book describes in detail the architectural design, technical implementation, planning and design, and deployment suggestions for cloud Data Center Networks (DCNs) based on the service challenges faced by cloud DCNs. Readers can use this book as a reference to help them to build secure, reliable, efficient, and open cloud DCNs. It is intended for technical professionals of enterprises, research institutes and information departments, as well as teachers and students of computer network-related majors in colleges and universities.

CRC Press

Market: Data Communication, Cloud Computing, Data Center Network

April 2021: 229 x 152: 456pp

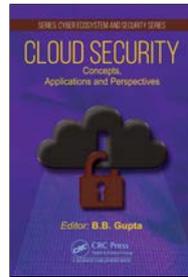
Hb: 978-0-367-69570-5: **£74.99**

eBook: 978-1-003-14318-5

* For full contents and more information, visit: www.routledge.com/9780367695705

Cloud Security

Concepts, Applications and Perspectives



Edited by **Brij B. Gupta**, National Institute of Technology Kurukshetra India

Series: Cyber Ecosystem and Security

Cloud computing has proven to be an extraordinary computing paradigm by providing rapidly deployable and scalable IT solutions with reduced infrastructure costs. However, there are numerous challenges associated with this technology that require complete understanding in order to be addressed. *Cloud Security: Concepts, Applications and Perspectives* discusses the state-of-the-art techniques and methodologies, and covers wide range of examples and illustrations to effectively show the principles, algorithms, applications and practices of security in

cloud computing. It also provides valuable insights into the security and privacy aspects in cloud.

CRC Press

Market: Cyber Security

July 2021: 234x156: 225pp

Hb: 978-0-367-40715-5: **£150.00**

eBook: 978-0-367-82155-5

* For full contents and more information, visit: www.routledge.com/9780367407155

Component-Based Software Engineering

Methods and Metrics



Umesh Kumar Tiwari, Graphic Era (Deemed to be University), India and **Santosh Kumar**, Graphic Era (Deemed to be University), Dehradun, India

Component-Based Software Engineering (CBSE) is a distinctive paradigm of Software Engineering, offering the feature of reusability. It promotes the development of software systems by picking suitable and appropriate pre-existing, pre-built, pre-tested and reusable software work-products called 'components'. This book addresses three core issues in the context of component-based software: reusability, interaction-integration of components and testing. This book is aimed primarily at undergraduates and graduates of computer science and software engineering. It would also be beneficial for research scholars, software developers and software designers.

Chapman and Hall/CRC

Market: Computer Science and Engineering

November 2020: 254 x 178: 226pp

Hb: 978-0-367-35488-6: **£100.00**

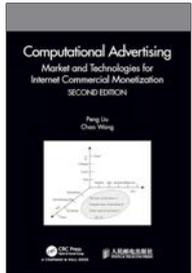
eBook: 978-0-429-33174-9

* For full contents and more information, visit: www.routledge.com/9780367354886

2nd Edition

Computational Advertising

Market and Technologies for Internet Commercial Monetization



Peng Liu and Chao Wang

This book introduces computational advertising, and advertising monetization. It provides a macroscopic understanding of how consumer products in the Internet era push user experience and monetization to the limit. Part One of the book focuses on the basic problems and background knowledge of online advertising. Part Two targets the product, operations, and sales staff, as well as high-level decision makers of the Internet products. It explains the market structure, trading models, and the main products in computational advertising. Part Three targets system engineers, algorithm engineers, and architects, and focuses on the key technical challenges of different advertising products.

CRC Press

Market: Computer Science

May 2020: 254 x 178: 442pp

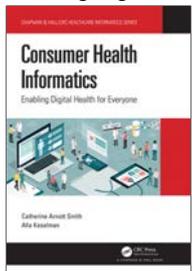
Hb: 978-0-367-20638-3: **£120.00**

eBook: 978-0-429-26265-4

* For full contents and more information, visit: www.routledge.com/9780367206383

Consumer Health Informatics

Enabling Digital Health for Everyone



Catherine Arnott Smith, University of Wisconsin-Madison and **Alla Keselman**, National Library of Medicine Bethesda, MD

Series: Chapman & Hall/CRC Healthcare Informatics Series

Consumer Healthcare Informatics educates readers in the core concepts of consumer health informatics: participatory healthcare; health and e-health literacy; user-centered design; information retrieval and trusted information resources; and the ethical dimensions of health information and communication technologies. It presents the current state of knowledge and recent developments in the field of consumer health informatics. The discussions address tailoring information to key user groups

including patients, consumers, caregivers, parents, children and young adults, and older adults.

Chapman and Hall/CRC

Market: Healthcare

December 2020: 254 x 178: 262pp

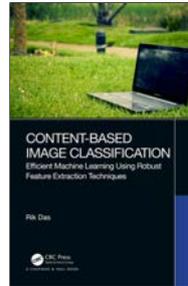
Hb: 978-1-138-33745-9: **£59.99**

eBook: 978-0-429-44237-7

* For full contents and more information, visit: www.routledge.com/9781138337459

Content-Based Image Classification

Efficient Machine Learning Using Robust Feature Extraction Techniques



Rik Das

This book is a comprehensive guide to initiate and excel in researching with invaluable image data. Social Science Research Network has revealed the fact that sixty five percent of us are visual learners. Research data provided by Hyerle(2000) has clearly shown ninety percent of information in our brain is visual. The book is intended for budding researchers, engineering students and machine learning / deep learning enthusiasts who are willing to start their computer vision journey with content based image recognition. The readers will get a clear picture of the essentials for transforming the image data into valuable means of insight generation.

Chapman and Hall/CRC

Market: Computer Science & Engineering

December 2020: 234x156: 196pp

Hb: 978-0-367-37160-9: **£89.99**

eBook: 978-0-429-35292-8

* For full contents and more information, visit: www.routledge.com/9780367371609

Creating Games with Unity, Substance Painter, & Maya

Models, Textures, Animation, & Code



Jingtian Li, **Adam Watkins**, Associate Professor of 3D

Animation at the School of Media & Design, The University of the Incarnate Word, **Kassandra Arevalo**, 3D Animation & Game Design, University of the Incarnate Word and **Matthew Tovar**

This tutorial-based book allows readers to create a first-person game from start to finish using industry-standard (and free to student) tools of Maya, Substance Painter, and Unreal Engine. The first half of the book lays out the basics of using Maya and Substance Painter to create game-ready assets.

CRC Press

Market: Computer Science

January 2021: 229 x 152: 768pp

Hb: 978-0-367-50603-2: **£130.00**

Pb: 978-0-367-50601-8: **£52.99**

eBook: 978-1-003-05049-0

* For full contents and more information, visit: www.routledge.com/9780367506018

Creating Games with Unreal Engine, Substance Painter, & Maya

Models, Textures, Animation, & Blueprint



Kassandra Arevalo, 3D Animation & Game Design, University of the Incarnate Word, **Matthew Tovar** and **Jingtian Li**

This tutorial-based book allows readers to create a first-person game from start to finish using industry-standard (and free to student) tools of Maya, Substance Painter, and Unreal Engine. The first half of the book lays out the basics of using Maya and Substance Painter to create game-ready assets.

CRC Press

Market: Games

January 2021: 229 x 152: 826pp

Hb: 978-0-367-51267-5: **£140.00**

Pb: 978-0-367-51263-7: **£52.99**

eBook: 978-1-003-05310-1

* For full contents and more information, visit: www.routledge.com/9780367512637

Custom Search - Discover more:

A Complete Guide to Google Programmable Search Engines

Irina Shamaeva and David Michael Galley

Google's Programmable Search Engines (PSEs, previously called Custom Search Engines) provide search opportunities that are unavailable with any other tool. PSEs have advanced settings and search operators that are not supported by "regular" Google. With PSEs, it is possible to perform filtered searches within parts of the web as if they were databases! While lots of professionals use existing PSEs to source for talent or with other research goals, few people have experience creating them. Even fewer know about powerful PSE-only search operators. The first of its kinds, this book hopes to popularize these fun and powerful tools so that many more people include PSEs their work.

Chapman and Hall/CRC

Market: Computer Science

March 2021: 229 x 152: 152pp

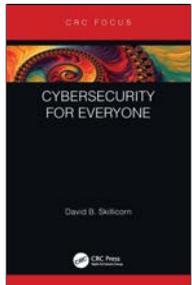
Hb: 978-0-367-56968-6: **£89.99**

Pb: 978-0-367-56739-2: **£42.99**

eBook: 978-1-003-10013-3

* For full contents and more information, visit: www.routledge.com/9780367567392

Cybersecurity for Everyone



David B. Skillicorn, Queen's University, Canada

Making cyberspace more secure is one of the challenges of our times. This is not only (or perhaps even primarily) a technical challenge. It requires actions by governments and businesses to encourage security whenever possible, and to make sure that their own actions do not undermine it. Unfortunately, many of those in the position to do something about cybersecurity do not have the skills to understand the issues fully. *Cybersecurity for Everyone* is intended to help by giving a description of the issues that is accessible to anyone from non-technical backgrounds.

CRC Press

Market: Cybersecurity

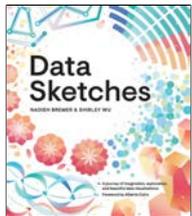
December 2020: 216 x 140: 102pp

Hb: 978-0-367-64278-5: **£44.99**

eBook: 978-1-003-12403-0

* For full contents and more information, visit: www.routledge.com/9780367642785

Data Sketches



Nadieh Bremer and Shirley Wu

Series: *AK Peters Visualization Series*

In *Data Sketches*, Nadieh Bremer and Shirley Wu document the creative and collaborative process behind 24 unique data visualization projects, spanning different topics, technologies, and forms. Features: Technical write-ups with beginner-friendly explanations of core concepts; Practical lessons on data and design challenges; Full-color; Interview with Tamara Munzner; Foreword by Alberto Cairo. This book is perfect for anyone interested or working in data visualization and information

design, especially those who want to take their work to the next level and are inspired by unique and compelling data-driven storytelling.

A K Peters/CRC Press

Market: Computer Science

February 2021: 234 x 274: 468pp

Hb: 978-0-367-00012-7: **£99.99**

Pb: 978-0-367-00008-0: **£38.99**

eBook: 978-0-429-44501-9

* For full contents and more information, visit: www.routledge.com/9780367000080

Deep Learning and Linguistic Representation

Shalom Lappin, Queen Mary University of London, UK

Series: *Chapman & Hall/CRC Machine Learning & Pattern Recognition*

The application of deep learning methods to problems in natural language processing has generated significant progress across a wide range of natural language processing tasks. For some of these applications, deep learning models now approach or surpass human performance. While the success of this approach has transformed the engineering methods of machine learning in artificial intelligence, the significance of these achievements for the modelling of human learning and representation remains unclear.

Deep Learning and Linguistic Representation looks at the application of a variety of deep learning systems to several cognitively interesting NLP tasks.

CRC Press

Market: Computational Linguistics

May 2021: 234x156: 168pp

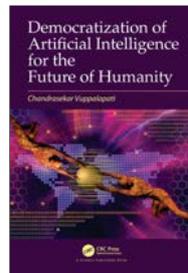
Hb: 978-0-367-64947-0: **£140.00**

Pb: 978-0-367-64874-9: **£53.99**

eBook: 978-1-003-12708-6

* For full contents and more information, visit: www.routledge.com/9780367648749

Democratization of Artificial Intelligence for the Future of Humanity



Chandrasekar Vuppalapati

The book describes development of software for Artificial Intelligence (AI) from the perspective of startups, industry and academia. It will empower the reader to create state of art AI applications that can be deployed for any computation platform (embedded or hand-held). The applications presented in the book encourage the reader to create innovative blue ocean software products with the goal to serve the humanity and create value for future generations.

CRC Press

Market: Computer Science

January 2021: 254 x 178: 388pp

Hb: 978-0-367-52409-8: **£190.00**

Pb: 978-0-367-52412-8: **£74.99**

eBook: 978-1-003-05778-9

* For full contents and more information, visit: www.routledge.com/9780367524128

Enterprise Wireless Local Area Network Architectures and Technologies

Rihai Wu, Xun Yang, Xia Zhou and Yibo Wang

The increasing significance of enterprise Wireless Local Area Networks has raised the increasingly higher requirements of customers. This book has been written with the support of Huawei's large accumulation of technical knowledge and experience in the WLAN field, as well as its understanding of customer service requirements. The book first covers service challenges facing enterprise wireless networks. Furthermore, it illustrates typical networking, planning, and scenario-specific design for enterprise WLANs, and provides readers with an understanding of enterprise WLAN planning, design, and technical implementation, as well as suggestions for deployment.

CRC Press

Market: Network, Wireless Communications, WiFi

May 2021: 229 x 152: 416pp

Hb: 978-0-367-69575-0: **£74.99**

eBook: 978-1-003-14365-9

* For full contents and more information, visit: www.routledge.com/9780367695750

Fundamentals of Image, Audio, and Video Processing Using MATLAB®

With Applications to Pattern Recognition

Ranjan Parekh

Fundamentals of Image, Audio, and Video Processing Using MATLAB® introduces the concepts and principles of media processing and its applications in pattern recognition by adopting a hands-on approach using program implementations. The book covers the tools and techniques for reading, modifying and writing image, audio and video files using the data analysis and visualization tool MATLAB®.

CRC Press

Market: Computer Science

April 2021: 254 x 178: 392pp

Hb: 978-0-367-89524-2: **£99.99**

eBook: 978-1-003-01971-8

* For full contents and more information, visit: www.routledge.com/9780367895242

2nd Edition

Game Anim

Video Game Animation Explained

Jonathan Cooper

The second edition of GAME ANIM expands upon the first with an all-new chapter on 2D and Pixel Art Animation, an enhanced mocap chapter covering the latest developments in Motion Matching, and even more interviews with top professionals in the field.

CRC Press

Market: Games & Animation

March 2021: 254 x 178: 392pp

Hb: 978-0-367-70770-5: **£120.00**

Pb: 978-0-367-70765-1: **£42.99**

eBook: 978-1-003-14789-3

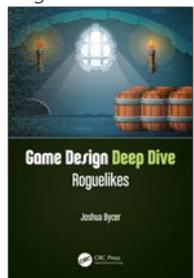
Prev. Ed Pb: 978-1-138-09487-1

* For full contents and more information, visit: www.routledge.com/9780367707651



Game Design Deep Dive

Roguelikes



Joshua Bycer

Game Design Deep Dive: Roguelikes examines the history and rise of the often-confusing roguelike genre. Despite being over 30 years old, the roguelike genre remains a mystery to a lot of consumers and developers.

CRC Press

Market: Animation and Video Games

April 2021: 229 x 152: 120pp

Hb: 978-0-367-71371-3: **£115.00**

Pb: 978-0-367-63819-1: **£38.50**

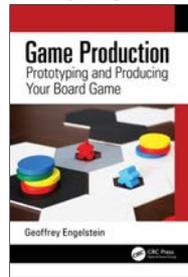
eBook: 978-1-003-15053-4

* For full contents and more information, visit: www.routledge.com/9780367638191



Game Production

Prototyping and Producing Your Board Game



Geoffrey Engelstein

Many new games are from first time designers or are being self-published. There is a tremendous thirst for information about the nuts and bolts of tabletop game design. *GameCraft: Prototyping and Producing Your Board Game* presents this information in a single volume which will be invaluable for up-and-coming designers and publishers.

CRC Press

December 2020: 229 x 152: 198pp

Hb: 978-0-367-62690-7: **£94.99**

Pb: 978-0-367-52774-7: **£42.99**

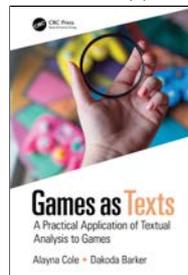
eBook: 978-1-003-11030-9

* For full contents and more information, visit: www.routledge.com/9780367527747



Games as Texts

A Practical Application of Textual Analysis to Games



Alayna Cole and Dakoda Barker

Games as Texts provides an overview and practical steps for analyzing games in terms of their representations of social structures, class, power, race, sexuality, gender, animals, nature, and ability.

CRC Press

December 2020: 234x156: 138pp

Hb: 978-0-367-34802-1: **£115.00**

Pb: 978-0-367-35428-2: **£44.99**

eBook: 978-0-429-33132-9

* For full contents and more information, visit: www.routledge.com/9780367354282

Green Computing and Predictive Analytics for Healthcare



Edited by **Sourav Banerjee**, Kalyani Govt. Engg. College, WB, India., **Chinmay Chakraborty**, Birla Institute of Technology, India, and **Kousik Dasgupta**, Kalyani Govt. Engg. College, WB, India.

The emergent trends in Green Cloud Computing lead to new developments in various application domains, mainly in healthcare. A Green Cloud computing framework provides good patient care, disease management, and effectiveness of various medical systems embedded with optimum energy consumption. The aim of this book is to collect innovative and high-quality research contributions related to the advances in the energy-aware cloud-enabled healthcare domain. This book has

been written as a reference book for graduates of Computer Science and IT Engineering Health Informatics. It could also be as a textbook for graduates in biomedical engineering, bioengineering and electronics engineering.

Chapman and Hall/CRC

Market: Computer Science and Engineering

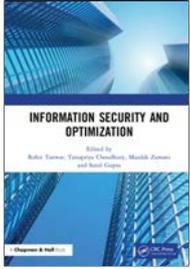
December 2020: 254 x 178: 204pp

Hb: 978-0-367-32200-7: **£105.00**

eBook: 978-0-429-31722-4

* For full contents and more information, visit: www.routledge.com/9780367322007

Information Security and Optimization



Edited by **Rohit Tanwar, Tanupriya Choudhury, Mazdak Zamani and Sunil Gupta**

Maintaining a practical perspective along with theoretical explanations, this book explores the concepts that are essential for academics as well as organization's point of view. The book covers the definitions, discussion, analysis of techniques and tools that are useful for a scholar ranging from beginners to experts. What are the policy standards, what are vulnerabilities, how to patch them, How to transmit data securely, how to secure data on the cloud, cryptocurrency and blockchain, optimization algorithms, and etc.

Chapman and Hall/CRC

Market: Computer Science & Engineering

November 2020: 254 x 178: 224pp

Hb: 978-0-367-49345-5: **£105.00**

eBook: 978-1-003-04585-4

* For full contents and more information, visit: www.routledge.com/9780367493455

Machine Learning for Healthcare

Handling and Managing Data



Edited by **Rashmi Agrawal, MRIIRS, Jyoti Moy Chatterjee, Asia Pacific Univ, Abhishek Kumar, AECRC, Pramod Singh Rathore, AECRC and Dac-Nhuong Le, Haiphong Uni**

Machine learning provides a way to automatically find patterns and reason about data, which enables healthcare professionals to move to personalized care known as precision medicine. This book will provide in depth information about handling and managing healthcare data by Machine Learning methods. Besides this it completely focuses on applications of machine learning in healthcare; Focuses on how data analysis can be done using healthcare data and bioinformatics using healthcare data; Explores the concepts of machine learning along with the recent research development in healthcare.

Chapman and Hall/CRC

Market: Computer Science and Engineering

December 2020: 234x156: 222pp

Hb: 978-0-367-35233-2: **£105.00**

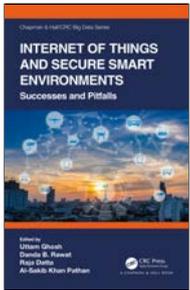
eBook: 978-0-429-33013-1

* For full contents and more information, visit: www.routledge.com/9780367352332



Internet of Things and Secure Smart Environments

Successes and Pitfalls



Edited by **Uttam Ghosh, Danda B Rawat, Raja Datta, IIT Kharagpur, India and Al-Sakib Khan Pathan, International Islamic University Malaysia, Kuala Lumpur**

Series: Chapman & Hall/CRC Big Data Series

The main goal of IoT is to make secure, reliable, and fully automated smart environments. However, there are many technological challenges in deploying IoT. This includes connectivity and networking, timeliness, power and energy consumption dependability, security and privacy, compatibility and longevity, and network/protocol standards. This book will provide a comprehensive overview of recent research and open problems in the area of IoT research. It will cover state of the art problems, present solutions, and open research directions and

will be targeted to researchers and scholars in both industry and academia.

Chapman and Hall/CRC

Market: Computer Science and Engineering

November 2020: 235 x 156: 512pp

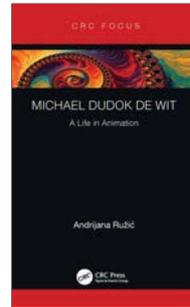
Hb: 978-0-367-26639-4: **£99.99**

eBook: 978-0-367-27670-6

* For full contents and more information, visit: www.routledge.com/9780367266394

Michael Dudok de Wit

A Life in Animation



Andrijana Ruzic

Series: Focus Animation

A unique survey on career of Michael Dudok de Wit discussing all his works. The biography of this European master in 2D animation, born in the Netherlands and based in London is the first, complete overview of the well-defined and canonic opus of this humble genius with glimpses on his private life.

CRC Press

Market: Games & Animation

November 2020: 216x138: 210pp

Hb: 978-1-138-36730-2: **£115.00**

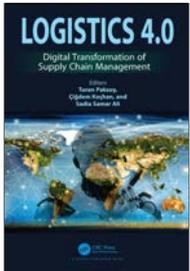
Pb: 978-1-138-36728-9: **£44.99**

eBook: 978-0-429-42987-3

* For full contents and more information, visit: www.routledge.com/9781138367289

Logistics 4.0

Digital Transformation of Supply Chain Management



Edited by **Turan Paksoy, Konya Technical University, Cigdem Gonul Kochan, Ohio Northern University, USA and Sadia Samar Ali, King Abdul-Aziz University, Saudia Arabia**

In this peer-reviewed book, experts from all over the world, in the field present a conceptual framework for Logistics 4.0 and provide examples for usage of Industry 4.0 tools in SCM. This book is a work that will be beneficial for both practitioners and students and academicians, as it covers the theoretical framework, on the one hand, and includes examples of practice and real world.

CRC Press

Market: Statistics

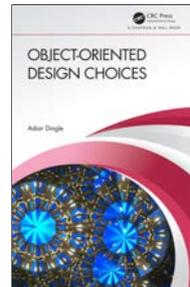
December 2020: 254 x 178: 368pp

Hb: 978-0-367-34003-2: **£140.00**

eBook: 978-0-429-32763-6

* For full contents and more information, visit: www.routledge.com/9780367340032

Object-Oriented Design Choices



Adair Dingle

This book compares designs variant and emphasizes the strategic use of types in object-oriented design (OOD). In addition to thorough content coverage, many design problems are presented with sample solutions discussed in appendices. The book is partitioned into three sections that cover *type design*, *coupling* and *reuse*. This text originated from material developed and updated for an advanced undergraduate course on software design. Entry-level or immediate developers, especially those responsible for maintaining or refactoring a legacy system written in an OOPL, may benefit from this explicit exposition of object-oriented design as well as the evaluation of design variants.

Chapman and Hall/CRC

Market: Computer Science & Engineering

January 2021: 234x156: 348pp

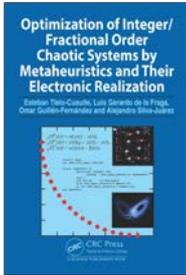
Hb: 978-0-367-82081-7: **£130.00**

Pb: 978-0-367-82018-3: **£52.99**

eBook: 978-1-003-01348-8

* For full contents and more information, visit: www.routledge.com/9780367820183

Optimization of Integer/Fractional Order Chaotic Systems by Metaheuristics and their Electronic Realization



Esteban Tlelo Cuautle, Luis Gerardo de la Fraga, Omar Guillén Fernández and Alejandro Silva Juárez

The book describes the application of different numerical methods to simulate integer/fractional-order chaotic systems. These methods are used within optimization loops to maximize positive Lyapunov exponents, Kaplan-Yorke dimension, and entropy. Single and multi-objective optimization approaches applying metaheuristics are described, as well as their tuning techniques to generate feasible solutions that are suitable for electronic implementation. The book details several applications of chaotic oscillators such as in random bit/number generators, cryptography, secure communications, robotics, and Internet of Things.

CRC Press

Market: Mathematics

May 2021: 234x156: 266pp

Hb: 978-0-367-48668-6: £125.00

eBook: 978-1-003-04218-1

* For full contents and more information, visit: www.routledge.com/9780367486686

Pattern Language for Game Design



Christopher Barney

Christopher Barney's Pattern Language for Game Design builds on the revolutionary work of architect Christopher Alexander to show students, teachers, and game development professionals how to derive best practices in all aspects of game design.

CRC Press

Market: 1

December 2020: 234x156: 502pp

Hb: 978-0-367-63395-0: £120.00

Pb: 978-0-367-36772-5: £52.99

eBook: 978-1-003-11902-9

* For full contents and more information, visit: www.routledge.com/9780367367725



Recent Advances in Security, Privacy, and Trust for Internet of Things (IoT) and Cyber-Physical Systems (CPS)



Edited by Kuan-Ching Li, Providence University Taiwan and Brij B. Gupta, National Institute of Technology Kurukshetra India

Recent Advances in Security, Privacy and Trust for Internet-of-Things (IoT) and Cyber-Physical Systems (CPS) will discuss and present techniques and methodologies as well as a wide range of examples and illustrations to effectively show the principles, algorithms, challenges, and applications of security, privacy, and trust for IoT and CPS.

It will also serve as an excellent reference in security, privacy and trust of IoT and CPS for professionals in this fast-evolving and critical field. The chapters present high-quality contributions from researchers, academics, and practitioners from various national and international organizations and universities.

Chapman and Hall/CRC

Market: Computer Science

December 2020: 254 x 178: 290pp

Hb: 978-0-367-22065-5: £115.00

eBook: 978-0-429-27056-7

* For full contents and more information, visit: www.routledge.com/9780367220655

Ripple-Down Rules

The Alternative to Machine Learning

Paul Justin Compton, The University of New South Wales, Sydney, Australia and Byeong Ho Kang, University of Tasmania, Tasmania, Australia

Machine learning algorithms hold out extraordinary promise, but the reality is that their success depends entirely on the suitability of the data available. This book is about Ripple-Down Rules (RDR) an alternative manual technique for rapidly building AI systems. With a human in the loop, RDR is much better able to deal with the limitations of the data. It has been proven in industrial application it takes only a minute or two per rule to build RDR systems with perhaps thousands of rules. The industrial uses of RDR have ranged from medical diagnosis, through data cleansing to chatbots in cars. RDR can be used standalone or to improve the performance of machine learning or other methods.

Chapman and Hall/CRC

Market: Computer Science

March 2021: 234x156: 232pp

Hb: 978-0-367-64766-7: £130.00

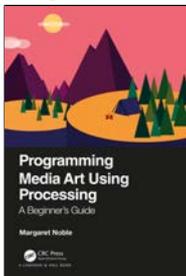
Pb: 978-0-367-64432-1: £49.99

eBook: 978-1-003-12615-7

* For full contents and more information, visit: www.routledge.com/9780367644321

Programming Media Art Using Processing

A Beginner's Guide



Margaret Noble, High Tech High Media Arts, San Diego, California, USA

Programming Beginning Media Art for Non-Programmers provides an entry level exploration into visual design through computer programming using the open source and artist friendly language, Processing. Used by hundreds of students - this learning system breaks lessons down into strategic steps towards fun and creative media art projects. Computer programming can be overwhelming for the first time learner but this book makes the learning of code more digestible and fun through a full color, well diagrammed, and deeply explained text presentation.

Chapman and Hall/CRC

Market: Computer Science

December 2020: 229 x 152: 248pp

Hb: 978-0-367-50959-0: £120.00

Pb: 978-0-367-50828-9: £44.99

eBook: 978-1-003-05198-5

* For full contents and more information, visit: www.routledge.com/9780367508289

Search Engine Optimization and Marketing

A Recipe for Success in Digital Marketing



Subhankar Das

This book explains the nuances of Search Engine Optimization (SEO) and Search Engine Marketing (SEM) for setting up digital websites. Search engine marketing is a form of Internet marketing that involves the promotion of websites by increasing their visibility in search engine results pages (SERPS) through optimization and advertising. SEM includes SEO tactics and describes series of techniques which improves the visibility of the web site in search engine result pages. The goal of such optimization is to rank a web site as highly as possible for a certain search query. This book is suitable for undergraduates, graduates and developers of digital marketing, SEO and SEM.

Chapman and Hall/CRC

Market: Computer Science and Engineering

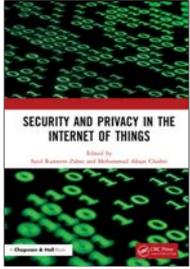
January 2021: 235 x 156: 232pp

Hb: 978-0-367-27878-6: £99.99

eBook: 978-0-429-29850-9

* For full contents and more information, visit: www.routledge.com/9780367278786

Security and Privacy in the Internet of Things



Edited by **Syed Rameem Zahra**, NIT Srinagar and **Mohammad Ahsan Chishti**, NIT Srinagar, India

This book provides a comprehensive study of the security and privacy research advancements in Internet of Things (IoT). The book lays the context for discussion by introducing the vulnerable intrinsic features of IoT. By providing a comprehensive discussion of the vulnerable features, the book highlights the problem areas of IoT related to security and privacy. Graduates, researchers, people from the industry and security professionals who want to explore the IoT security field will find this book useful. The book will give an in-depth insight into what has happened, what new is happening and what opportunities exist

in the field.

Chapman and Hall/CRC

Market: Computer Science and Engineering

December 2020: 254 x 178: 214pp

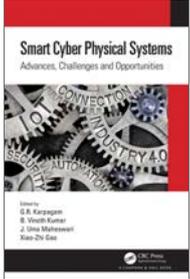
Hb: 978-0-367-85994-7: **£110.00**

eBook: 978-1-003-01630-4

* For full contents and more information, visit: www.routledge.com/9780367859947

Smart Cyber Physical Systems

Advances, Challenges and Opportunities



Edited by **G.R. Karpagam**, **B Vinoth Kumar**, **J.Uma Maheswari** and **Xiao-Zhi Gao**

The scope of this book includes research experiences by experts in CPS infrastructure systems that incorporates sustainability by embedding computing and communication in day-to-day applications. Cyber Physical System (CPS) composed with the Blockchain, Artificial Intelligence, Internet of Things, Big Data, Cloud Computing and Communication lay a foundation for the fourth industrial revolution, Industry 4.0. This book will be of immense use to the practitioners in industries with focus on autonomous and adaptive configuration, optimization leading to agility, elasticity, and cost efficacy.

Chapman and Hall/CRC

December 2020: 234x156: 294pp

Hb: 978-0-367-33788-9: **£115.00**

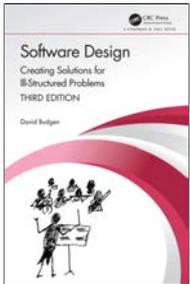
eBook: 978-0-429-32195-5

* For full contents and more information, visit: www.routledge.com/9780367337889

3rd Edition

Software Design

Creating Solutions for Ill-Structured Problems



David Budgen, School of Engineering & Computing Sciences, Durham University, UK

Series: Chapman & Hall/CRC Innovations in Software Engineering and Software Development Series

Software Design provides a balanced view of the many and varied software design practices used by practitioners. The book provides a general overview of software design within the context of software development and also in terms of more general thinking about design as a means of addressing ill-structured problems. The third edition has been expanded and reorganised to focus on the structure and process aspects of software design, including architectural issues, as well as design notations and models. It also describes a variety of

different ways of creating design solutions such as plan-driven development, agile approaches, patterns, product lines, and other forms.

Chapman and Hall/CRC

Market: Information Technology

December 2020: 234x156: 364pp

Hb: 978-0-367-67656-8: **£120.00**

Pb: 978-1-138-19661-2: **£44.99**

eBook: 978-1-315-30007-8

* For full contents and more information, visit: www.routledge.com/9781138196612

The Craft and Science of Game Design

A Video Game Designer's Manual



Philippe O'Connor

This book goes into the nuts and bolts of video game development from the perspective of a veteran designer with over 20 years in the industry. It covers the psychology and biology of why people play games and goes in-depth on the techniques and tricks professional game designers use to be successful in game development. If you are looking to make a career in video games or are already in the industry, the insights and hard-earned lessons contained in this book are sure to be useful to all levels of the profession.

CRC Press

Market: Games and Animation

December 2020: 216x138: 134pp

Hb: 978-0-367-56245-8: **£74.99**

Pb: 978-0-367-55653-2: **£42.99**

eBook: 978-1-003-09700-6

* For full contents and more information, visit: www.routledge.com/9780367556532

The Essential Guide to the Business & Law of Esports & Professional Video Gaming

Justin M Jacobson

The Essential Guide to the Business & Law of Esports & Professional Video Gaming covers everything you need to know about the past, present and future of esports and professional video gaming. Written by one of the foremost attorneys and business practitioners in today's esports and professional gaming scene, Justin M. Jacobson, Esq.

CRC Press

March 2021: 229 x 152: 328pp

Hb: 978-0-367-69945-1: **£120.00**

Pb: 978-0-367-67512-7: **£42.99**

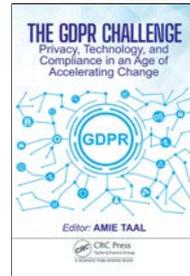
eBook: 978-1-003-14396-3

* For full contents and more information, visit: www.routledge.com/9780367675127



The GDPR Challenge

Privacy, Technology, and Compliance in an Age of Accelerating Change



Edited by **Amie Taal**

The book is a compilation of authoritative perspectives on General Data Protection Regulation (GDPR) of experts from Industry, Law (EU and US), Academia, Banks, Cyber Security, Digital Forensics, eDiscovery, Investigations, and Cyber Insurance. Adhering to data privacy regulations and legislations is a must and this book provides clarity and answers to questions on this subject.

CRC Press

Market: Statistics

July 2021: 234x156: 200pp

Hb: 978-0-367-25726-2: **£74.99**

eBook: 978-0-429-32593-9

* For full contents and more information, visit: www.routledge.com/9780367257262

The Multiplayer Classroom

Game Plans



Lee Sheldon, Worcester Polytechnic

The Multiplayer Classroom: Game Plans is a companion to *The Multiplayer Classroom: Designing Coursework as a Game*, now in its second edition from CRC Press. This book covers four multiplayer classroom projects played in the real world in real time to teach and entertain.

CRC Press

Market: Games and Education

April 2021: 254 x 178: 264pp

Hb: 978-0-367-24904-5: **£73.99**

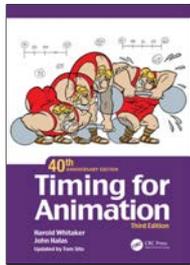
Pb: 978-0-367-24901-4: **£36.99**

eBook: 978-0-429-28501-1

* For full contents and more information, visit: www.routledge.com/9780367249014

3rd Edition

Timing for Animation, 40th Anniversary Edition



Harold Whitaker, John Halas and Tom Sito

Timing for Animation has been one of the pillars of animation since it was first published in 1981. Now this 40th anniversary edition captures the focus of the original and enhances this new edition with fresh images, techniques, and advice from world-renowned animators.

CRC Press

January 2021: 254 x 178: 184pp

Hb: 978-0-367-68935-3: **£115.00**

Pb: 978-0-367-52775-4: **£42.99**

eBook: 978-1-003-13970-6

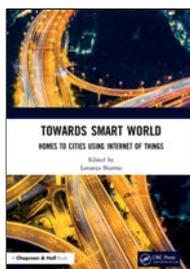
Prev. Ed Pb: 978-0-240-52160-2

* For full contents and more information, visit: www.routledge.com/9780367527754



Towards Smart World

Homes to Cities Using Internet of Things



Edited by Lavanya Sharma

This book provides an overview of basic concept from rising of machines and communication to IoT for making the cities smart, real time applications domains, related technologies, and their possible solutions to handle the relevant challenges. This book highlights the utilization of IoT for making the cities smart and its underlying technologies in real time application areas, such as, emergency departments, intelligent traffic systems (ITS), indoor and out-doors securities, automotive industry, environmental monitoring, business entrepreneurship, facial recognition, motion based object detection and many more.

Chapman and Hall/CRC

Market: Computer Science & Engineering

December 2020: 254 x 178: 358pp

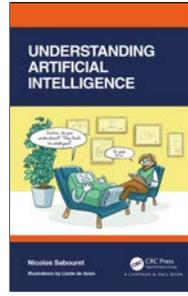
Hb: 978-0-367-52160-8: **£130.00**

eBook: 978-1-003-05675-1

* For full contents and more information, visit: www.routledge.com/9780367521608



Understanding Artificial Intelligence



Nicolas Sabouret, University Paris 6, France

Understanding Artificial Intelligence explains, through a straight forward narrative and amusing illustrations, how AI works. It is written for a non-specialist reader, adult or adolescent, who is interested in AI, but who is new to the field. The author demystifies the creation of the so-called "intelligent" machine. The book explains the different methods that are used in AI. It presents new possibilities offered by algorithms, but also the difficulties that researchers, engineers and users face when building and using such algorithms. Each chapter allows the reader to discover a new aspect of AI and to become fully aware of the possibilities offered by this rich field.

Chapman and Hall/CRC

Market: Computer Science

December 2020: 216x138: 174pp

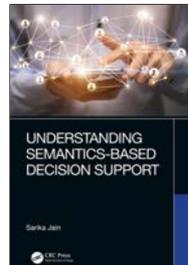
Hb: 978-0-367-53136-2: **£74.99**

Pb: 978-0-367-52435-7: **£30.99**

eBook: 978-1-003-08062-6

* For full contents and more information, visit: www.routledge.com/9780367524357

Understanding Semantics-Based Decision Support



Sarika Jain, National Institute of Technology, Haryana

This book covers extracts from a few project dissertations and a research funded project that the author had supervised. This book :Describes the power of ontologies for better data management; provides an overview of knowledge engineering including ontology engineering, tools and techniques; Provides sample development procedures for creating two domain ontologies; Depicts the utility of ontological representation in situation awareness; Demonstrates recommendation engine for unconventional emergencies using a hybrid reasoning approach. The text explains how to make better utilization of resources when emergency strikes.

Chapman and Hall/CRC

Market: Computer Science and Engineering

November 2020: 234x156: 162pp

Hb: 978-0-367-44313-9: **£74.99**

eBook: 978-1-003-00892-7

* For full contents and more information, visit: www.routledge.com/9780367443139

Visual Storytelling with Color and Light



Michael Humphries, Instructor, Art Center College of Design, Pasadena, CA

In the world today—where digital is considered king—new artists often forego training in traditional mediums, only to find their art suffering down the road. *Visual Storytelling with Color and Light* offers behind-the-scenes secrets of gouache, an opaque watercolor painting technique that naturally leads its practitioners to a deeper understanding of the color theory, composition, and lighting principles they need to succeed in the industry. With insider information on best gouache practices, Photoshop enhancements, and developing a signature style, this new guide has everything you need to take your paintings and backgrounds to the next level.

CRC Press

Market: Animation

May 2021: 204 x 254: 264pp

Hb: 978-0-415-72064-9: **£32.99**

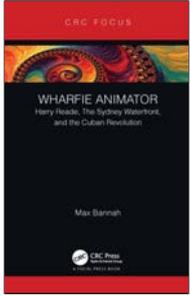
Pb: 978-0-367-86067-7: **£32.99**

eBook: 978-1-315-86686-4

* For full contents and more information, visit: www.routledge.com/9780367860677

Wharfie Animator

Harry Reade, The Sydney Waterfront, and the Cuban Revolution



Max Bannah

Series: Focus Animation

This book examines the life of the Australian artist Harry Reade (1927-1998), and his largely overlooked contribution to animation.

CRC Press

December 2020: 216x138: 154pp

Hb: 978-0-367-63953-2: **£44.99**

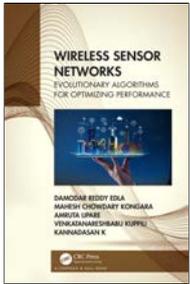
Pb: 978-0-367-63958-7: **£18.99**

eBook: 978-1-003-12149-7

* For full contents and more information, visit: www.routledge.com/9780367639587

Wireless Sensor Networks

Evolutionary Algorithms for Optimizing Performance



Damodar Reddy Edla, National Institute of Technology Goa, India, **Mahesh Chowdary Kongara**, Research Scholar, NIT, Goa, **Amruta Lipare**, National Institute of Technology (NIT) Goa, India, **Venkatanaresbhabu Kuppili**, Assistant Professor, NIT Goa, India and **Kannadasan K**, National Institute of Technology (NIT), Goa, India

This book focuses on novel methodologies for optimizing the wireless sensor networks in terms of load balancing, energy efficiency, clustering, routing and localization. It discusses bio-inspired models which are a current thrust area in artificial intelligence, introduces cost effective sensor network by improving the lifetime of sensors and gateways, covers Bio-Medicine and Bio-Informatics applications/wearable device

technology applications/applications related to Internet of Things, evaluates WSN performance using various case studies and parameters via extensive simulations.

Chapman and Hall/CRC

Market: Computer Science and Engineering

November 2020: 234x156: 146pp

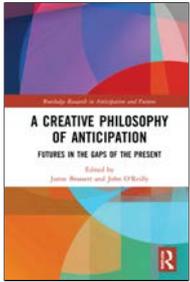
Hb: 978-0-367-34241-8: **£94.99**

eBook: 978-0-429-32461-1

* For full contents and more information, visit: www.routledge.com/9780367342418

A Creative Philosophy of Anticipation

Futures in the Gaps of the Present



Edited by **Jamie Brassett**, University of the Arts London, UK and **John O'Reilly**, University of the Arts London, UK
Series: Routledge Research in Anticipation and Futures

This collection highlights the valuable ontological and creative insights gathered from anticipation studies, which orient itself to the future in order to shape the present. Authors gathered in this volume provide critical expertise across anticipation, philosophy, the future and the present, to emphasize the important role creativity plays as they intersect with a number of other disciplines including science, religion, business and psychology, among others. This book will be of interest scholars and research in futures studies, anticipation, philosophy, creative practice and theories about creative practice, as well as the intersections between philosophy, creativity and business.

Routledge

Market: Philosophy / Future Studies

April 2021: 234x156: 296pp

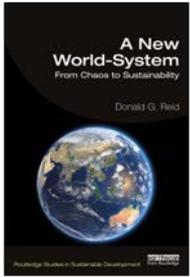
Hb: 978-0-367-23456-0: **£120.00**

eBook: 978-0-367-23459-1

* For full contents and more information, visit: www.routledge.com/9780367234560

A New World-System

From Chaos to Sustainability



Donald G. Reid, University of Guelph, Canada

Series: Routledge Studies in Sustainable Development

This book examines the present crisis in the social and ecological environment that is producing profound, potentially catastrophic challenges to the planet and humanity, and outlines a process for moving forward to address these critical issues. Part 1 surveys the five major threats facing humanity today: climate change, inequality and poverty, new technologies, migration and globalization. It approaches the challenge of integrating these phenomena into a global picture from a systems perspective. Part 2 moves to solving these problems with chapters examining the ability of the present world-system to address these issues and outlining a process for action.

Routledge

Market: Sustainable Development / Environment

November 2020: 234x156: 238pp

Hb: 978-0-367-61130-9: **£120.00**

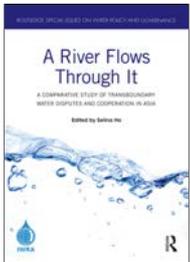
Pb: 978-0-367-60967-2: **£34.99**

eBook: 978-1-003-10426-1

* For full contents and more information, visit: www.routledge.com/9780367609672

A River Flows Through It

A Comparative Study of Transboundary Water Disputes and Cooperation in Asia



Edited by **Selina Ho**, National University of Singapore, Singapore

Series: Routledge Special Issues on Water Policy and Governance

A River Flows Through It: A Comparative Study of Transboundary Water Disputes and Cooperation in Asia explores water disputes in Asia and addresses the question of how states sharing a river system can be incentivized to cooperate.

This book will be of great value to scholars, students, and policymakers interested in transboundary water disputes and cooperation, hydro-diplomacy, and river activism. It was originally published as special issues of *Water International*.

Routledge

Market: Environment and Sustainability

November 2020: 246x174: 250pp

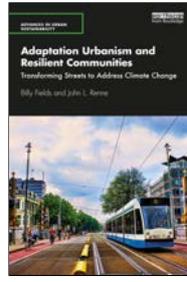
Hb: 978-0-367-63676-0: **£120.00**

eBook: 978-1-003-12022-3

* For full contents and more information, visit: www.routledge.com/9780367636760

Adaptation Urbanism and Resilient Communities

Transforming Streets to Address Climate Change



Billy Fields and John L. Renne

Series: Advances in Urban Sustainability

Adaptation Urbanism and Resilient Communities outlines and explains adaptation urbanism as a theoretical framework for understanding and evaluating resilience projects in cities and relates it to pressing contemporary policy issues related to urban climate change mitigation and adaptation. Advancing resilience policy discourse through multidisciplinary framework this work will be of great interest to students of urban planning, geography, transportation, landscape architecture, and environmental studies, as well as resilience practitioners around the world.

Routledge

Market: Urban Studies / Sustainability

May 2021: 234x156: 248pp

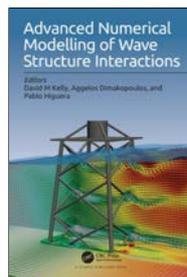
Hb: 978-0-367-13493-8: **£120.00**

Pb: 978-0-367-13495-2: **£34.99**

eBook: 978-0-429-02680-5

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Advanced Numerical Modelling of Wave Structure Interaction



Edited by **David M Kelly, Angelos Dimakopoulos and Pablo Higuera Caubilla**

With the rapid growth in computing power over the last decade, the numerical modelling of wave structure interaction has entered a new phase. This book contains contributions from experts in the field of numerical modelling for coastal engineering. Chapters present state-of-the-art numerical approaches in fluid structure interaction ranging from wave-breakwater interaction to the complex scouring that occurs around coastal structures. The book serves as a comprehensive guide to up-to-date numerical techniques used for a wide variety of fluid structure interaction problems within a coastal engineering context.

CRC Press

Market: Engineering - Civil

April 2021: 254 x 178: 270pp

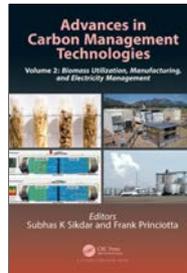
Hb: 978-0-815-35997-5: **£140.00**

eBook: 978-1-351-11954-2

* For full contents and more information, visit: www.routledge.com/9780815359975

Advances in Carbon Management Technologies

Biomass Utilization, Manufacturing, and Electricity Management, Volume 2



Edited by **Subhas K. Sikdar and Frank Princiotta**

UN climate models predict global average temperature increases due to cumulative rise of atmospheric greenhouse gas emissions. This will have serious implications on life on Earth. Scientists have been engaged in research for reducing such emissions from current technologies as well as for developing low carbon and carbon neutral energy technologies. This book was motivated by the desire to compile recent advances in carbon management to examine promises and limitations of emissions measurements, energy efficiencies, carbon capture and sequestration, biomass waste utilization, electric power generation, energy storage, and carbon neutral power from nuclear, hydro, solar and wind.

CRC Press

Market: Energy & Clean Technology

February 2021: 254 x 178: 390pp

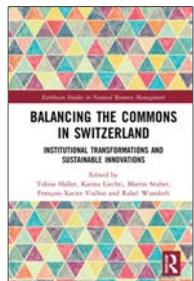
Hb: 978-0-367-52049-6: **£105.00**

eBook: 978-1-003-05615-7

* For full contents and more information, visit: www.routledge.com/9780367520496

Balancing the Commons in Switzerland

Institutional Transformations and Sustainable Innovations



Edited by **Tobias Haller**, University of Bern, Switzerland, **Karina Liechti**, **Martin Stuber**, **François-Xavier Viallon** and **Rahel Wunderli**

Series: *Earthscan Studies in Natural Resource Management*

Balancing the Commons in Switzerland outlines continuity and change in the management of common-pool resources such as pastures and forests in Switzerland. This book will be of great interest to students and scholars of the commons, natural resource management and agricultural development.

Routledge

Market: Natural Resource Management / Sustainable Development

March 2021: 234x156: 288pp

Hb: 978-0-367-48873-4: £120.00

eBook: 978-1-003-04326-3

* For full contents and more information, visit: www.routledge.com/9780367488734

Beyond the Blue Economy

Creative Industries and the Fourth Industrial Revolution in Small Island Developing States



Peter Rudge

Series: *Routledge Studies in Sustainable Development*

This book argues for a broader approach to sustainable growth in Small Island Developing States (SIDS).

Small island states such as those in the Caribbean, Indian Ocean and South Pacific face significant and growing threats from climate change, increasing political and social volatility and rapidly evolving global trends in technology and tourism. Based on ten years of research, this book looks beyond the Blue Economy of tourism and fisheries and provides a model of how creative industries, innovation networks, creative clusters and digital transformation can give SIDS the foundation for a strong sustainable future.

Routledge

Market: Developing Economies/Sustainable Development

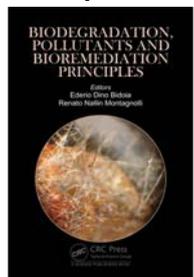
April 2021: 234x156: 184pp

Hb: 978-0-367-82025-1: £120.00

eBook: 978-1-003-01151-4

* For full contents and more information, visit: www.routledge.com/9780367820251

Biodegradation, Pollutants and Bioremediation Principles



Edited by **Ederio Dino Bidoia**, Sao Paulo State University (UNESP), Sao Paulo, Brazil and **Renato Nallin Montagnoli**, Federal University of São Carlos, Sao Paulo, Brazil

This book presents a broad compendium of biodegradation research and discussions on the most up-to-date bioremediation strategies. The most relevant microbiological, biochemical and genetic concepts are presented alongside the fundamentals of bioremediation. The topics include: a wide variety of contaminant impacts evaluation, key methodologies required to measure biodegradation and propose new bioremediation protocols, as well as the handling of microbial communities related to such processes. The selected collaborating authors are renowned for their microbiology expertise and will provide

an in-depth reference for students and specialists.

CRC Press

Market: Environmental Science

April 2021: 234x156: 358pp

Hb: 978-0-367-25938-9: £155.00

eBook: 978-0-429-29393-1

* For full contents and more information, visit: www.routledge.com/9780367259389

Bioremediation Science

From Theory to Practice



Edited by **Amitava Rakshit**, Banaras Hindu University, India, **Manoj Parihar**, ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan, India, **Binoy Sarkar**, The University of Sheffield, UK, **Leonardo Fernandes Fraceto**, Sao Paulo University, Brazil and **HB Singh**

This book provides state of the art description of various approaches, techniques and some basic fundamentals of bioremediation to manage a variety of organic and inorganic wastes and pollutants present in our environment. A comprehensive overview of recent advances and new development in the field of bioremediation research are provided within relevant theoretical framework to improve our understanding for the cleaning up of polluted water and contaminated land. The book is easy to read and language can be readily comprehended by aspiring newcomer, students, researchers and anyone else interested in this field.

CRC Press

Market: Environmental Science

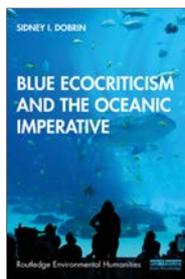
May 2021: 254 x 178: 360pp

Hb: 978-0-367-34396-5: £150.00

eBook: 978-0-429-32764-3

* For full contents and more information, visit: www.routledge.com/9780367343965

Blue Ecocriticism and the Oceanic Imperative



Sidney I. Dobrin, University of Florida, Gainesville, FL, USA

Series: *Routledge Environmental Humanities*

This book initiates a conversation about blue ecocriticism: critical, ethical, cultural, and political positions that emerge from oceanic or aquatic frames of mind rather than traditional land-based approaches. The chapters explore a vast archive of oceanic literature, visual art, television and film, games, theory and criticism. By examining the relationships between these representations of ocean and cultural imaginaries, This book works to unmoor ecocriticism from its land-based anchors. This book aims to simultaneously advance blue ecocriticism as an intellectual pursuit within the environmental humanities and to advocate for ocean conservation as derivative of that pursuit.

Routledge

Market: Environment / Environmental Humanities

March 2021: 234x156: 272pp

Hb: 978-1-138-31522-8: £120.00

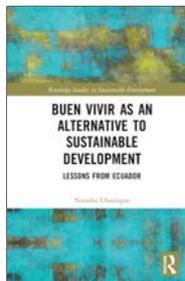
Pb: 978-1-138-31527-3: £34.99

eBook: 978-0-429-45646-6

* For full contents and more information, visit: www.routledge.com/9781138315273

Buen Vivir as an Alternative to Sustainable Development

Lessons from Ecuador



Natasha Chassagne

Series: *Routledge Studies in Sustainable Development*

This book explores how communities understand and practice Buen Vivir, an alternative to the current model of sustainable development. Until recently, the concept of Buen Vivir has only been loosely articulated by practising communities and in progressive policy. This book, based on extensive theoretical and field research, offers a concrete way forward. Exploring Buen Vivir's evolution from its indigenous origins, academic interpretations and implications for development policy; to its role in endogenous, community-led change, this book will be of interest to policymakers, activists, students and scholars of sustainability and development.

Routledge

Market: Development / Sustainable Development

November 2020: 234x156: 192pp

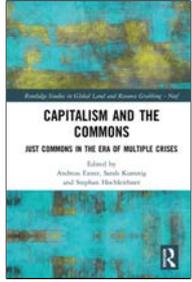
Hb: 978-0-367-90143-1: £120.00

eBook: 978-1-003-02307-4

* For full contents and more information, visit: www.routledge.com/9780367901431

Capitalism and the Commons

Just Commons in the Era of Multiple Crises



Edited by **Andreas Exner**, University of Graz, Austria, **Sarah Kumnig**, University of Vienna, Austria and **Stephan Hochleithner**

Series: Routledge Studies in Global Land and Resource Grabbing

This book looks at capitalism and the commons in an era of multiple, cumulative, and interconnected crises. It questions the very foundation of a capitalist, essentialist understanding and making of the world by alternatively building on what lies at the core of the commons: sustainable practices of solidarity, self-organization, and self-determination. Providing a fresh perspective on the commons as a decisive component of alternatives this title will be relevant to students and scholars of resource management, social movements and sustainable

development more broadly.

Routledge

Market: Commons / Capitalism / Resources

December 2020: 234x156: 214pp

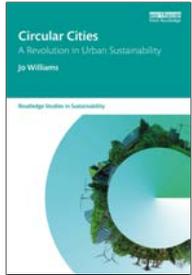
Hb: 978-0-367-42002-4: **£120.00**

eBook: 978-0-367-82283-5

* For full contents and more information, visit: www.routledge.com/9780367420024

Circular Cities

A Revolution in Urban Sustainability



Jo Williams, Bartlett School of Planning, University College London, UK

Series: Routledge Studies in Sustainability

This book provides the first, definitive summary of circular cities and compares them to other city types, such as smart, zero waste, regenerative, and resilient. With cities striving to meet sustainable development goals, circular urban systems are gaining momentum. Especially in Europe, cities have adopted measures and strategies that aim to create sustainable circular systems in fields ranging from infrastructure to urban planning, social consumption, industry and business. *Circular Cities* explains the shift in focus from a purely economic concept, which

promotes circular business models in cities, to one that explores a new approach to urban development.

Routledge

Market: Environment, Sustainability

April 2021: 234x156: 168pp

Hb: 978-1-138-59114-1: **£120.00**

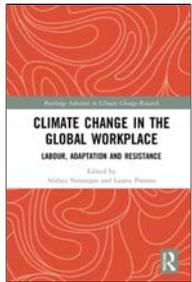
Pb: 978-0-367-74816-6: **£34.99**

eBook: 978-0-429-49061-3

* For full contents and more information, visit: www.routledge.com/9780367748166

Climate Change in the Global Workplace

Labour, Adaptation and Resistance



Edited by **Nithya Natarajan** and **Laurie Parsons**

Series: Routledge Advances in Climate Change Research

This book offers a timely exploration of how climate change manifests in the global workplace. It draws together accounts of workers, their work and the politics of resistance in order to enable us to better understand how the impacts of climate change are structured by the economic and social processes of labour. It shows how both the impacts of and adaptations to a changing climate emerge through the prism of working lives. Drawing together scholars from anthropology, political economy, geography and development studies, this book will be of great interest to students and scholars of climate change adaptation, labour studies and environmental justice.

Routledge

Market: Environment / Sustainability

May 2021: 234x156: 224pp

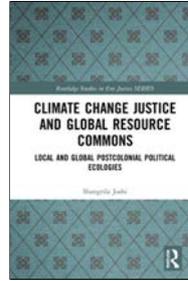
Hb: 978-0-367-42232-5: **£120.00**

eBook: 978-0-367-82290-3

* For full contents and more information, visit: www.routledge.com/9780367422325

Climate Change Justice and Global Resource Commons

Local and Global Postcolonial Political Ecologies



Shangrila Joshi

Series: Routledge Studies in Environmental Justice

This book examines the multiple scales at which the inequities of climate change are borne out. Shangrila Joshi engages in a multi-scalar analysis of the myriad ways in which various resource commons are implicated in climate governance, with a consistent emphasis throughout on the justice implications for disenfranchised communities. It focuses on an analysis of North-South inequities in responsibility, vulnerability, and capability, as evidenced in global climate treaty negotiations from Rio to Paris. This book will be of great interest to students and scholars of environmental justice, climate justice, climate policy, political ecology, and South Asian studies.

Routledge

Market: Climate Justice / Political Ecology

April 2021: 234x156: 240pp

Hb: 978-0-367-36455-7: **£120.00**

eBook: 978-0-429-34623-1

* For full contents and more information, visit: www.routledge.com/9780367364557

Climate Change Solutions and Environmental Migration

The Injustice of Maladaptation and the Gendered 'Silent Offset' Economy

Anna Ginty

Series: Routledge Studies in Environmental Migration, Displacement and Resettlement

This book lifts the taboo on maladaptation, a different driver of environmentally induced migration, shining a light on the negative consequences arising from the solutions to climate change, adaptation and mitigation policies. This volume will be of great interest to students, scholars and practitioners of climate change, environmental policy, environmental migration and displacement, development studies, I/NGOs and civil society actors and activists more broadly.

Routledge

Market: Climate Change/Migration

April 2021: 234x156: 216pp

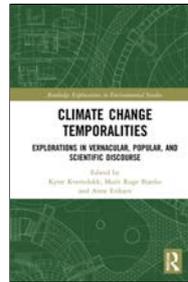
Hb: 978-0-367-49058-4: **£120.00**

eBook: 978-1-003-04427-7

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Climate Change Temporalities

Explorations in Vernacular, Popular, and Scientific Discourse



Edited by **Kyrrre Kverndokk**, **Marit Ruge Bjærke** and **Anne Eriksen**

Series: Routledge Explorations in Environmental Studies

This book explores how the relationship between the past, present and future is articulated in different climate change discourses. The contributors address climate change temporality by exploring the multiple temporalities present in texts on climate change from a range of different genres. The material studied ranges from scientific articles to newspaper debates and self-presentations from climate activists. *Climate Change Temporalities* will be of great interest to students and scholars of humanistic climate change research, environmental humanities, studies of temporality and historicity, cultural studies,

cultural history and popular culture.

Routledge

Market: Environment / Climate Change

March 2021: 234x156: 208pp

Hb: 978-0-367-47960-2: **£120.00**

eBook: 978-1-003-03741-5

* For full contents and more information, visit: www.routledge.com/9780367479602

Climate Diplomacy and Emerging Economies

India as a Case Study

Dhanasree Jayaram

Series: *Routledge Focus on Environment and Sustainability*

Climate Diplomacy and Emerging Economies analyses the role of the BASIC countries – Brazil, South Asia, India and China – in the international climate order.

Digging deeper into the case study of India, Jayaram studies the shifts in its climate diplomacy by looking into the ways in which climate change is framed and analyses the variations in perceptions of the causes of climate change, the solutions to it, the motivations for setting climate action goals, and the methods to achieve the goals.

This book will be of great interest to students and scholars of climate change, environmental policy and politics and IR more broadly.

Routledge

Market: Climate Change/Environmental Policy

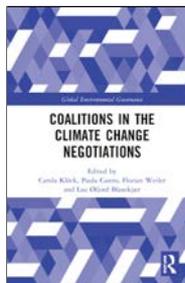
February 2021: 216x138: 136pp

Hb: 978-0-367-63402-5: **£44.99**

eBook: 978-1-003-11907-4

* For full contents and more information, visit: www.routledge.com/9780367634025

Coalitions in the Climate Change Negotiations



Edited by Carola Klöck, Paula Castro, Florian Weiler, Central European University, School of Public Policy, Vienna, Austria, and Lau Øjford Blaxekjær

Series: *Global Environmental Governance*

This edited volume provides both a broad overview of cooperation patterns in the UNFCCC climate change negotiations and an in-depth analysis of specific coalitions and their relations. This book maps out and takes stock of patterns of cooperation in the climate change negotiations since their inception in 1995. It focuses on the evolution of coalitions over time and explores common themes and open questions in coalition research. By taking a broad approach to the study of coalitions in the climate change negotiations, this volume is an essential reference source for researchers, students and negotiators with an interest in the dynamics of climate negotiations.

Routledge

Market: Climate Change / Environmental Policy

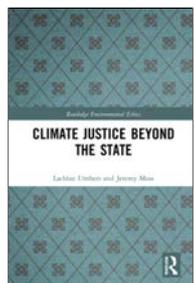
November 2020: 234x156: 240pp

Hb: 978-0-367-31321-0: **£120.00**

eBook: 978-0-429-31625-8

* For full contents and more information, visit: www.routledge.com/9780367313210

Climate Justice Beyond the State



Lachlan Umbers, University of Western Australia, Perth and Jeremy Moss, University of New South Wales, Sydney

Series: *Routledge Environmental Ethics*

In this book, the authors argue that states' failures to take action on climate change have important implications for the duties of the most important actors states contain within them – sub-national political communities, corporations, and individuals. What are the moral duties of sub-national political communities, corporations, and individuals where the states to which they belong fail to take appropriate action to address climate change? Targeted at academic philosophers working on climate justice, this book will also be of great interest to students and scholars of global justice, applied ethics, political philosophy and environmental humanities.

environmental humanities.

Routledge

Market: Environment / Ethics

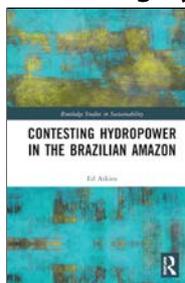
December 2020: 234x156: 152pp

Hb: 978-0-367-51134-0: **£120.00**

eBook: 978-1-003-05256-2

* For full contents and more information, visit: www.routledge.com/9780367511340

Contesting Hydropower in the Brazilian Amazon



Ed Atkins, University of Bristol, UK

Series: *Routledge Studies in Sustainability*

This book focuses on how local, national and international civil society groups opposed to the Belo Monte and São Luiz do Tapajós hydroelectric projects in the Brazilian Amazon. In doing so, it explores how contemporary opposition to hydropower projects demonstrate a form of 'contested sustainability' that highlights the need for sustainable development agendas to take more into account than merely greenhouse gas emissions.

This interdisciplinary work will be of great interest to students and scholars of Sustainable Development, Environmental Justice, Environmental Governance and Development Studies.

Routledge

Market: Energy / Renewable Energy

November 2020: 234x156: 236pp

Hb: 978-0-367-33340-9: **£120.00**

eBook: 978-0-429-31928-0

* For full contents and more information, visit: www.routledge.com/9780367333409

Climate Politics in Small European States



Edited by Neil Carter, University of York, UK, Conor Little and Diarmuid Torney, Dublin City University, Ireland

Climate Politics in Small European States examines how the characteristics of small states structure climate politics and both enable and constrain ambitious climate policies. This volume contributes to our knowledge of how institutions, including electoral institutions and institutions of interest intermediation, actors such as parties, interest groups, individuals, governments, and ideas shape climate policy and politics.

The chapters in this book were originally published as a special issue of *Environmental Politics*.

Routledge

Market: Environmental Politics

December 2020: 246x174: 180pp

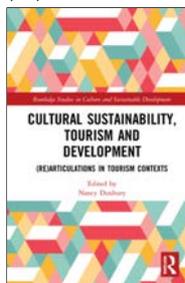
Hb: 978-0-367-63996-9: **£120.00**

eBook: 978-1-003-12172-5

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Cultural Sustainability, Tourism and Development

(Re)articulations in Tourism Contexts



Edited by Nancy Duxbury, University of Coimbra, Portugal

Series: *Routledge Studies in Culture and Sustainable Development*

Cultural Sustainability, Tourism and Development considers how tourism provides a lens through which to examine issues of cultural sustainability and change. It discusses how cultural and natural assets, artistic interventions, place identity, policy strategies, and community wellbeing are intertwined in (re)articulations of place and local dynamics that occur in tourist locations. This book will be of great interest to students and scholars of cultural development and policy, heritage studies, cultural tourism and sustainable tourism, cultural geography, and regional development.

Routledge

Market: Development / Sustainable Development

April 2021: 234x156: 232pp

Hb: 978-0-367-20175-3: **£120.00**

eBook: 978-0-367-20177-7

* For full contents and more information, visit: www.routledge.com/9780367201753

Cycling Societies

Innovations, Inequalities and Governance



Edited by **Dennis Zuev, Katerina Psarikidou and Cosmin Popan**

Series: *Routledge Studies in Transport, Environment and Development*

This book examines emerging debates and questions around cycling to critically analyse and challenge dominant framings and prevalent conventions of 'good cycling'. Presenting case studies from five continents, the book pivots around the three themes of innovations, inequalities and governance and engages a diversity of voices: world-renown academics in the field of cycling and urban mobility, cycling activists and transportation consultants. Synthesising academic contributions with policy

briefs, this innovative book will be of great interest to students, scholars and practitioners of sustainable transportation, urban planning and mobility studies.

Routledge

Market: Environment and Sustainability/Transport and Mobility Studies

February 2021: 234x156: 296pp

Hb: 978-0-367-33660-8: **£120.00**

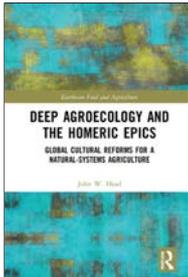
Pb: 978-0-367-33661-5: **£34.99**

eBook: 978-0-429-32109-2

* For full contents and more information, visit: www.routledge.com/9780367336615

Deep Agroecology and the Homeric Epics

Global Cultural Reforms for a Natural-Systems Agriculture



John W. Head

Series: *Earthscan Food and Agriculture*

Drawing on the Homeric epics, this multidisciplinary work focuses on the cultural transformations which need to take place in order to transition from today's a modern extractive agriculture to a sustainable natural-systems agriculture.

This book will be of great interest to students, advocates, and policymakers addressing issues of agrarian values, environmental law and restoration, agroecology, global institutional reform, intergenerational and inter-species ethics, cultural history, and international relations.

Routledge

Market: Agriculture / Environment / Sustainable Development

December 2020: 234x156: 220pp

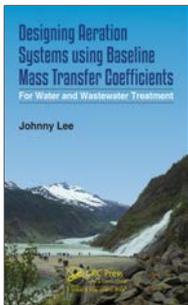
Hb: 978-0-367-62219-0: **£120.00**

eBook: 978-1-003-10841-2

* For full contents and more information, visit: www.routledge.com/9780367622190

Designing Aeration Systems using Baseline Mass Transfer Coefficients

For Water and Wastewater Treatment



Johnny Lee

The book is about the discovery of a Standard Specific Baseline Mass Transfer Coefficient ($K_{L, O_2, 20}$) that represents a revolutionary change in the understanding, designing, operation of aeration equipment, as well as providing a baseline for future research and development for water and wastewater treatment systems. It discusses the use of the Standard Model for oxygen transfer to determine the baseline, and its major finding is to show that the gas transfer model is a consistent relativistic theory of molecular interactions.

CRC Press

Market: Environmental Engineering

July 2021: 234x156: 240pp

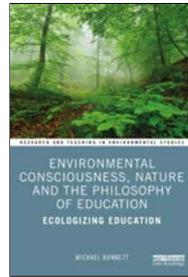
Hb: 978-0-367-61761-5: **£120.00**

eBook: 978-1-003-10646-3

* For full contents and more information, visit: www.routledge.com/9780367617615

Environmental Consciousness, Nature and the Philosophy of Education

Ecologizing Education



Michael Bonnett

Series: *Research and Teaching in Environmental Studies*
Environmental Consciousness, Nature, and the Philosophy of Education explores alternative ways of understanding our environmental situation by challenging the Western view of nature as purely a resource for humans.

Drawing on and revising work published by the author over the last fifteen years, this book will be essential reading for students and scholars of environmental studies, environmental education and the philosophy of education.

Routledge

Market: Environment / Education

December 2020: 234x156: 174pp

Hb: 978-0-367-37343-6: **£120.00**

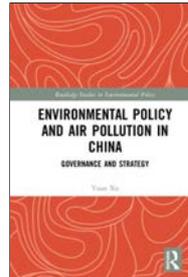
Pb: 978-0-367-37344-3: **£34.99**

eBook: 978-0-429-35322-2

* For full contents and more information, visit: www.routledge.com/9780367373443

Environmental Policy and Air Pollution in China

Governance and Strategy



Yuan Xu

Series: *Routledge Studies in Environmental Policy*

This book systematically analyses how and why China has expectedly lost and then surprisingly gained ground in the quest to solve the complicated environmental problem of air pollution over the past two decades. The chapters weave together a goal-centered governance model that China has adopted of centralized goal setting, decentralized goal attainment, decentralized policy making and implementation. This book will be of great interest to students and scholars of Chinese environmental policy and governance, air pollution, climate change and sustainable development, as well as practitioners and policymakers working in these fields.

Routledge

Market: Air Pollution / Climate Change / Chinese Environmental Policy

November 2020: 234x156: 212pp

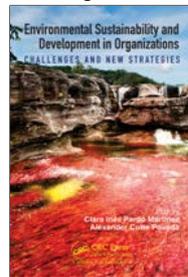
Hb: 978-1-138-32232-5: **£120.00**

eBook: 978-0-429-45215-4

* For full contents and more information, visit: www.routledge.com/9781138322325

Environmental Sustainability and Development in Organizations

Challenges and New Strategies



Edited by **Clara Ines Pardo Martinez**, Universidad del Rosario, Bogota, Colombia and **Alexander Cotte Poveda**, Universidad Santo Tomas, Bogota, Colombia

This book aims to analyze contexts and perspectives in the relationships between environmental sustainability, human development and organizations. The book combines different scientific approaches for enhancing our understanding of environmental sustainability, development economics and evaluate what the actual conditions in emerging economies are and how developing new process could improve the well-being of developing countries. Employing a collaborative and interdisciplinary approach, the authors work to determine the main related factors and outcomes of the relationship between

challenges and new strategies in the environmental sustainability.

CRC Press

Market: Environmental Policy

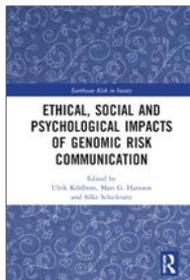
May 2021: 234x156: 236pp

Hb: 978-0-367-44086-2: **£150.00**

eBook: 978-1-003-00911-5

* For full contents and more information, visit: www.routledge.com/9780367440862

Ethical, Social and Psychological Impacts of Genomic Risk Communication



Edited by **Ulrik Kihlbom, Mats G. Hansson and Silke Schicktanz**

Series: *Earthscan Risk in Society*

This volume presents the ethical implications of risk information as related to genetics and other health data for policy decisions at clinical, research and societal levels. It examines the introduction of new types of health risk information based on faster, cheaper and larger sets of genetic or genomic analysis and it also explores the unsolved ethical and social questions around the sharing of this data. This book will be of great interest to students and scholars of theoretical and clinical medical ethics, medical sociology, risk communication and ethics of risk, as well as professionals in clinical genetics.

Routledge

Market: Risk / Communication
November 2020: 234x156: 190pp
Hb: 978-0-367-35669-9: **£120.00**
eBook: 978-0-429-34103-8

* For full contents and more information, visit: www.routledge.com/9780367356699

2nd Edition

Evaluating Environment in International Development



Edited by **Juha I. Uitto**

This book provides novel and in-depth perspectives on evaluating environment and sustainability issues in developing countries. This new edition reflects on the 2030 Agenda for Sustainable Development and Sustainable Development Goals. Significantly updated throughout to reflect recent developments in climate change research, and on the implications of the 2020 pandemic, this volume will be of great interest to students and scholars of environment studies, development studies, international relations, sustainable development and evaluation, as well as practitioners in international organizations and development and environmental NGOs.

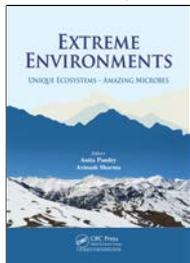
Routledge

Market: Development Studies/Environment and Sustainability
March 2021: 234x156: 336pp
Hb: 978-0-367-55709-6: **£120.00**
Pb: 978-0-367-55711-9: **£34.99**
eBook: 978-1-003-09482-1
Prev. Ed Pb: 978-0-415-74289-4

* For full contents and more information, visit: www.routledge.com/9780367557119

Extreme Environments

Unique Ecosystems – Amazing Microbes



Edited by **Anita Pandey and Avinash Sharma**

The book *Extreme Environments: Unique Ecosystems – Amazing Microbes* is an attempt to showcase the uniqueness of extremophiles, the largely unexplored group that has the abilities to function in hostile conditions and represent the very ancient life forms that thrived on earth billions of years ago. The book covers a wide range of research achievements in the field of microbiology of extreme environments right from the conventional approaches of cultivation to recently evolved high throughput sequencing technologies. The book provides a broad spectrum of information about the taxonomy, physiology, ecology and biotechnological applications of extremophiles.

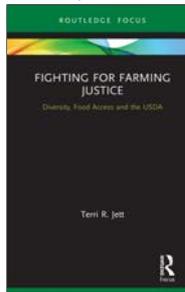
CRC Press

Market: Statistics
February 2021: 254 x 178: 376pp
Hb: 978-0-367-35016-1: **£148.00**
eBook: 978-0-429-34345-2

* For full contents and more information, visit: www.routledge.com/9780367350161

Fighting for Farming Justice

Diversity, Food Access and the USDA



Terri R. Jett, Butler University, USA

Series: *Earthscan Food and Agriculture*

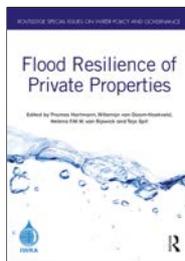
Several class-action discrimination cases have recently been settled within the United States Department of Agriculture (USDA). These settlements shed light on why access to successful farming has been limited to white men and/or families, and significantly this has led to a change for opportunities in the way the USDA supports farmers from diverse backgrounds. Overall this has contributed to shaping the food access arena in the US.

Routledge

Market: Food & Agriculture / Sociology / Law / Environment & Sustainability
December 2020: 216x138: 128pp
Hb: 978-0-367-00160-5: **£44.99**
eBook: 978-0-429-40105-3

* For full contents and more information, visit: www.routledge.com/9780367001605

Flood Resilience of Private Properties



Edited by **Thomas Hartmann, Utrecht University, Netherlands, Willemijn van Doorn-Hoekveld, Helena F.M.W. van Rijswijk and Tejo Spit**

Series: *Routledge Special Issues on Water Policy and Governance*

Flood Resilience of Private Properties examines the division and balance of responsibilities between the public and the private when discussing flood resilience of private properties. Political and societal systems influence the action citizens are prepared to take and what they expect their governments to do. The responsibility for implementing such measures is shared between the public and the private domain in different degrees in different countries.

This book was originally published as a special issue of *Water International*

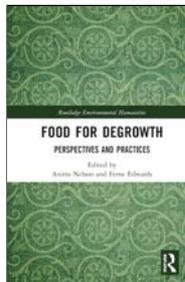
Routledge

Market: Environment and Sustainability
November 2020: 246x174: 168pp
Hb: 978-0-367-61769-1: **£120.00**
eBook: 978-1-003-10650-0

* For full contents and more information, visit: www.routledge.com/9780367617691

Food for Degrowth

Perspectives and Practices



Edited by **Anitra Nelson and Ferne Edwards**, Trinity College, Dublin

Series: *Routledge Environmental Humanities*

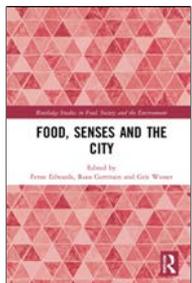
This book investigates applications of degrowth in a range of geographic, practical and theoretical contexts along the food chain. Degrowth challenges growth and advocates for everyday practices that limit socio-metabolic energy and material flows within planetary constraints. As such, the editors intend to map possibilities for food for degrowth to become established as a field of studies. This book will be of interest to students and scholars of critical food studies, sustainability studies, urban political ecology, geography, environmental studies such as environmental sociology, anthropology, ethnography, ecological economics and urban design and planning.

Routledge

Market: Environment / Food
November 2020: 234x156: 258pp
Hb: 978-0-367-43646-9: **£120.00**
eBook: 978-1-003-00482-0

* For full contents and more information, visit: www.routledge.com/9780367436469

Food, Senses and the City

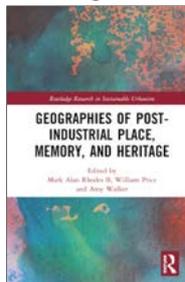


Edited by Ferne Edwards, Trinity College, Dublin, Roos Gerritsen and Grit Wesser
Series: Routledge Studies in Food, Society and the Environment
 This work explores diverse cultural understandings of food practices in cities through the senses, drawing on case studies in North and South America, Asia and Europe. This book will be of great interest to students and scholars of critical food studies, urban studies and sociocultural anthropology.

Routledge
Market: Food / Urban Studies / Anthropology
 March 2021: 234x156: 264pp
 Hb: 978-0-367-45823-2: **£120.00**
 eBook: 978-1-003-02558-0

* For full contents and more information, visit: www.routledge.com/9780367458232

Geographies of Post-Industrial Place, Memory, and Heritage



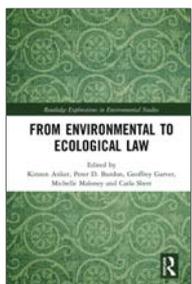
Edited by Mark Alan Rhodes II, William R. Price and Amy Walker
Series: Routledge Research in Sustainable Urbanism

This book investigates the overlap of memory and the impacts of industrialization within today's communities and the senses of place and heritage which grew alongside and in reaction to the growth of mines, mills, and factories. While based in the traditions of geography, this collection also draws upon and will be of great interest to students and scholars of cultural anthropology, archaeology, sociology, history, architecture, civil engineering, and heritage, memory, museum, and tourism studies. Using global examples, the authors provide a uniquely geographic understanding to industrial heritage across the spaces, places, and memories of industrial development.

Routledge
Market: Environment / Geography
 November 2020: 234x156: 216pp
 Hb: 978-0-367-44090-9: **£120.00**
 eBook: 978-1-003-00749-4

* For full contents and more information, visit: www.routledge.com/9780367440909

From Environmental to Ecological Law



Edited by Kirsten Anker, Peter D. Burdon, University of Adelaide, Australia, Geoffrey Garver, Michelle Maloney and Carla Sbert
Series: Routledge Explorations in Environmental Studies

From Environmental to Ecological Law increases the visibility, clarity and understanding of ecological law. Ecological law is emerging as a field of law founded on systems thinking and the need to integrate ecological limits, such as planetary boundaries, into law.

Drawing on a diverse range of case study examples including indigenous law, ecological restoration and mining, this volume will be of great interest to students, scholars and policy makers

of environmental and ecological law and governance, politics science, environmental ethics and ecological and degrowth economics.

Routledge
Market: environmental law/ecology/environmental studies
 December 2020: 234x156: 284pp
 Hb: 978-0-367-43108-2: **£120.00**
 eBook: 978-1-003-00125-6

* For full contents and more information, visit: www.routledge.com/9780367431082

Green and Social Economy Finance

A Review



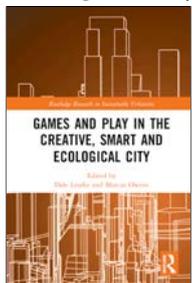
Edited by Karen Wendt

"How will the investment and finance community, which of all industries has excelled most at profit maximization, transform itself to become a driving force to create positive impact through green and social economy finance supporting the achievement of the UN Sustainable Development Goals and the Paris Agreement?" This anthology, with contributions from well known economists and sociologists, provides insight in obtaining finance for green and social solutions and addresses the conceptualization of social and environmental finance. It identifies new products and approaches in business and investment, which aligns finance and investment with the Paris Agreement.

CRC Press
Market: Science, Science Publishersmp
 August 2021: 235 x 156: 325pp
 Hb: 978-0-367-34439-9: **£150.00**
 eBook: 978-0-429-32932-6

* For full contents and more information, visit: www.routledge.com/9780367344399

Games and Play in the Creative, Smart and Ecological City

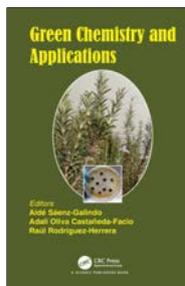


Edited by Dale Leorke and Marcus Owens
Series: Routledge Research in Sustainable Urbanism
Game and Play in the Creative, Smart and Ecological City is a collection of essays written by an interdisciplinary group of scholars from game studies, media studies, play studies, architecture, landscape architecture and urban planning. It situates the historical evolution of play and games in the urban landscape and outlines the scope of the various ways games and play contribute to the city's economy, cultural life and environmental concerns. In connecting games and play more concretely to urban discourses and design strategies.

Routledge
Market: Environment / Urban Studies
 December 2020: 234x156: 280pp
 Hb: 978-0-367-44123-4: **£120.00**
 eBook: 978-1-003-00776-0

* For full contents and more information, visit: www.routledge.com/9780367441234

Green Chemistry and Applications



Edited by Aide Sáenz-Galindo, Adali Oliva Castañeda Facio and Raul Rodriguez-Herrera

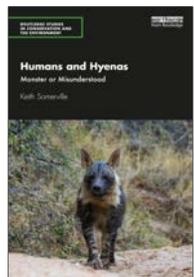
Green chemistry is a work tool that can be applied in different areas such as medicine, materials, polymers, food, organic chemistry, etc., since it was propounded in the early 2000's. It has become a viable alternative for care, remediation and protection of the environment and has been implemented worldwide. In this book the twelve principles of green chemistry are presented in a simple way, as well as examples of the applications of green chemistry in numerous areas showcasing it as an ideal alternative for environmental care. It also provides information on current research being implemented at the pilot plant and industrial level.

CRC Press
Market: Chemistry
 November 2020: 235 x 156: 300pp
 Hb: 978-0-367-26033-0: **£130.00**
 eBook: 978-0-429-29116-6

* For full contents and more information, visit: www.routledge.com/9780367260330

Humans and Hyenas

Monster or Misunderstood



Keith Somerville

Series: Routledge Studies in Conservation and the Environment

Humans and Hyenas examines the origins and development of the relationship between the two to present an accurate and realistic picture of the hyena and its interaction with people. Combining the personal, in-depth mining of scientific papers about the three main species and historical accounts, the author delves into our relationship with hyenas from the earliest records, through the accounts by colonisers, to contemporary coexistence, where hyenas and humans are forced into ever closer proximity due to shrinking habitats and loss of prey.

Routledge

Market: Environment / Conservation

March 2021: 234x156: 274pp

Hb: 978-0-367-43642-1: **£120.00**

Pb: 978-0-367-43641-4: **£34.99**

eBook: 978-1-003-00478-3

* For full contents and more information, visit: www.routledge.com/9780367436414



International Environmental Law Compliance in Context

Mechanisms and Case Studies



Belen Olmos Giupponi

Series: Routledge Research in International Environmental Law

This book explores how compliance with international environmental law has changed over time, offering a critical analysis of its current shifting patterns. Throughout the book, topics are illustrated with extracts from specific international environmental law jurisprudence and relevant international environmental law instruments. The book offers a comprehensive analysis of compliance with international environmental law, providing original insights and following a clear and systematic structure supported by reference to the sources. This book will be of interest to professionals, academics and students working in the field of compliance with international environmental law.

Routledge

Market: Environment, Sustainability

April 2021: 234x156: 256pp

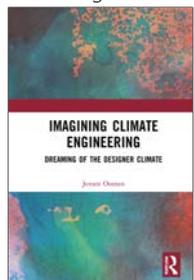
Hb: 978-1-138-49184-7: **£120.00**

eBook: 978-1-351-03194-3

* For full contents and more information, visit: www.routledge.com/9781138491847

Imagining Climate Engineering

Dreaming of the Designer Climate



Jeroen Oomen

This book highlights the increasing attention for climate engineering, a set of speculative technologies aimed to counter global warming. What is the future of the global climate? And who gets to decide—or even design—this future? Marrying science and technology studies and the environmental humanities, Oomen provides crucial insights for the future of the climate change debate for scholars and students.

Routledge

Market: Environment / Climate Change

May 2021: 234x156: 216pp

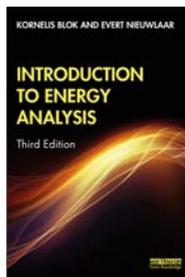
Hb: 978-0-367-48931-1: **£120.00**

eBook: 978-1-003-04355-3

* For full contents and more information, visit: www.routledge.com/9780367489311

3rd Edition

Introduction to Energy Analysis



Kornelis Blok, Delft University of Technology, The Netherlands and Evert Nieuwlaar, Utrecht University, The Netherlands

This textbook provides an introduction to energy analysis for those students who want to specialise in this challenging field. This new edition has been updated throughout and contains additional content on energy transitions and improvements in the treatment of several energy systems analysis approaches. It will be essential reading for upper-level undergraduate and postgraduate students with a background in the natural sciences and engineering. This book may also be useful for professionals dealing with energy issues, as a first introduction into the field.

Routledge

Market: Energy / Environment and Sustainability

November 2020: 234x156: 380pp

Hb: 978-0-367-43480-9: **£120.00**

Pb: 978-0-367-43481-6: **£36.99**

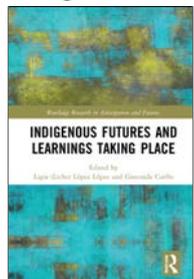
eBook: 978-1-003-00357-1

Prev. Ed Pb: 978-1-138-67115-7

* For full contents and more information, visit: www.routledge.com/9780367434816



Indigenous Futures and Learnings Taking Place



Edited by Ligia (Licho) López López and Gioconda Coello

Series: Routledge Research in Anticipation and Futures

This book disrupts the common sense of “learning” and “knowledge for the future” by examining the multiplicity of ways in which these topics are thought about and enacted in Indigenous people’s ways of knowing and practice. Experts talk about risk drivers and sustainable agricultural practices with the goal of attaining synergy and a balance between increased productivity and improved ecosystem functions. This book will be of great interest to students and scholars of Indigenous studies, future studies, post-colonial studies in education, settler colonialism and coloniality, diversity and multiculturalism in education, and international comparative education.

Routledge

Market: Education / Indigenous Studies

December 2020: 234x156: 210pp

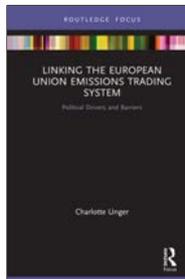
Hb: 978-0-367-89460-3: **£120.00**

eBook: 978-1-003-01929-9

* For full contents and more information, visit: www.routledge.com/9780367894603

Linking the European Union Emissions Trading System

Political Drivers and Barriers



Charlotte Unger

Series: Routledge Focus on Environment and Sustainability

This book focuses on the linking of the European Union Emissions Trading System (EU ETS) with other independent regional ETS. Specifically, it analyses which of these aspects have played a role in three different linking activities of the EU: 1. a failed linking attempt: EU ETS – California Cap-and-Trade Program; 2. a successful linking treaty: EU ETS – Switzerland Emissions Trading System; and 3. an agreed-upon but not realized link: EU ETS – Australia Carbon Pricing Mechanism. This book will be of great interest to scholars and policymakers working in climate policy and EU environmental politics.

Routledge

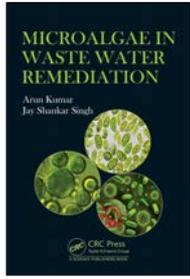
January 2021: 216x138: 152pp

Hb: 978-0-367-42969-0: **£44.99**

eBook: 978-1-003-00043-3

* For full contents and more information, visit: www.routledge.com/9780367429690

Microalgae in Waste Water Remediation



Arun Kumar, BB Ambedkar (Central) University, Lucknow Vidya Vihar, Raebareilly Road Lucknow, Uttar Pradesh 226025 India and Jay Shankar Singh, Dept. of Environ. Microbiology, Babasaheb Bhimrao Ambedkar Uni. RBL Road Lucknow, Uttar Pradesh 226025 India

Microalgae in Waste Water Remediation aims to point out trends and current topics concerning the use of microalgae in wastewater treatment and to identify potential paths for future research regarding microalgae-based bioremediation. To achieve this goal, the book also assessing and analyzes the topics that attract attention among the scientific community and their evolution through time. This book will be useful to the students, scientists and policy makers concerned with the microalgae

mediated management of water-water effluents and its applications in overall future sustainable development.

CRC Press

Market: Life Science

July 2021: 234x156: 240pp

Hb: 978-0-367-27603-4: £150.00

eBook: 978-0-429-29808-0

* For full contents and more information, visit: www.routledge.com/9780367276034

Microbiomes of Extreme Environments

Biodiversity and Biotechnological Applications



Edited by Ajar Nath Yadav, Eternal University, India, Ali Asghar Rastegari, Islamic Azad University, India and Neelam Yadav, Veer Bahdur Singh Purvanchal University, India

The extreme microbiomes are those microorganisms thriving under extreme conditions where no other living being will have any chance to survive. The extreme habitats are those presenting high temperatures (thermophiles), low temperature (psychrophiles), hypersaline environments (halophiles), low and high pH (Acidophiles/alkaliphiles), high pressure (Piezophiles) are distributed worldwide. The extreme habitats have proved to offer a unique reservoir of genetic diversity and biological source of extremophiles. The extremophilic microbial diversity and their biotechnological potential use in agricultural and industrial applications will be a milestone for future needs.

CRC Press

Market: Biological Sciences

March 2021: 254 x 178: 302pp

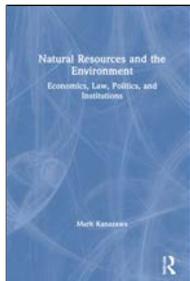
Hb: 978-0-367-34274-6: £150.00

eBook: 978-0-429-32863-3

* For full contents and more information, visit: www.routledge.com/9780367342746

Natural Resources and the Environment

Economics, Law, Politics, and Institutions



Mark Kanazawa, Carleton College, USA

Natural Resources and the Environment: Economics, Law, Politics, and Institutions provides a new approach to the study of environmental and natural resource economics. It takes a multi-disciplinary approach, which is essential for understanding complex environmental problems, and examines the issue from not only an economic perspective, but also taking into account law, politics and institutions. In doing so, it provides students with a realistic understanding of how environmental policy is created and presents a comprehensive examination of real-world environmental policy.

Routledge

Market: Natural Resources / Economics

May 2021: 246x174: 376pp

Hb: 978-0-367-07760-0: £120.00

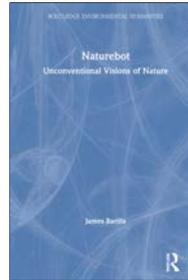
Pb: 978-0-367-07761-7: £32.99

eBook: 978-0-429-02265-4

* For full contents and more information, visit: www.routledge.com/9780367077617

Naturebot

Unconventional Visions of Nature



James Barilla

Series: *Routledge Environmental Humanities*

Naturebot: Unconventional Visions of Nature presents a humanities-oriented addition to the literature on biomimetics and bioinspiration, an interdisciplinary field which investigates what it means to mimic nature with technology.

Over the course of the book, Barilla applies the narrative conventions of the nature writing genre to this unconventional vision of nature, contrasting the traditional tropes and questions of natural history with an expanding menagerie of creatures that defy conventional categories of natural and artificial.

Routledge

Market: Ecocriticism/Environmental Humanities

March 2021: 234x156: 208pp

Hb: 978-0-367-56751-4: £120.00

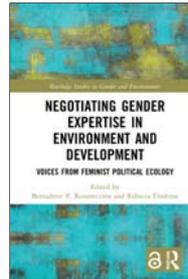
Pb: 978-0-367-60779-1: £36.99

eBook: 978-1-003-10047-8

* For full contents and more information, visit: www.routledge.com/9780367607791

Negotiating Gender Expertise in Environment and Development

Voices from Feminist Political Ecology



Edited by Bernadette P. Resurrección and Rebecca Elmhirst

Series: *Routledge Studies in Gender and Environments*

This book casts a light on the daily struggles and achievements of 'gender experts' working in environment and development organisations. Developed through a series of conversations convened by the book's editors with leading practitioners from research, advocacy and donor organisations, this text explores the ways gender professionals deal with personal, power-laden realities associated with navigating gender in everyday practice. This book will be of great relevance to scholars and practitioners with an interest in environment and development, science and technology, and gender and women's studies more broadly.

Routledge

Market: Environment and Sustainability

December 2020: 234x156: 272pp

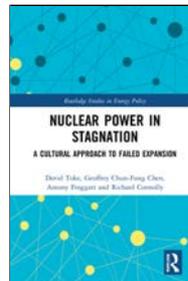
Hb: 978-0-815-38612-4: £120.00

eBook: 978-1-351-17518-0

* For full contents and more information, visit: www.routledge.com/9780815386124

Nuclear Power in Stagnation

A Cultural Approach to Failed Expansion



David Toke, University of Aberdeen, UK, Geoffrey Chun-Fung Chen, Antony Froggatt and Richard Connolly

Series: *Routledge Studies in Energy Policy*

This book studies the extent to which nuclear safety issues have contributed towards the stagnation of nuclear power development around the world. The authors focus on six key countries with active nuclear power programmes: USA, China, France, South Korea, UK and Russia. Their findings reveal that differences in the strictness of nuclear safety regulations can be understood by understanding differences in cultural contexts and changes in cultural context over time. This book will be of great interest to students, scholars and policymakers working on energy policy and regulation, environmental politics and

policy, and environment and sustainability more generally.

Routledge

Market: Energy / Environment

March 2021: 234x156: 216pp

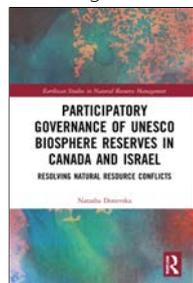
Hb: 978-1-138-34119-7: £120.00

eBook: 978-0-429-44029-8

* For full contents and more information, visit: www.routledge.com/9781138341197

Participatory Governance of UNESCO Biosphere Reserves in Canada and Israel

Resolving Natural Resource Conflicts



Natasha Donevska

Series: *Earthscan Studies in Natural Resource Management*

This book explores how participatory governance processes help to find integrated solutions to resource-based development while protecting ecosystems in UNESCO designated areas.

This title will be of great interest to students and scholars of natural resource management, integrated approaches to conservation and sustainable development, and participatory governance of social-ecological systems. It will also be of interest to environmental conflict mediators, participatory process facilitators, policymakers and professionals involved in managing social-ecological systems or establishing biosphere reserves.

Routledge

Market: Natural Resources / Sustainable Development / Conservation

December 2020: 234x156: 182pp

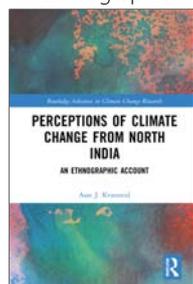
Hb: 978-0-367-51506-5: £120.00

eBook: 978-1-003-05417-7

* For full contents and more information, visit: www.routledge.com/9780367515065

Perceptions of Climate Change from North India

An Ethnographic Account



Aase J. Kvanneid

Series: *Routledge Advances in Climate Change Research*

Perceptions of Climate Change from North India explores local perceptions of climate change through ethnographic encounters with the men and women who live at the front line of climate change in the lower Himalayas.

From data collected over the course of a year in a small village in an eco-sensitive zone in North India, this book presents an ethnographic account of local responses to climate change, resource management and indigenous environmental knowledge. This book will be of great interest to students and scholars of the anthropology of climate change, environmental sociology and rural development.

Routledge

Market: Climate Change / Rural Development

March 2021: 234x156: 192pp

Hb: 978-0-367-42143-4: £120.00

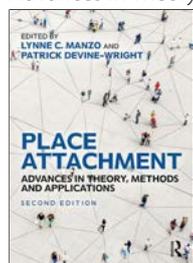
eBook: 978-0-367-82214-9

* For full contents and more information, visit: www.routledge.com/9780367421434

2nd Edition

Place Attachment

Advances in Theory, Methods and Applications



Edited by **Lynne C. Manzo**, University of Washington, USA and **Patrick Devine-Wright**, Exeter University, UK

Following on from the ground-breaking first edition, which received the 2014 EDRA Achievement Award, this fully updated text includes new chapters on current issues in the built environment such as GIS and mapping, climate change, and qualitative approaches. This important volume offers the most current understandings about place attachment, a critical concept for the environmental social sciences and placemaking professions.

Routledge

Market: Landscape Theory

December 2020: 246x174: 286pp

Hb: 978-0-367-22347-2: £120.00

Pb: 978-0-367-22349-6: £39.99

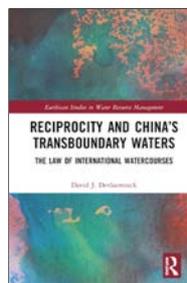
eBook: 978-0-429-27444-2

* For full contents and more information, visit: www.routledge.com/9780367223496



Reciprocity and China's Transboundary Waters

The Law of International Watercourses



David J. Devlaeminck

Series: *Earthscan Studies in Water Resource Management*

Utilising the principle of reciprocity, *Reciprocity and China's Transboundary Waters: The Law of International Watercourses* analyses the law of international watercourses in the past, present and future with a particular focus on China.

This book will be of great interest to legal students and scholars with an interest in international watercourses, environmental politics and international law, as well as students and scholars interested in Chinese politics and natural resource management and conflict.

Routledge

Market: International Law / Water Resource Management

November 2020: 234x156: 144pp

Hb: 978-0-367-24979-3: £120.00

eBook: 978-0-429-29175-3

* For full contents and more information, visit: www.routledge.com/9780367249793

Reintroducing Materials for Sustainable Design

Design Process and Educational Practice

Mette Bak-Andersen

Reintroducing Materials for Sustainable Design provides instrumental theory and practical guidance to bring materials back into a central role in the design process and education. This book offers a way to acquire the material knowledge necessary to design physical objects for sustainability. It reinforces the key role and responsibility of designers and encourages designers to take back control over the ideation and manufacturing process. Finally, it addresses the educational practice involved and the potential implications for design education following implementation, looking at didactics, facilities and expertise.

Routledge

Market: Product Design / Sustainability

May 2021: 234x156: 216pp

Hb: 978-0-367-62521-4: £120.00

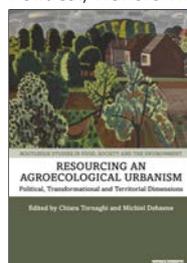
Pb: 978-0-367-62519-1: £29.99

eBook: 978-1-003-10952-5

* For full contents and more information, visit: www.routledge.com/9780367625191

Resourcing an Agroecological Urbanism

Political, Transformational and Territorial Dimensions



Edited by **Chiara Tornaghi**, Centre for Agroecology, Water and Resilience, Coventry University and **Michiel Dehaene**

Series: *Routledge Studies in Food, Society and the Environment*

This book makes the case for an agroecological urbanism – an urbanism in which food is a key component in the reinvention of new and just social arrangements and ecological practices. Aimed at advanced students and academics in agroecology, sustainable food planning, urban geography, urban planning and critical food studies, this book will also be of interest to professionals and activists working with food systems in both the global North and South.

Routledge

Market: Food Studies/Agriculture/Urban Geography

March 2021: 234x156: 232pp

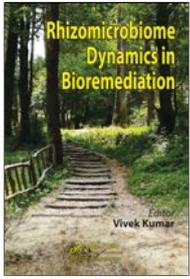
Hb: 978-1-138-35967-3: £120.00

Pb: 978-1-138-35968-0: £34.99

eBook: 978-0-429-43356-6

* For full contents and more information, visit: www.routledge.com/9781138359680

Rhizomicrobiome Dynamics in Bioremediation



Edited by **Vivek Kumar**, Himalayan School of Biosciences Swami Rama Himalayan University Jolly Grant Dehradun, Uttarakhand 248016 INDIA

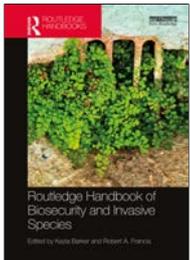
This book focuses critical issues for several critical and common environmental pollutants, resulting in a compilation having recent updates on the bioremediation applications towards green and clean environment. This volume also describes updates on various novel approaches of bioremediation including nanotechnology, rhizomicrobiome technology, composting, metagenomics, and biosurfactants-based bioremediation. This volume is a resource for researchers, environmentalists, professionals and policy makers.

CRC Press

Market: Environmental Health
April 2021: 254 x 178: 444pp
Hb: 978-0-367-41966-0: **£160.00**
eBook: 978-0-367-82159-3

* For full contents and more information, visit: www.routledge.com/9780367419660

Routledge Handbook of Biosecurity and Invasive Species



Edited by **Kezia Barker** and **Robert A. Francis**, King's College London, UK

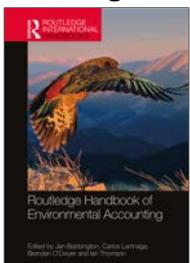
This handbook provides a comprehensive overview of the assessment and management of potentially dangerous infectious diseases, quarantined pests, invasive (alien) species, living modified organisms and biological weapons, from a multitude of perspectives. Identifying invasive species and management techniques form a regional to international scale, this book will be a key reference text for a wide range of students and academics in ecology, agriculture, geography, human and animal health, and interdisciplinary environmental and security studies.

Routledge

Market: Ecology, Agriculture, Security Studies
May 2021: 246x174: 352pp
Hb: 978-0-815-35489-5: **£190.00**
eBook: 978-1-351-13159-9

* For full contents and more information, visit: www.routledge.com/9780815354895

Routledge Handbook of Environmental Accounting



Edited by **Jan Bebbington**, **Carlos Larrinaga**, **Brendan O'Dwyer** and **Ian Thomson**

Series: Routledge International Handbooks

This handbook showcases the broad spectrum of diverse approaches to environmental accounting which have developed during the last 30 years across the globe. It covers a range of physical issues such as water, carbon and biodiversity, as well as specific accounting matters such as management control, finance and audit. Edited by leading scholars in the area and with key contributions from across the discipline, and covering a diverse range of perspectives and locations, this handbook will serve as a vital resource for students and scholars of

environmental accounting and environmental economics.

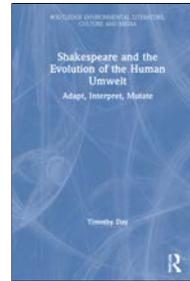
Routledge

Market: Environment / Accounting
March 2021: 246x174: 416pp
Hb: 978-0-367-15233-8: **£190.00**
eBook: 978-0-367-15236-9

* For full contents and more information, visit: www.routledge.com/9780367152338

Shakespeare and the Evolution of the Human Umwelt

Adapt, Interpret, Mutate



Timothy Ryan Day

Series: Routledge Environmental Literature, Culture and Media

Shakespeare and the Evolution of the Human Umwelt brings together research on Shakespeare, biosemiotics, ecocriticism, epigenetics and actor network theory as it explores the space between nature and narrative in an effort to understand how human bodies are stories told in the emergent language of evolution, and how those bodies became storytellers themselves. The book discusses Shakespeare's works as vital nodes in our cultural, historical, moral and philosophical networks, but also as environmental actors in and of themselves.

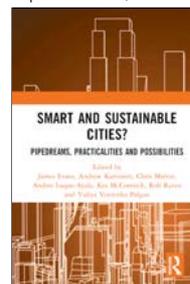
Routledge

Market: Environmental Humanities / Literature
February 2021: 234x156: 158pp
Hb: 978-0-367-85597-0: **£120.00**
eBook: 978-1-003-01381-5

* For full contents and more information, visit: www.routledge.com/9780367855970

Smart and Sustainable Cities?

Pipedreams, Practicalities and Possibilities



Edited by **James Evans**, University of Manchester, UK, **Andrew Karvonen**, **Chris Martin**, **Andres Luque-Ayala**, University of Durham, UK, **Kes McCormick**, **Rob Raven** and **Yuliya Voytenko Palgan**

Smart and Sustainable Cities? Pipedreams, Practicalities and Possibilities provides one of the first examinations of how smart cities relate to environmental and social issues. It addresses the gap between the ambitious visions of smart cities and the actual practices on the ground by focusing on the social and environmental dimensions of real smart city initiatives as well as the possibilities that they hold for creating more equitable and progressive cities.

The chapters in this book were originally published as a special issue of the journal *Local Environment*.

Routledge

Market: Environment and Sustainability
December 2020: 246x174: 116pp
Hb: 978-0-367-63680-7: **£120.00**
eBook: 978-1-003-12024-7

* For full contents and more information, visit: www.routledge.com/9780367636807

3rd Edition

Sustainability Principles and Practice



Margaret Robertson, Lane Community College, USA

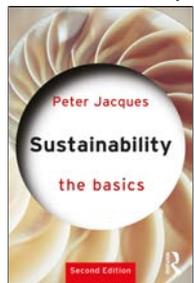
This textbook gives an overview of the interdisciplinary field of sustainability. Each chapter explores one aspect of the field, first introducing concepts and presenting issues, then supplying tools for working toward solutions. The 3rd edition includes greater coverage of resilience and systems thinking, an update on the Anthropocene as a formal geological epoch, the latest research from the IPCC, and a greater focus on diversity and social equity, together with new details such as sustainable consumption, textiles recycling, microplastics, and net-zero concepts. This edition has been expanded to include issues, solutions, and new case studies.

Routledge

Market: Environment / Sustainability
January 2021: 246x174: 554pp
Hb: 978-0-367-36519-6: **£120.00**
Pb: 978-0-367-36521-9: **£38.99**
eBook: 978-0-429-34666-8
Prev. Ed Pb: 978-1-138-65024-4

* For full contents and more information, visit: www.routledge.com/9780367365196

2nd Edition

Sustainability: The Basics

Peter Jacques, University of Central Florida, USA

Series: The Basics

This book offers an accessible and interdisciplinary introduction to sustainability and discusses key concepts such as the core principles of sustainability, the key ethical considerations for questions of sustainability, how we measure sustainability, the critical obstacles to achieving global sustainability and what happens when societies fail to observe principles of sustainability. With new coverage including the Sustainable Development Goals, a global range of case studies, the second edition also proposes a new, "sustainable humanism" that animates much of our work to make a better, more humane world.

Routledge

Market: Environment / Sustainability

December 2020: 198x129: 288pp

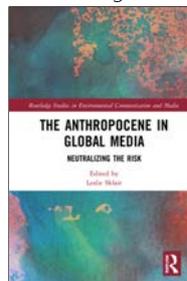
Hb: 978-0-367-36516-5: **£84.99**Pb: 978-0-367-36517-2: **£16.99**

eBook: 978-0-429-34661-3

Prev. Ed Pb: 978-0-415-60848-0

* For full contents and more information, visit: www.routledge.com/9780367365172**The Anthropocene in Global Media**

Neutralizing the risk



Edited by Leslie Sklair

Series: Routledge Studies in Environmental Communication and Media

This book offers the first systematic study of how the 'Anthropocene' is reported in mass media globally, drawing parallels between the use (or misuse) of the term and the media's attitude towards the associated issues of climate change and global warming.

The Anthropocene in Global Media will be of interest to students and scholars of environmental studies, media and communication studies, and the environmental humanities, as well as those who are concerned about the survival of humans

on planet Earth.

Routledge

Market: Environment / Media

November 2020: 234x156: 286pp

Hb: 978-0-367-37597-3: **£110.00**

eBook: 978-0-429-35520-2

* For full contents and more information, visit: www.routledge.com/9780367375973**Sustainable and Democratic Education**

Opening Spaces for Complexity, Subjectivity and the Future



Sarah Chave

Series: Routledge Research in Anticipation and Futures

This book makes a valuable contribution to international growing interest in Arendtian thinking, complexity and emergence, feminist thinking, the emerging field of anticipation studies, the posthuman and engagement with Indigenous scholarship and practices in ways which attempt to be non-appropriating. Sustainability continues to be a vital theme in education, and the book responds to a desire to encourage education which invites more sustainable processes and ways of being in addition to education which limits itself to teaching about, or for, sustainability.

Routledge

Market: Education / Sustainability

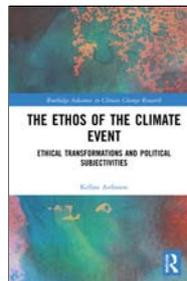
December 2020: 234x156: 210pp

Hb: 978-0-367-15102-7: **£120.00**

eBook: 978-0-429-05502-7

* For full contents and more information, visit: www.routledge.com/9780367151027**The Ethos of the Climate Event**

Ethical Transformations and Political Subjectivities



Kellan Anfinson

Series: Routledge Advances in Climate Change Research

This book develops a politico-ethical response to climate change that accounts for the novelty and uncertainty that it entails. This volume explores the ethical dimensions of climate change and posits that one must view it as a social construction intimately tied to political issues in order to understand and overcome this environmental challenge. Presenting a multidisciplinary engagement with the politics, philosophy, and science of climate change, this book will be of great interest to students and scholars of climate change, environmental politics, environmental philosophy and environmental humanities.

Routledge

Market: Climate Change/Environmental Ethics

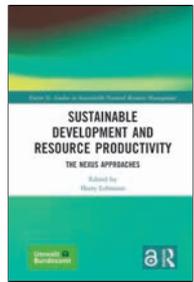
December 2020: 234x156: 170pp

Hb: 978-0-367-48457-6: **£120.00**

eBook: 978-1-003-04419-2

* For full contents and more information, visit: www.routledge.com/9780367484576**Sustainable Development and Resource Productivity**

The Nexus Approaches



Edited by Harry Lehmann

Series: Factor X: Studies in Sustainable Natural Resource Management

The fourth Factor X publication from the German Environment Agency (Umweltbundesamt, UBA), *Sustainable Development and Resource Productivity: The Nexus Approaches* explores the interdependencies of sustainable development paths and associated resource requirements, describing and analysing the necessities for a more resource efficient world.

Discussing solutions for a more sustainable use of natural resources, this book is essential reading for scholars and students of natural resources and sustainable development and

decision-makers and experts from the fields of policy development, industry and civil society

Routledge

Market: Natural Resources / Sustainable Development

November 2020: 234x156: 386pp

Hb: 978-0-367-42954-6: **£120.00**

eBook: 978-1-003-00036-5

* For full contents and more information, visit: www.routledge.com/9780367429546**The European Union and Global Environmental Protection**

Transforming Influence into Action



Edited by Mar Campins Eritja

Series: Routledge Studies in Environmental Policy

The European Union and Global Environmental Protection examines how the EU can be a more proactive actor in the promotion of the principles of sustainability and fairness from a legal environmental perspective.

It begins with an introduction and assessment of the key EU competences, international and regional instruments and mechanisms, as well as the current legal framework in place at the EU level.

This volume will be of great relevance to students, scholars and EU policy makers with an interest in international environmental

law and policy.

Routledge

Market: Environmental Law/European Union Policy/ International Governance

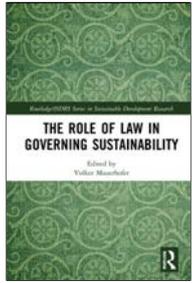
November 2020: 234x156: 208pp

Hb: 978-0-367-89321-7: **£120.00**

eBook: 978-1-003-01851-3

* For full contents and more information, visit: www.routledge.com/9780367893217

The Role of Law in Governing Sustainability



Edited by **Volker Mauerhofer**

Series: *Routledge/ISDRS Series in Sustainable Development Research*

This book explores how public and private actors can interrelate to achieve also by means of law a sustainable development which is beneficial for the environment, society and the economy. It assesses the structure, functions and perspectives of law in the wider governance frameworks of sustainable development. The book also provides latest and in-depth insights from each of the three dimensions of sustainable development and the relations among them. Latest political developments on global and regional level related to the environmental, social and the economic dimensions are provided as well as in-depth

case studies.

Routledge

Market: Environment / Sustainable Development

May 2021: 234x156: 312pp

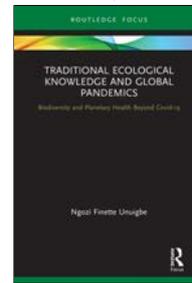
Hb: 978-0-367-74632-2: **£120.00**

eBook: 978-1-003-15883-7

* For full contents and more information, visit: www.routledge.com/9780367746322

Traditional Ecological Knowledge and Global Pandemics

Biodiversity and Planetary Health Beyond Covid-19



Edited by **Ngozi Finette Unuigbo**

Series: *Routledge Focus on Environment and Sustainability*

This book demonstrates the importance and potential role of Traditional Ecological Knowledge in foreseeing and curbing future global pandemics. This book will be of great interest to students and scholars of traditional ecological knowledge, indigenous studies, animal ecology, environmental ethics and environmental studies more broadly.

Routledge

Market: Ecology / Indigenous Peoples / Ethics

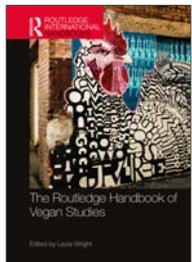
March 2021: 216x138: 104pp

Hb: 978-0-367-69294-0: **£44.99**

eBook: 978-1-003-14128-0

* For full contents and more information, visit: www.routledge.com/9780367692940

The Routledge Handbook of Vegan Studies



Edited by **Laura Wright**

Series: *Routledge International Handbooks*

This wide-ranging volume explores the tension between the dietary practice of veganism and the manifestation, construction, and representation of a vegan identity in today's society. This handbook is divided into five parts, including: History of Vegan Studies; Vegan Studies in the Disciplines; Theoretical Intersections; Contemporary Media Entanglements; Veganism Around the World. The sections contextualize veganism beyond its status as a dietary choice, situating veganism within broader social, ethical, legal, theoretical, and artistic discourses.

Routledge

Market: Environment / Vegan Studies

March 2021: 246x174: 440pp

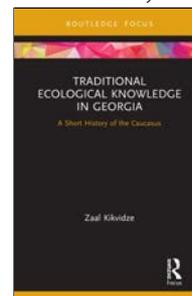
Hb: 978-0-367-89746-8: **£190.00**

eBook: 978-1-003-02087-5

* For full contents and more information, visit: www.routledge.com/9780367897468

Traditional Ecological Knowledge in Georgia

A Short History of the Caucasus



Edited by **Zaal Kikvidze**

Series: *Routledge Focus on Environment and Sustainability*

This multidisciplinary book develops a synthesis of traditional ecological knowledge in the Caucasus region in Georgia – a hotspot of natural and cultural diversity.

This book will be of great relevance to interdisciplinary-minded scholars and students who have an interest in the relationships between nature and human society, including anthropologists, historians, biologists, ecologists, botanists, sociologists and ethnographers.

Routledge

Market: Environment / Ecology

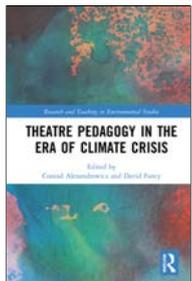
December 2020: 216x138: 150pp

Hb: 978-0-367-67490-8: **£44.99**

eBook: 978-1-003-13153-3

* For full contents and more information, visit: www.routledge.com/9780367674908

Theatre Pedagogy in the Era of Climate Crisis



Edited by **Conrad Alexandrowicz and David Fancy**

Series: *Research and Teaching in Environmental Studies*

This volume explores whether theatre pedagogy can and should be transformed in response to the global climate crisis. Comprised of contributions from a broad range of scholars and practitioners, the volume explores whether an adherence to aesthetic values can be preserved when art is instrumentalized as protest, and considers theatre as a tool to be employed by the School Strike for Climate movement. This book will be of great interest to students, scholars and practitioners of climate change and theatre and performance studies.

Routledge

Market: climate change/ theatre studies

May 2021: 234x156: 232pp

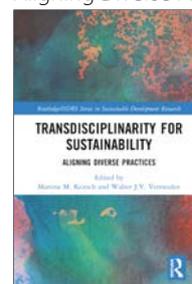
Hb: 978-0-367-54154-5: **£120.00**

eBook: 978-1-003-08782-3

* For full contents and more information, visit: www.routledge.com/9780367541545

Transdisciplinarity For Sustainability

Aligning Diverse Practices



Edited by **Martina M. Keitsch and Walter J.V. Vermeulen**

Series: *Routledge/ISDRS Series in Sustainable Development Research*

Transdisciplinarity For Sustainability: Aligning Diverse Practices is written by specialists from various academic disciplines and represents an important step forward in systematising knowledge and understanding of transdisciplinary collaboration. They are designed to provide a roadmap for further research in the field and facilitate pursuing and realizing the SDGs.

Routledge

Market: Environment / Sustainable Development

November 2020: 234x156: 230pp

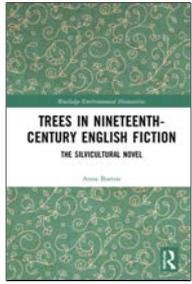
Hb: 978-0-367-18907-5: **£110.00**

eBook: 978-0-429-19912-7

* For full contents and more information, visit: www.routledge.com/9780367189075

Trees in Nineteenth-Century English Fiction

The Silvicultural Novel



Anna Burton

Series: *Routledge Environmental Humanities*

This is a book about a longstanding network of writers and writings that celebrate the aesthetic, socio-political, scientific, ecological, geographical, and historical value of trees and tree spaces in the landscape; and it is a study of the effect of this tree-writing upon the novel form in the long nineteenth century.

Trees in Nineteenth-Century English Fiction will be of great interest to students, researchers, and academics working in the environmental humanities, long nineteenth-century literature, nature writing and environmental literature, environmental history, ecocriticism, and literature and science scholarship.

Routledge

Market: Environment / Environmental Humanities / Literature

March 2021: 234x156: 272pp

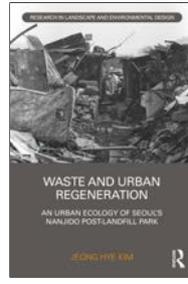
Hb: 978-0-367-36904-0: £120.00

eBook: 978-0-429-35188-4

* For full contents and more information, visit: www.routledge.com/9780367369040

Waste and Urban Regeneration

An Urban Ecology of Seoul's Nanjido Post-landfill Park



Jeong Hye Kim

Series: *Routledge Research in Landscape and Environmental Design*

Waste and Urban Regeneration examines the Nanjido region of Seoul and its transformation from Nanjido Landfill to the World Cup Park, and its relation to the urban ecology within the context of the city's urban development during the late twentieth and early twenty-first centuries. As one of the first accounts of a landfill and landfill-turned-park of South Korea, this study is a must-read for academics and researchers interested in waste management, ecology, landscape theory, and history.

Routledge

Market: Landscape / Ecology

November 2020: 234x156: 230pp

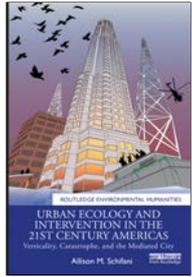
Hb: 978-0-367-35640-8: £120.00

eBook: 978-0-429-34087-1

* For full contents and more information, visit: www.routledge.com/9780367356408

Urban Ecology and Intervention in the 21st Century Americas

Verticality, Catastrophe, and the Mediated City



Allison M. Schifani

Series: *Routledge Environmental Humanities*

This book argues that imagining catastrophe can offer alternatives to and critiques of capitalist logics in the urban world, taking a hemispheric approach to contemporary urban intervention, examining urban ecologies, communication technologies, and cultural practices in the 21st century. Schifani explores a range of resistant urban interventions, imagining the city as on the verge of or enmeshed in catastrophe. This book will be of great interest to students and scholars of Urban Studies, Media Studies, American Studies, Global Studies, and the broad and interdisciplinary field of Environmental Humanities.

Routledge

Market: Environment / Environmental Humanities

December 2020: 234x156: 150pp

Hb: 978-0-367-51937-7: £120.00

Pb: 978-0-367-51936-0: £34.99

eBook: 978-1-003-05574-7

* For full contents and more information, visit: www.routledge.com/9780367519360

Waste Matters

Adaptive Reuse for Productive Landscapes



Edited by Nikole Bouchard, University of Wisconsin-Milwaukee, USA

Waste Matters presents a series of historical and contemporary design ideas that reimagine a range of repurposed materials at diverse scales and in various contexts by exploring methods of hacking, disassembly, reassembly, recycling, adaptive reuse and preservation of the built environment. This book will inspire designers to sample and rearrange bits of artifacts from the past and present to produce culturally relevant and ecologically sensitive materials, objects, architecture and environments.

Routledge

Market: Landscape / Sustainability

December 2020: 246x189: 256pp

Hb: 978-1-138-59235-3: £120.00

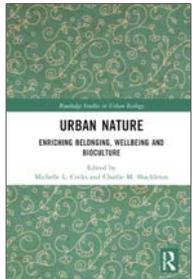
Pb: 978-1-138-59236-0: £34.99

eBook: 978-0-429-49007-1

* For full contents and more information, visit: www.routledge.com/9781138592360

Urban Nature

Enriching Belonging, Wellbeing and Bioculture



Edited by Michelle L. Cocks, Rhodes University, South Africa and Charlie M. Shackleton, Rhodes University, South Africa

Series: *Routledge Studies in Urban Ecology*

This book showcases the diversity of ways in which urban residents from varying cultural contexts view, interact, engage and give meaning to urban nature, aiming to counterbalance the dominance of western depictions and values of urban nature and design.

A timely addition to the literature, *Urban Nature: Enriching Belonging, Wellbeing and Bioculture* offers an alternative to western ideological understandings of nature and values and will be of great interest to those working in human and

environmental urban ecology. It will also be key readings for students in the relevant fields of anthropology, development studies, geography, social ecology and urban studies.

Routledge

Market: Urban Planning / Geography / Environment & Sustainability

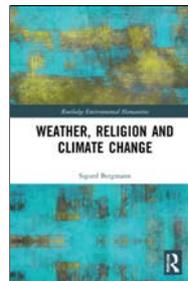
November 2020: 234x156: 290pp

Hb: 978-0-367-42757-3: £120.00

eBook: 978-0-367-85489-8

* For full contents and more information, visit: www.routledge.com/9780367427573

Weather, Religion and Climate Change



Sigurd Bergmann

Series: *Routledge Environmental Humanities*

In critical dialogue with meteorology and climate science, *Weather, Religion and Climate Change* takes the reader beyond the limits of contemporary thinking about the Anthropocene and explores whether a deeper awareness of weather might impact on the relationship between nature and self. Drawing on a wide range of examples, including paintings by J.W.M. Turner, medieval sacred architecture, and Aristotle's classical *Meteorologica*, Bergmann examines a geographically and historically wide range of cultural practices, religious practices and worldviews in which weather appears as a central, sacred force of life.

Routledge

Market: Environment / Environmental Humanities

December 2020: 234x156: 260pp

Hb: 978-0-367-35880-8: £120.00

eBook: 978-0-429-34240-0

* For full contents and more information, visit: www.routledge.com/9780367358808

Wild Romanticism



Edited by **Markus Poetzsch** and **Cassandra Falke**

Series: Routledge Environmental Literature, Culture and Media

Wild Romanticism consolidates contemporary thinking about conceptions of the wild in British and European Romanticism, clarifying the emergence of wilderness as a cultural, symbolic and ecological idea.

This book will be of great interest to students and scholars of Romanticism, environmental literature, environmental history and the environmental humanities more broadly.

Routledge

Market: Environment / Literature

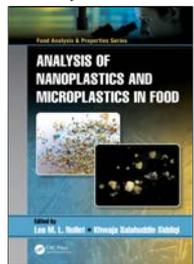
April 2021: 234x156: 248pp

Hb: 978-0-367-49672-2: **£120.00**

eBook: 978-0-367-49674-6

* For full contents and more information, visit: www.routledge.com/9780367496722

Analysis of Nanoplastics and Microplastics in Food



Edited by **Leo M.L. Nollet**, University College Ghent, Belgium (Retired) and **Khwaja Salahuddin Siddiqi**, Aligarh Muslim University, India

Series: *Food Analysis & Properties*

The world's ever-increasing use of plastics has created large areas of floating plastic waste in the oceans. Nanoplastics and microplastics have made their way into food, particularly in the marine environment. They have been found in crustaceans and bivalve mollusks like oysters and mussels, where the digestive tract is eaten. They have also been reported in honey, beer, and table salt. This book discusses the fate of microplastics and nanoplastics in the environment and discusses sampling and analysis methods detecting and identifying them.

CRC Press

Market: Life Sciences

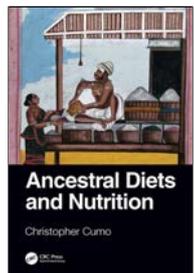
December 2020: 254 x 178: 240pp

Hb: 978-1-138-60018-8: **£150.00**

eBook: 978-0-429-46959-6

* For full contents and more information, visit: www.routledge.com/9781138600188

Ancestral Diets and Nutrition



Christopher Cumo

Ancestral Diets and Nutrition supplies dietary advice based on the study of prehuman and human populations worldwide over the last two million years. This thorough, accessible book uses prehistory and history as a laboratory for testing the health effects of various foods. It examines all food groups by drawing evidence from skeletons and their teeth, middens, and coprolites along with written records where they exist to determine peoples' health and diet.

Fully illustrated and grounded in extensive research, this book enhances knowledge about diet, nutrition, and health. It appeals to practitioners in medicine, nutrition, anthropology, biology, chemistry, economics, and history.

CRC Press

Market: Nutrition

November 2020: 254 x 178: 520pp

Hb: 978-0-367-23609-0: **£115.00**

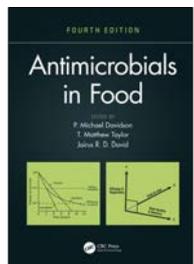
Pb: 978-0-367-23598-7: **£52.99**

eBook: 978-0-429-28071-9

* For full contents and more information, visit: www.routledge.com/9780367235987

4th Edition

Antimicrobials in Food



Edited by **P. Michael Davidson**, University of Tennessee, Knoxville, USA, **T. Matthew Taylor**, Professor, Texas A&M and **Jairus R. D. David**, ConAgra Foods, Omaha, Nebraska, USA

Series: *Food Science and Technology*

For three editions, *Antimicrobials in Foods*, has been the must-have resource for those interested in food antimicrobials. Since the last edition, major outbreaks of Verotoxigenic *Escherichia coli*, *Salmonella*, and *Listeria monocytogenes* have continued to occur, microbiological safety problems associated with many new foods, especially fresh fruits and vegetables, have emerged, and consumer demand for fresher, minimally

processed and no preservative foods has reached a climax. Included in this edition are details on naturally occurring antimicrobials from animal, plant, and microbial sources, updates on hurdle technology approaches, and mechanisms of action, resistance, and stress adaptation.

CRC Press

Market: Food & Culinary Science

November 2020: 254 x 178: 826pp

Hb: 978-0-367-17878-9: **£150.00**

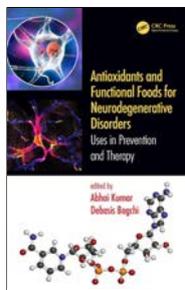
eBook: 978-0-429-05819-6

Prev. Ed Hb: 978-0-824-74037-5

* For full contents and more information, visit: www.routledge.com/9780367178789

Antioxidants and Functional Foods for Neurodegenerative Disorders

Uses in Prevention and Therapy



Edited by **Abhai Kumar**, Interdisciplinary School of Life Sciences, Banaras Hindu University, Uttar Pradesh, India and **Debasis Bagchi**, Dept of Pharmacological and Pharmaceutical Sciences, University of Houston College of Pharmacy, Houston, TX

Oxidative stress in the brain plays a central role in a common pathophysiology of neurodegenerative diseases, including Alzheimer's and Parkinson's disease. This book presents scientific research on the potential of antioxidant therapy in the prevention and treatment of neurodegenerative disorders. Written by leading scientists, it demonstrates the therapeutic potential of ketogenic diets, medicinal plants, phytopharmaceuticals, traditional medicines and food nutrients.

It is essential reading for health professionals, dietitians, food and nutrition scientists.

CRC Press

Market: Diet & Nutrition

January 2021: 254 x 178: 472pp

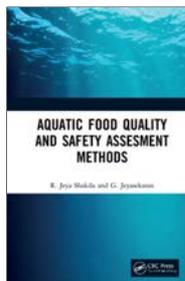
Hb: 978-0-367-33322-5: **£150.00**

Pb: 978-0-367-64242-6: **£74.99**

eBook: 978-0-429-31931-0

* For full contents and more information, visit: www.routledge.com/9780367642426

Aquatic Food Quality and Safety Assessment Methods



R. Jeya Shakila and G. Jeyasekaran

The book explains on the methods and procedures adopted for testing the quality and safety of aquatic food products. The analytical techniques available for testing the chemical constituents of aquatic food with separate chapters on the analysis of lipids, proteins, vitamins, and minerals are exhaustively given to determine their nutritional quality. The various methods for sensory, physical, biochemical and microbiological quality assessments of aquatic food are explicitly given with detailed protocols for easy adoption.

Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Food Science

November 2020: 234x156: 256pp

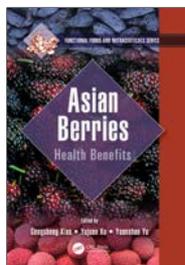
Hb: 978-0-367-61946-6: **£44.99**

eBook: 978-1-003-10719-4

* For full contents and more information, visit: www.routledge.com/9780367619466

Asian Berries

Health Benefits



Edited by **Gengsheng Xiao**, **Yujuan Xu** and **Yuanshan Yu**

Series: *Functional Foods and Nutraceuticals*

Collected in one source, *Asian Berries: Health Benefits* covers a wide array of different Asian berries, their properties, potential health benefits, and possible uses. Asian berries are well-known traditional nutritional foods and herbal medicinals as well as valuable nourishing tonic, which has been used for thousands of years in Asian countries. They are traditionally employed as herbal medicinals from ancient times. Recently, Asian berries widely marketed as health foods have become increasingly popular in the Western world because of their health-promoting properties. This book explores a wide array of possibilities and

benefits that come from Asian berries.

CRC Press

Market: Food Science & Technology

December 2020: 254 x 178: 427pp

Hb: 978-0-367-25199-4: **£150.00**

eBook: 978-0-429-28647-6

* For full contents and more information, visit: www.routledge.com/9780367251994

Authenticity of Foods of Plant Origin

Edited by **Konstantinos Kotsanopoulos**, Researcher in University of Thessaly, School of Agricultural Sciences, Department of Ichthyology and Aquatic Environment, Greece
 EMEA Commercial Regulatory Manager - Univar Ltd, UK

Series: *Food Biology Series*

Authenticity of Foods of Plant Origin consists of five parts that collect and classify the terms of authenticity of foods from plant origins. The book discusses traceability and its implementation in the industry, along with relevant techniques, and how to verify authenticity with the current methods and techniques used in the food industry. It refers to specific categories of representative food products of plant origin as well as covering the most important processed foods that originate from plants with regards to authenticity. The book summarizes the EU, US, and Canadian legislation to provide a clear view of the current guidelines.

CRC Press

Market: Food & Culinary Science

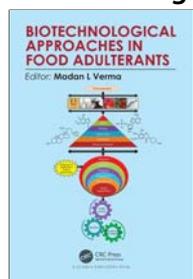
June 2021: 235 x 156: 425pp

Hb: 978-0-367-14653-5: **£141.00**

eBook: 978-0-429-05294-1

* For full contents and more information, visit: www.routledge.com/9780367146535

Biotechnological Approaches in Food Adulterants



Edited by **Madan L Verma**

The book covers key topics in food adulteration and the applications of cutting-edge technologies in its detection. Topics include growth of food adulterants, potential toxicity, legislations to prevent food adulteration, technology for food adulterants detection, and biosensing and nanobiosensing based detection of food adulterants. Emerging issues in food adulterants and the biotechnological solutions to curb such menaces in the food industry, are discussed. The book is a useful resource for food technologists, chemical engineers, microbiologists, biotechnologists, agricultural engineers, nanotechnologists, and policy makers.

CRC Press

Market: Food Science

November 2020: 234x156: 344pp

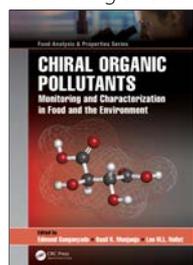
Hb: 978-0-367-36986-6: **£150.00**

eBook: 978-0-429-35455-7

* For full contents and more information, visit: www.routledge.com/9780367369866

Chiral Organic Pollutants

Monitoring and Characterization in Food and the Environment



Edited by **Edmond Sanganyado**, Marine Biology Institute, Shantou University, Shantou, China, **Basil K. Munjanja**, National University of Science and Technology, Zimbabwe and **Leo M.L. Nollet**, University College Ghent, Belgium (Retired)

Series: *Food Analysis & Properties*

Chiral Organic Pollutants introduces readers to the growing challenges of chirality in synthetic chemicals. In this volume, contributors brilliantly summarize the characteristics of chiral pollutants to provide tools and techniques for effectively assessing their environmental and human health risks. Chapters cover recent research on the physicochemical properties,

sources, exposure pathways, environmental fate, toxicity, and enantioselective analysis of chiral organic pollutants. This book also provides comprehensive discussions on the current trends in the synthesis and legislation of chiral chemicals.

CRC Press

Market: Food Science & Technology

December 2020: 254 x 178: 396pp

Hb: 978-0-367-42923-2: **£150.00**

eBook: 978-1-003-00016-7

* For full contents and more information, visit: www.routledge.com/9780367429232

Compost Utilization in Production of Horticultural Crops

Edited by **Monica Ozores-Hampton**, University of Florida

Compost Utilization in Production of Horticultural Crops provides information for the compost industry to develop horticulture production efforts and techniques. This highly practical book contains information applicable to current production issues facing the fruit and nuts, vegetable, and ornamentals and turfgrass industry. Written by scientific experts, the book provides guidelines on converting safe waste materials into composted soil amendments while minimizing negative impacts on the environment. Chapters cover the diversity and variability on compost uses of available feedstocks; composting methods, application rates, methods and timing.

CRC Press

Market: Agricultural Science

April 2021: 234x156: 160pp

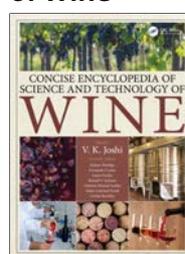
Hb: 978-0-815-36646-1: **£150.00**

Pb: 978-0-367-69107-3: **£42.99**

eBook: 978-1-003-14041-2

* For full contents and more information, visit: www.routledge.com/9780367691073

Concise Encyclopedia of Science and Technology of Wine



Edited by **V. K. Joshi**

Concise Encyclopedia of Science and Technology of Wine contains the most comprehensive, yet still succinct, collection of information on the science and technology of wine making. With 45 chapters contributed by leading experts in their fields, it is an indispensable treatise offering extensive details of the processes of wine making. The book is an incomparable resource for oenologists, food scientists, biotechnologists, postharvest technologists, biochemists, fermentation technologists, nutritionists, chemical engineers, microbiologists, toxicologists, organic chemists, and the undergraduate and postgraduate students of these disciplines.

CRC Press

Market: Food & Culinary Science

March 2021: 279 x 216: 616pp

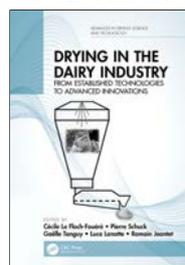
Hb: 978-1-138-09275-4: **£300.00**

eBook: 978-1-315-10729-5

* For full contents and more information, visit: www.routledge.com/9781138092754

Drying in the Dairy Industry

From Established Technologies to Advanced Innovations



Edited by **Cécile Le Floch-Fouéré**, **Pierre Schuck**, **Gaëlle Tanguy**, **Luca Lanotte** and **Romain Jeantet**, Agrocampus Ouest

Series: *Advances in Drying Science and Technology*

With more than 12M tons of dairy powders produced each year at a global scale, the drying sector accounts to a large extent for the processing of milk and whey. It is generally considered that 40% of the dry matter collected overall ends up in a powder form. Moreover, nutritional dairy products presented in a dry form (eg, infant milk formulae) have grown quickly over the last decade, now accounting for a large share of the profit of the sector. This book is a synthetic and complete reference work for

researchers in academia and industry in order to encourage research and development and innovations in drying in the dairy industry.

CRC Press

Market: Food & Culinary Science

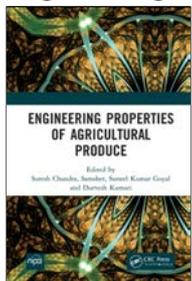
November 2020: 254 x 178: 296pp

Hb: 978-0-815-35998-2: **£150.00**

eBook: 978-1-351-11950-4

* For full contents and more information, visit: www.routledge.com/9780815359982

Engineering Properties of Agricultural Produce



Edited by **Suresh Chandra, Samsher, Suneel Kumar Goyal and Durvesh Kumari**

The book will provide a fundamental understanding of engineering properties of agricultural produce. Each chapter in the book will be helpful for the students to understand the relationship between engineering properties of raw, semi-finished and processed food to obtain products with desired shelf-life and quality. This book discusses basic definitions, principles of engineering properties and their measurement methods with research findings.

Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with New India Publishing Agency.

CRC Press

Market: Aquaculture

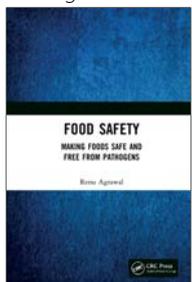
November 2020: 229 x 152: 242pp

Hb: 978-0-367-63500-8: **£89.99**

* For full contents and more information, visit: www.routledge.com/9780367635008

Food Safety

Making Foods Safe and Free From Pathogens



Renu Agrawal

This book will enrich the readers on the major improvement been made in food safety management. It also includes the role and responsibilities of the various sectors of society, namely governments, food industry, consumers and academia and also deals with HACCP, GMP practices and Food laws. This book is unique as it has included the causes of food allergies, adulteration, genetically modified seeds and crops, GM fruits and vegetables and the effect on human body.; Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. The title is co-published with New India Publishing Agency.

CRC Press

Market: Food Safety

February 2021: 229 x 152: 262pp

Hb: 978-0-367-70199-4: **£89.99**

* For full contents and more information, visit: www.routledge.com/9780367701994

2nd Edition

Handbook of Dairy Foods Analysis

Edited by **Fidel Toldrá**, Instituto de Agroquímica y Tecnología, Valencia, Spain and **Leo M.L. Nollet**, University College Ghent, Belgium

Bringing together the foremost minds in dairy research, *Handbook of Dairy Foods Analysis* compiles the top dairy analysis techniques and methodologies from around the world into one, well-organized volume. This second edition includes four brand new chapters covering the analytical techniques and methodologies for determining bioactive peptides, preservatives, activity of endogenous enzymes and sensory perception of dairy foods, and all other chapters have been adapted to recent research.

CRC Press

Market: Food Science and Technology

March 2021: 254 x 178: 1048pp

Hb: 978-0-367-34313-2: **£190.00**

eBook: 978-0-429-34296-7

Prev. Ed Hb: 978-1-420-04631-1

* For full contents and more information, visit: www.routledge.com/9780367343132

Handbook of Molecular Gastronomy

Scientific Foundations and Culinary Applications

Edited by **Róisín Burke, Alan Kelly**, University College Cork, Ireland, **Christophe Lavelle**, National Museum of Natural History - CNRS UMR 7196, Paris and **Hervé This vo Kientza**, INRA/AgroPraisTech

A comprehensive reference to molecular gastronomy, this book highlights techniques that have enabled chefs to achieve new and better ways of preparing food. The book takes an interdisciplinary approach encompassing the physics, biology, and chemistry of food as well as food preparation along with practical tips on molecular cooking. It offers an introductory overview and perspective on key issues and contains a complete A-Z guide to scientific terminology, ingredients, tools, and methods, as well as innovative recipes by world-renowned chefs.

CRC Press

Market: Food Science and Technology

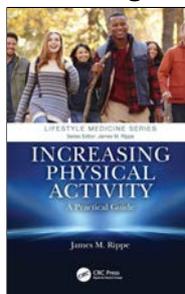
May 2021: 210 x 280: 656pp

Hb: 978-1-466-59478-4: **£190.00**

eBook: 978-0-429-16870-3

* For full contents and more information, visit: www.routledge.com/9781466594784

Increasing Physical Activity: A Practical Guide



James M. Rippe, Professor of Medicine, University of Massachusetts Medical School

Series: Lifestyle Medicine

The health benefits of regular physical activity are beyond dispute, yet less than 40% of physicians routinely counsel their patients on the importance of physical activity. *Increasing Physical Activity: A Practical Guide* equips healthcare practitioners to include physical activity counseling in the daily practice of medicine. The book proves inactivity is a stronger risk factor than other lifestyle factors for cardiovascular disease, diabetes, and many other diseases. It provides evidence-based information on the role of physical activity in preventing and treating chronic conditions and includes practical strategies for healthcare

practitioners to prescribe it.

CRC Press

Market: Health & Fitness

November 2020: 234x156: 224pp

Hb: 978-0-367-50041-2: **£150.00**

Pb: 978-0-367-49995-2: **£42.99**

eBook: 978-1-003-04858-9

* For full contents and more information, visit: www.routledge.com/9780367499952

2nd Edition

Infant, Child and Adolescent Nutrition

A Practical Handbook

Judy More, Freelance Paediatric Dietitian and Registered Nutritionist, London, UK

This Second Edition is an evidence-based, practical guide which provides readers an introduction introduces readers to the theory behind optimal child nutrition. Containing practical advice on how to put that theory into practice, this new edition facilitates learning through case studies, key points, and learning activities. Divided into seven sections, chapters cover prenatal nutrition and nutrition throughout childhood from preterm babies to adolescents up to the age of 18. It serves as a useful reference for individuals responsible for the nutritional health of children in primary care and community settings.

CRC Press

Market: Clinical Medicine

April 2021: 246x174: 448pp

Hb: 978-0-367-55456-9: **£74.99**

Pb: 978-0-367-55455-2: **£42.99**

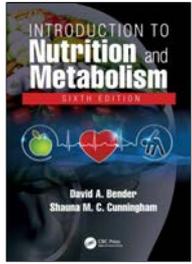
eBook: 978-1-003-09365-7

Prev. Ed Pb: 978-1-444-11185-9

* For full contents and more information, visit: www.routledge.com/9780367554552

6th Edition

Introduction to Nutrition and Metabolism



David A Bender, Emeritus Professor, University College London, UK and Shauna M C Cunningham, Robert Gordon University, Scotland

Introduction to Nutrition and Metabolism equips readers with an understanding of the scientific basis of what we call a healthy diet. Now in its sixth edition, this highly recognized textbook provides clear explanations of how nutrients are metabolized and gives explains the principles of biochemistry needed for comprehending the science of nutrition. This full-color textbook explores the uses to which food is put in the body and the interactions between health and diet. Outlining the scientific basis behind nutritional requirements and recommendations,

this new edition has been extensively revised to reflect current knowledge.

CRC Press

Market: Nutrition

February 2021: 254 x 178: 452pp

Hb: 978-0-367-68815-8: **£150.00**

Pb: 978-0-367-19081-1: **£59.99**

eBook: 978-1-003-13915-7

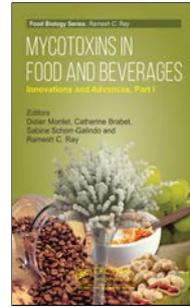
Prev. Ed Pb: 978-1-466-57224-9

* For full contents and more information, visit: www.routledge.com/9780367190811



Mycotoxins in Food and Beverages

Innovations and Advances, Volume 1



Edited by Didier Montet, Catherine Brabet, Ramesh C. Ray and Sabine Galindo

Series: *Food Biology Series*

The book reviews the latest literature and innovations on important aspects of mycotoxins, e.g. mycotoxin producing fungi and the related ecosystems, mycotoxin occurrence, toxicity, analysis and management. Quantitative estimations of impacts of climate change on mycotoxin occurrence have been made recently, using predictive modelling. There is also a growing interest in the occurrence and toxicity of multiple mycotoxins in food and feed, including emerging or modified forms of mycotoxins. Innovative tools were also developed to detect and quantify toxinogenic fungi and their toxins.

CRC Press

Market: Food Biology

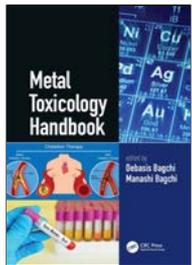
March 2021: 234x156: 225pp

Hb: 978-0-367-42209-7: **£125.00**

eBook: 978-1-003-03581-7

* For full contents and more information, visit: www.routledge.com/9780367422097

Metal Toxicology Handbook



Edited by Debasis Bagchi, Dept of Pharmacological and Pharmaceutical Sciences, University of Houston College of Pharmacy, Houston, TX and Manashi Bagchi

Some metals exhibit potential toxicity, carcinogenicity or negative health effects, while some metals, called essential minerals or micronutrients, have promising pharmacological, therapeutic and nutritional benefits and selected metals have neither pharmacological or biological efficacy or toxicity. The book covers all the toxic metals individually and discuss their redox biology and cytotoxicity, toxicological aspects on both animals and humans, disease manifestations and threshold, organ specific damage, molecular toxicology including

mechanistic insight, effects on genetics and genomics, and, finally, how these toxic metals should be handled safely without causing adverse events.

CRC Press

Market: Biomedical Science

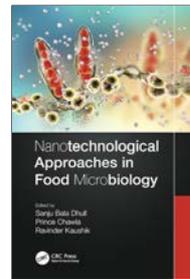
November 2020: 254 x 178: 510pp

Hb: 978-1-138-34524-9: **£200.00**

eBook: 978-0-429-43800-4

* For full contents and more information, visit: www.routledge.com/9781138345249

Nanotechnological Approaches in Food Microbiology



Edited by Sanju Bala Dhull, Chaudhary Devi Lal University, Haryana, India, Prince Chawla, Shoolini University, Himachal Pradesh, India and Ravinder Kaushik, Amity University, Noida, India

Nanotechnological Approaches in Food Microbiology provides a systematic introduction and comprehensive information about practical approaches and characteristic features related to the significant applications of nanotechnology in food microbiology, including, nano starch films, nanoemulsions, biogenic nanoparticles, nanocapsules etc. The book will explore details about metal nanoparticles synthesis, characterization, mathematical modeling, kinetic studies, and their antimicrobial approaches.

CRC Press

Market: Food Science & Technology

December 2020: 234x156: 486pp

Hb: 978-0-367-35944-7: **£180.00**

eBook: 978-0-429-34277-6

* For full contents and more information, visit: www.routledge.com/9780367359447

Molecular Food Microbiology

Edited by Dongyou Liu, Royal College of Pathologists of Australasia, St. Leonards, New South Wales, Australia

Series: *Food Microbiology*

Forming part of the Food Microbiology series, *Molecular Food Microbiology* provides a state of art coverage on molecular techniques applicable to food microbiology. While the introductory chapter contains an overview on the principles of current DNA, RNA and protein techniques and discusses their utility in helping solve practical problems that food microbiology is facing now and in the future, the remaining chapters present detailed molecular analyses of selective foodborne viruses, bacteria, fungi and parasites.

CRC Press

Market: Food & Culinary Science

April 2021: 254 x 178: 464pp

Hb: 978-0-815-35950-0: **£155.00**

eBook: 978-1-351-12038-8

* For full contents and more information, visit: www.routledge.com/9780815359500

Orphan Crops for Sustainable Food and Nutrition Security

Promoting Neglected and Underutilized Species

Edited by Stefano Padulosi, Israel Oliver King, Danny Hunter and M.S. Swaminathan

Series: *Issues in Agricultural Biodiversity*

This book discusses the issues, challenges, needs and opportunities related to the promotion of orphan crops, known also as neglected and underutilized species (NUS).

Routledge

Market: Food / Agriculture / Development

March 2021: 234x156: 240pp

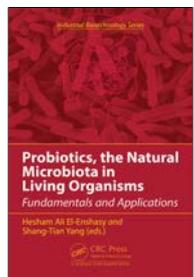
Pb: 978-0-367-90282-7: **£34.99**

* For full contents and more information, visit: www.routledge.com/9780367902827



Probiotics, the Natural Microbiota in Living Organisms

Fundamentals and Applications



Edited by **Hesham A. El Enshasy**, Institute of Bioproduct Development, Faculty of Chemical Engineering and Energy, Universiti Teknologi Malaysia, Johor Bahru, Malaysia and **Shang-Tian Yang**, Department of Chemical and Biomolecular Engineering, The Ohio State University, Columbus, Ohio, USA

Series: Industrial Biotechnology

This book provides a comprehensive review on the recent trends and future prospects of probiotic research and potential industrial applications. It begins with an overview on the fundamental research about the different classes of microbiota and extends to a wide array of applications of beneficial microbes in human and animal wellness. This book is written and edited by leading internationally renowned experts in the field of probiotics. The contributors include researchers and industrial experts who provide comprehensive information to point out promising new direction of research, applications and potential business opportunities.

CRC Press

Market: Food & Culinary Science

June 2021: 234x156: 325pp

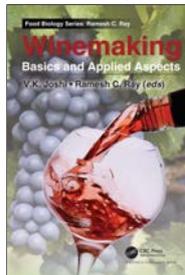
Hb: 978-1-138-49360-5: **£150.00**

eBook: 978-1-351-02754-0

* For full contents and more information, visit: www.routledge.com/9781138493605

Winemaking

Basics and Applied Aspects



Edited by **V. K. Joshi**, Shoolini University of Biotechnology and Management, India and **Ramesh C. Ray**, Central Tuber Crops Research Institute (Regional Centre), Bhubaneswar, India

Series: Food Biology Series

This comprehensive volume provides a holistic view of the basics and applied aspects of wine production and technology. The book comprises production steps, dotted with the latest trends or the innovations in the fields. It draws upon the expertise of leading researchers in the wine making worldwide.

CRC Press

Market: Food & Culinary Science

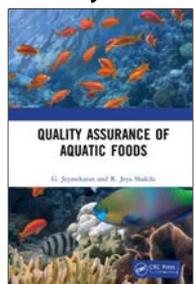
February 2021: 254 x 178: 746pp

Hb: 978-1-138-49091-8: **£190.00**

eBook: 978-1-351-03426-5

* For full contents and more information, visit: www.routledge.com/9781138490918

Quality Assurance of Aquatic Foods



G. Jeyasekaran and **R. Jeya Shakila**

This book deals with the quality and safety of aquatic food. It focuses various hazards associated with aquatic food. The quality problems in various aquatic food products and their methods of assessment are exhaustively dealt in this book. Besides, food quality management systems like HACCP, SSOP, SCP, GHP, GMP have also been explained for easy adoption. It is also useful to the personnel of aquatic food industries to improve their working knowledge on maintaining the quality and safety aquatic foods.

Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Food Science

November 2020: 234x156: 188pp

Hb: 978-0-367-61939-8: **£44.99**

eBook: 978-1-003-10717-0

* For full contents and more information, visit: www.routledge.com/9780367619398

Sequencing Technologies in Microbial Food Safety and Quality

Edited by **Devarajan Thangardurai**, Karnatak University, Dept. of Bontany, Karnataka, India, **Leo M.L. Nolle**, University College Ghent, Belgium (Retired), **Saher Islam**, University of Veterinary and Animal Sciences, Punjab, Pakistan and **Sangeetha Jeyabalan**, Central University of Kerala, India

Series: Food Analysis & Properties

This book reviews several practices in that NGS contributes to foodborne pathogens functional characterization, management and control. It also focuses on potential uses of sequencing technologies in microbial food safety and quality, also highlighting present challenges in the food industry.

Presenting comprehensive details about NGS approaches in food science, this book is an updated and reliable reference for food scientists, nutritionists, food product investigators to study and implement the sequencing technologies for development of quality and safe food.

CRC Press

Market: Food Science & Technology

April 2021: 254 x 178: 504pp

Hb: 978-0-367-35118-2: **£200.00**

eBook: 978-0-429-32986-9

* For full contents and more information, visit: www.routledge.com/9780367351182

Change Management for Risk Professionals

James J. Leflar Jr., Johns Hopkins University, Baltimore, Maryland, USA

Change Management for Risk Professionals focuses on the dynamics of change management with an eye toward the risk professional. Since organizations are constantly changing, so too do the risks. While these organizational changes are generally intentional—directed, planned, and even mapped out by senior leadership—often the resultant changes and risks are unforeseen and unanticipated. Drawing on the author's experience, the book presents industry insight into how organizations can migrate from current environments to new ones with minimal risk and disruption to maintain flexibility, continuity, and production.

CRC Press

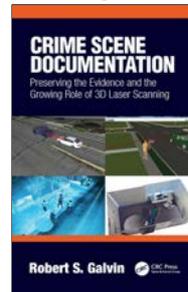
Market: Management/Risk
March 2021: 234x156: 172pp
Hb: 978-0-367-25159-8: **£89.99**
eBook: 978-0-429-31857-3

* For full contents and more information, visit: www.routledge.com/9780367251598



Crime Scene Documentation

Preserving the Evidence and the Growing Role of 3D Laser Scanning



Robert S Galvin

Documentation: Preserving the Evidence and the Growing Role of 3D Laser Scanning demonstrates, at length, the value of laser scanning by presenting case studies of investigators at actual crime and accident scenes. The book helps today's crime and crash scene investigators learn how scanning can improve scene documentation, provide better and more evidence details, and build more credible diagrams that possibly may be used in court presentations to help support a case.

CRC Press

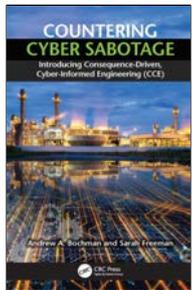
Market: Crime/Forensic Science
December 2020: 234x156: 290pp
Hb: 978-0-367-65230-2: **£89.99**
eBook: 978-1-003-12846-5

* For full contents and more information, visit: www.routledge.com/9780367652302



Countering Cyber Sabotage

Introducing Consequence-Driven, Cyber-Informed Engineering (CCE)



Andrew A. Bochman and Sarah Freeman

Countering Cyber Sabotage introduces a new methodology to help critical infrastructure owners, operators, and their security practitioners make demonstrable improvements in securing their most important functions and processes. It provides practical techniques to put target processes and functions beyond the reach of the most well-funded and capable cyber adversaries.

CRC Press

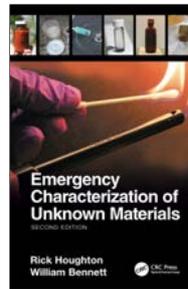
Market: Computing/Infrastructure Protection
January 2021: 234x156: 314pp
Hb: 978-0-367-49115-4: **£89.99**
eBook: 978-1-003-13082-6

* For full contents and more information, visit: www.routledge.com/9780367491154



2nd Edition

Emergency Characterization of Unknown Materials



Rick Houghton, Hazard Consultant, Saint Johns, Michigan, USA and William Bennett

Emergency Characterization of Unknown Materials, Second Edition is fully updated to serve as a reference that can be used in the field and laboratory by workers who are responsible for safe response to and management of unknown hazardous materials. The book details risk analysis procedures to identify threats and vulnerabilities, analyzing them to determine how such risks can be eliminated or reduced. It covers practical field applications with updated and additional examples of field instruments.

CRC Press

Market: HAZMAT/Emergency Response
November 2020: 234x156: 390pp
Hb: 978-0-367-48025-7: **£89.99**
eBook: 978-1-003-03766-8

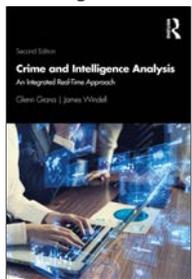
* For full contents and more information, visit: www.routledge.com/9780367480257



2nd Edition

Crime and Intelligence Analysis

An Integrated Real-Time Approach



Glenn Grana and James Windell, Wayne State University, Detroit, and Oakland University, Rochester, Michigan, USA

Crime and Intelligence Analysis: An Integrated Real-Time Approach, 2nd Edition, covers everything crime analysts and tactical analysts need to know to be successful. Providing an overview of the criminal justice system as well as the more fundamental areas of crime analysis, the book enables students and law enforcement personnel to better understand criminal behavior, learn the basics of conducting temporal analysis of crime patterns, use spatial analysis to better understand crime, apply research methods to crime analysis, and more successfully evaluate data and information to help predict criminal offending and solve criminal cases.

Routledge

Market: Criminology / Intelligence
April 2021: 229 x 152: 306pp
Hb: 978-0-367-43427-4: **£120.00**
Pb: 978-0-367-43729-9: **£38.99**
eBook: 978-1-003-00534-6

* For full contents and more information, visit: www.routledge.com/9780367437299

2nd Edition

Fingerprints

Analysis and Understanding the Science

Mark R. Hawthorne, San Francisco Police Department (Retired), California, USA, Sharon Plotkin and Bracey-Ann Douglas

Fingerprints: Analysis and Understanding the Science, Second Edition is a concise text designed to cover the fundamental techniques of obtaining and analyzing latent fingerprint evidence. Using an outline format for ease in referencing and review, the book is laid out and written in an easy to understand format designed for those collecting evidence who need to understand the principles.

CRC Press

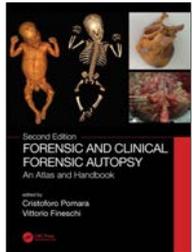
Market: Police & Forensic Science
March 2021: 234x156: 224pp
Hb: 978-0-367-47950-3: **£89.99**
Pb: 978-0-367-47951-0: **£29.99**
eBook: 978-1-003-03736-1

* For full contents and more information, visit: www.routledge.com/9780367479510

2nd Edition

Forensic and Clinical Forensic Autopsy

An Atlas and Handbook



Edited by **Cristoforo Pomara**, University of Foggia, Italy and **Vittorio Fineschi**, University of Foggia, Italy

Forensic and Clinical Forensic Autopsy: An Atlas and Handbook, Second Edition provides a step-by-step, guide illustrating the complete autopsy, from pre- through post-autopsy procedures. Chapters look at external cadaver examiner, organ removal methods, laboratory procedures including recording and imaging techniques, microscopy applications, pediatric and fetal autopsies, and checking for genetic disease and DNA diagnosis. New sections cover histology and immunohistochemistry, in addition to added coverage on forensic anthropology and molecular autopsy.

CRC Press

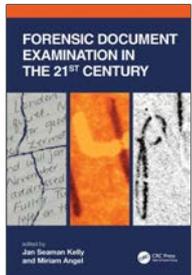
Market: Medicine/Forensic Pathology

December 2020: 210 x 280: 228pp

Hb: 978-0-367-33071-2: **£150.00**

eBook: 978-1-003-04811-4

Prev. Ed Hb: 978-1-439-80064-5

* For full contents and more information, visit: www.routledge.com/9780367330712**Forensic Document Examination in the 21st Century**

Edited by **Miriam Angel** and **Jan Seaman Kelly**, Las Vegas Metropolitan Police Dept, Forensic Science Lab, Ne

Forensic Document Examination in the 21st Century covers the latest technology and techniques providing a complete resource on contemporary issues and methods in forensic document examination. Due to rapid changes in technology, including digital documents, printing and photocopying capabilities, and more, there is a great need for this up-to-date reference.

This book will serve as a resource for forensic document examiners, trainees, and those in the criminal and legal communities who use the services of expert document examiners and witnesses

CRC Press

Market: Forensic Science

December 2020: 254 x 178: 336pp

Hb: 978-0-367-25155-0: **£89.99**

eBook: 978-1-003-11222-8

* For full contents and more information, visit: www.routledge.com/9780367251550**Handbook of Forensic Photography**

Sanford L Weiss

Handbook of Forensic Photography is the definitive reference and learning guide for the use of photography in the capture and presentation of forensic evidence. The author has recruited over 40 of the world's most renowned experts in their fields to provide the police and forensic community with the most up-to-date techniques, technology, and best practices.

CRC Press

Market: Photography/Forensic Science

April 2021: 210 x 280: 976pp

Hb: 978-0-367-49893-1: **£89.99**

eBook: 978-1-003-04796-4

* For full contents and more information, visit: www.routledge.com/9780367498931**Pathology of Sharp Force Trauma**

Peter Vanezis, Queen Mary University of London, England, UK

Of use and applicable to all forensic pathologists throughout the world, Pathology of Sharp Force Trauma covers all aspects of the pathology of sharp force trauma and its clinico-pathological interrelationship from the forensic (medico-legal perspective). It is intended to be a highly-illustrated reference manual and practical guide for forensic pathologists and medical examiners. Globally, most sharp force trauma is caused by knife injuries hence the emphasis will be based on such injuries although other implements and objects such as glass will also be described and fully illustrated in color in great detail.

CRC Press

Market: Forensic Pathology

May 2021: 210 x 280: 400pp

Hb: 978-1-498-76862-7: **£114.00**

eBook: 978-1-498-76863-4

* For full contents and more information, visit: www.routledge.com/9781498768627

2nd Edition

Sexual Murder

Catathymic and Compulsive Homicides

Louis B. Schlesinger, John Jay College of Criminal Justice, New York, USA

Sexual Murder: Catathymic and Compulsive Homicides, Second Edition encapsulates the authors' 45 years of experience studying, sexually-motivated homicide. Both catathymic and compulsive homicides are covered in detail with all current research on the subject included and incorporated into this fully updated Second Edition.

CRC Press

Market: Psychology/Forensic Science

March 2021: 254 x 178: 400pp

Hb: 978-0-367-86023-3: **£89.99**

eBook: 978-1-003-14372-7

* For full contents and more information, visit: www.routledge.com/9780367860233

2nd Edition

Water-Related Death Investigation

Practical Methods and Forensic Applications

Kevin L. Erskine, Cleveland Lakefront State Park Police, Ohio, USA and Erica J. Armstrong, Office of the Cuyahoga County Coroner, Cleveland, Ohio, USA

Water-Related Death Investigation, Second Edition is the most comprehensive book on the recovery and investigation of remains in water related death cases. Sections new to this edition cover personnel training, toxicological aspects of drowning, advancements in processing evidence and fingerprints recovered from a water environment. The book chronicles the entire investigative process of a case from the scene to the autopsy to the courtroom.

CRC Press

Market: Criminal Justice/Forensic

May 2021: 254 x 178: 432pp

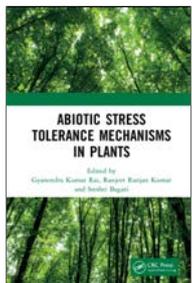
Hb: 978-0-367-25154-3: **£74.99**

eBook: 978-0-367-33229-7

Prev. Ed Hb: 978-1-439-81636-3

* For full contents and more information, visit: www.routledge.com/9780367251543

Abiotic Stress Tolerance Mechanisms in Plants



Edited by Gyanendra Kumar Rai, Ranjeet Ranjan Kumar and Sreshti Bagati

This book deals with the responses and tolerance mechanisms of plants towards various abiotic stresses. The advent of molecular biology and biotechnology has shifted the interest of researchers towards unraveling the genes involved in stress tolerance. More effort is being made to understand and pave ways for developing stress tolerance mechanisms in crop plants. This book would serve as an exemplary source of scientific information pertaining to abiotic stress responses and tolerance mechanisms towards various abiotic stresses. ; Note: T& F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Botany

February 2021: 234x156: 370pp

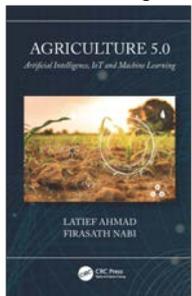
Hb: 978-0-367-75745-8: £89.99

eBook: 978-1-003-16383-1

* For full contents and more information, visit: www.routledge.com/9780367757458

Agriculture 5.0

Artificial Intelligence, IoT and Machine Learning



Latief Ahmad, University of Agricultural Sciences and Technology, Sher-e-Kashmir, India and Firasath Nabi, Baba Ghulam Shah Badshah University, India

Agriculture 5.0: Artificial Intelligence, IoT & Machine Learning provides an interdisciplinary, integrative overview of latest development in the domain of smart farming. It shows how the traditional farming practices are being enhanced and modified by automation and introduction of modern scalable technological solutions that cut down on risks, enhance sustainability, and deliver predictive decisions to the grower, in order to make agriculture more productive.

CRC Press

Market: Agricultural Science

March 2021: 229 x 152: 232pp

Hb: 978-0-367-64608-0: £145.00

eBook: 978-1-003-12543-3

* For full contents and more information, visit: www.routledge.com/9780367646080

Algae and Sustainable Technologies

Bioenergy, Nanotechnology and Green Chemistry



Edited by Atul Kumar Upadhyay and D.P. Singh

Algal and sustainable technologies: Bioenergy, Nanotechnology and Green chemistry is an interdisciplinary overview of the world's major problems; water scarcity, clean environment and energy and their sustenance remedy measures using microalgae. It comprehensively presents the way to tackle the socio-economic issues including food, feed, fuel, medicine and health and also entails the untapped potential of microalgae in environmental management, bioenergy solution and sustainable synthesis of pharmaceutical and nutraceutical products.

CRC Press

Market: Life Science

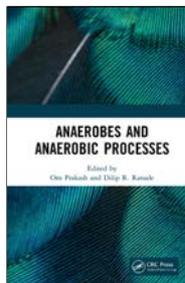
November 2020: 254 x 178: 334pp

Hb: 978-0-367-43225-6: £150.00

eBook: 978-1-003-00191-1

* For full contents and more information, visit: www.routledge.com/9780367432256

Anaerobes and Anaerobic Processes



Edited by Om Prakash and Dilip R. Ranade

The aim of preparation of current book is to provide the state-of-the-art knowledge about anaerobes and anaerobic process. During the preparation of book we tried to incorporate contents from very basic like cultivation, handling, preservation and various important process related to anaerobes like biomethanation, anaerobic methanotrophy, solid waste management, anaerobic biohydrogen and biobutanol production, anaerobic nitrogen treatment, anaerobic solid waste management.

Note: T& F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with New India Publishing Agency.

CRC Press

Market: Microbiology

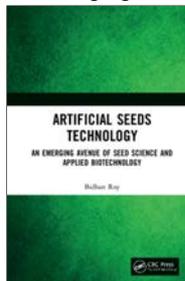
February 2021: 229 x 152: 454pp

Hb: 978-0-367-63277-9: £170.00

* For full contents and more information, visit: www.routledge.com/9780367632779

Artificial Seeds Technology

An Emerging Avenue of Seed Science and Applied Biotechnology



Bidhan Roy

The artificial seed technology is a rousing and fast growing area of research in plant tissue culture. This technology is currently considered as an efficient alternative technique for plant propagation of commercially important plant materials. The information in this area is lying unorganized in different articles of journals and edited books. Those information is presented in this book in organized way with up-to-date citations, which will provide comprehensive literature of recent advances.

Note: T& F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with New India Publishing Agency.

CRC Press

Market: Biotechnology

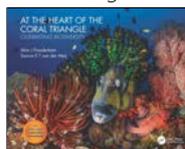
November 2020: 229 x 152: 246pp

Hb: 978-0-367-63356-1: £89.99

* For full contents and more information, visit: www.routledge.com/9780367633561

At the Heart of the Coral Triangle

Celebrating Biodiversity



Alan J Powderham, Consulting Engineer, UK and Sancia van der Meij

The Coral Triangle, lying at the confluence of the Indian and Pacific Oceans, harbours the greatest biodiversity of marine life on the planet. While it is hardly immune to the growing global impacts of climate change and pollution, it is home to a wondrous variety of species living within diverse habitats. With

stunning photography supported by an engaging, informative and accessible text, this book celebrates this biodiversity with the underlying message that it needs our protection before it is too late.

CRC Press

Market: Marine Science

December 2020: 252pp

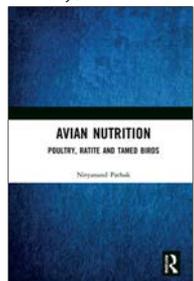
Hb: 978-0-367-42816-7: £39.99

eBook: 978-0-367-85531-4

* For full contents and more information, visit: www.routledge.com/9780367428167

Avian Nutrition

Poultry, Ratite and Tamed Birds



Nityanand Pathak

The scope of book has relevant and important informations on some of the popular tamed birds reared as pet in cages. Owners of these birds expect guidance for care and management from the experts of poultry science because so far there appears to be no school on the management of such avian species. Incorporation of these avian species in the book is expected to enrich the knowledge of students and teachers of the Avian and Poultry Science. ; Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Ornithology

December 2020: 234x156: 302pp

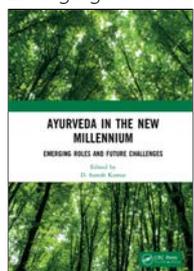
Hb: 978-0-367-69447-0: £89.99

eBook: 978-1-003-14184-6

* For full contents and more information, visit: www.routledge.com/9780367694470

Ayurveda in The New Millennium

Emerging Roles and Future Challenges



Edited by D. Suresh Kumar

Ayurveda or the "sacred knowledge of longevity" has been practiced in India and many Asian countries since time immemorial. Interest in Ayurveda started growing all over the world in the late 1970s, following the Alma Ata Declaration adopted by W.H.O.in 1978. *Ayurveda in the New Millennium: Emerging Roles and Future Challenges* attempts to survey the progress made in this field and to formulate a course of action to take Ayurveda to the new millennium. It also identifies the many stumbling blocks that need to be removed, if Ayurveda is to cater to the needs of a wider audience.

CRC Press

Market: Healthcare

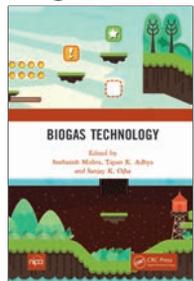
November 2020: 254 x 178: 300pp

Hb: 978-0-367-27954-7: £130.00

eBook: 978-0-429-29893-6

* For full contents and more information, visit: www.routledge.com/9780367279547

Biogas Technology



Edited by Snehasish Mishra, Tapan K. Adhya and Sanjay K. Ojha

Biogas is a renewable energy resource that can be an alternative solution for the world's insatiable energy demands while helping in managing waste and reducing the greenhouse gas (GHG) emissions. It is also regarded as carbon neutral as the carbon in biogas comes from organic matter (feedstock) that captured this carbon from atmospheric CO₂ over a relatively short timescale. This book has been written and compiled to collate latest information on biogas technology to help readers to understand the fruitful exploitation of the process. ; Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with

NIPA.

CRC Press

Market: Biofuels

March 2021: 234x156: 418pp

Hb: 978-0-367-70201-4: £170.00

* For full contents and more information, visit: www.routledge.com/9780367702014

Bioinformatic Applications in Crop Improvement

A Compendium for the Plant Biotechnologist

Chandrakanth Emani, Department of Biology, Western Kentucky University

This book offers a comprehensive overview of plant bioinformatics, encompassing biochemical, genetic and molecular tools available with a focused emphasis on genomic, transcriptome and proteome analysis. It also presents the agro-ecological and evolutionary aspects of utilizing plant bioinformatics tools with exclusive focus on newer paradigms such as climate change and systems biology in crop improvement. Furthermore, the book will extend the theoretical aspects as a base towards real world applications, namely, the biotechnological approaches to develop superior plant varieties including specific examples of transgenic methodologies in model plants.

CRC Press

Market: Agricultural Science

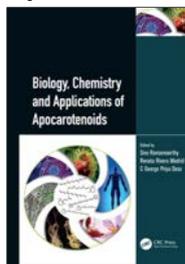
March 2021: 235 x 156: 350pp

Hb: 978-0-367-13815-8: £148.00

eBook: 978-0-429-02871-7

* For full contents and more information, visit: www.routledge.com/9780367138158

Biology, Chemistry and Applications of Apocarotenoids



Siva Ramamoorthy, Department of Biotechnology, VIT University, India, Renata Rivera Madrid, Unidad de Bioquímica y Biología Molecular de plantas, Mexico and C George Priya Doss, VIT, Vellore, India

Biology, Chemistry and Applications of Apocarotenoids provides detailed account of the fundamental chemistry of apocarotenoids and the basic methods used in carotenoid research, and critical discussions of the biochemistry, functions, and applications of these important compounds. Topics covered in the proposed book include various aspects of the roles of apocarotenoids in colour and colouration, photosynthesis and other photofunctions and protection. The formation and roles

of carotenoid metabolites and breakdown products as perfume/aroma compounds are also be outlined.

CRC Press

Market: Life Sciences

November 2020: 254 x 178: 228pp

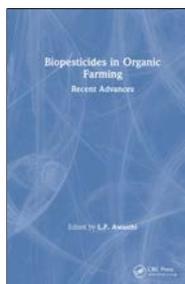
Hb: 978-0-367-36160-0: £150.00

eBook: 978-0-429-34420-6

* For full contents and more information, visit: www.routledge.com/9780367361600

Biopesticides in Organic Farming

Recent Advances



Edited by L.P. Awasthi, Dean School of Agriculture, RNB Global University, Rajasthan

The book entitled "Biopesticides in Organic Farming : Recent Advances, describes critically reviewed, key aspects of organic farming and provides a unique and timely science-based resource for researchers, teachers, extension workers, students, primary producers and others around the world. This book is intended to be a unique and indispensable resource that offers a diverse range of valuable information and perspectives on biopesticides in organic agriculture. It has chapters on each and every aspect related with biopesticides in organic farming which are compiled by researchers and eminent professors at various universities across the globe.

CRC Press

Market: AGRICULTURAL SCIENCES

February 2021: 279 x 216: 392pp

Hb: 978-0-367-46017-4: £150.00

eBook: 978-1-003-02769-0

* For full contents and more information, visit: www.routledge.com/9780367460174

Biopharmaceuticals

Challenges and Opportunities



Basanta Kumara Behera

This book highlights how traditional microbial process technology has been upgraded for the production of biologic drugs, and evolution of manufacturing process to meet the global market demand with quality products under the guide lines of internally recognised regulatory bodies. This piece of work also carries information on how armed with deeper understanding of life threatening disease, the biopharmaceutical companies or life sciences industries have developed royal scientific heritage of understanding by developing formal and informal partnerships with researchers in institute.

CRC Press

Market: Pharmaceutical Science

December 2020: 229 x 152: 294pp

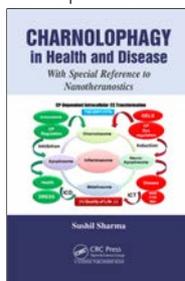
Hb: 978-0-815-34777-4: **£150.00**

eBook: 978-1-351-01315-4

* For full contents and more information, visit: www.routledge.com/9780815347774

Charnolophagy in Health and Disease

With Special Reference to Nanotheranostics



Sushil Sharma, American International school of Medicine, Guyana

"Charnolophagy" is a targeted, safe, and effective personalized theranostics of NDDs, CVDs, MDR malignancies, pain, inflammation, and infectious diseases. Based on experimental evidence; physiological, pharmacological, and pathological charnolophagy are proposed. Although, physiological charnolophagy can be controlled by diet, exercise, antioxidants, and life-style modifications; and pharmacological charnolophagy by currently-available pharmaceuticals; prevention of pathological charnolophagy will require novel charnolopharmacotherapeutics for interactable diseases.

CRC Press

Market: Biological Sciences

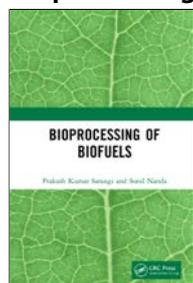
March 2021: 254 x 178: 520pp

Hb: 978-0-367-40790-2: **£170.00**

eBook: 978-0-367-80909-6

* For full contents and more information, visit: www.routledge.com/9780367407902

Bioprocessing of Biofuels



Prakash Kumar Sarangi and Sonil Nanda

The major issues relating to environmental sustainability such as a heavy dependency on fossil fuels, increased greenhouse gas emissions, pollution, global warming and climate change have drawn much attention around the globe to seek alternative energy sources that have negligible environmental impacts and societal benefits. There is an immense interest in biofuels research around the world due to their massive potentials. The prime focus of this book is to shed light on the bioprocessing of biofuels, especially through microbial conversion technologies to recover and transform the inedible polysaccharides into hydrocarbons biofuels and bioenergy.

CRC Press

Market: Biomedical Science

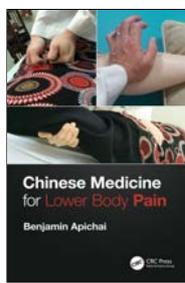
December 2020: 229 x 152: 98pp

Hb: 978-0-367-34084-1: **£54.99**

eBook: 978-0-429-32382-9

* For full contents and more information, visit: www.routledge.com/9780367340841

Chinese Medicine for Lower Body Pain



Benjamin Apichai

Pain medication is used widely to treat patients who suffer from acute and chronic pain. However, this is not the only treatment option managing back and leg pain—there are alternate means of managing pain without the risk of adverse side effects that come with opioids.

Chinese Medicine for Lower Body Pain further explores this, introducing treatments such as acupuncture, herbal medicine, and Tui Na Chinese bodywork. Providing explanations in terms of anatomy, pathology, and etiology for both western and Chinese medicine, this book also provides self-care knowledge to patients that is effective and easy to follow.

CRC Press

Market: Food Science & Technology

January 2021: 234x156: 430pp

Hb: 978-0-367-50795-4: **£150.00**

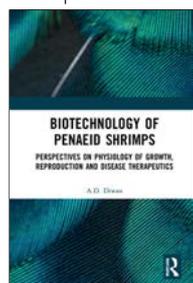
Pb: 978-0-367-23585-7: **£74.99**

eBook: 978-0-429-28059-7

* For full contents and more information, visit: www.routledge.com/9780367235857

Biotechnology of Penaeid Shrimps

Perspectives on Physiology of Growth, Reproduction and Disease Therapeutics



A.D. Diwan

The main objective of this book is to collect comprehensive information on various aspects of physiology and biotechnology focusing mainly on reproduction, growth, disease control and therapeutics of penaeid shrimps. The book covers fundamental aspects and few applied aspects of biotechnology concerning basic genomics and proteomics, reproduction, growth and disease control and therapeutics of shrimp. ; Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Aquaculture

February 2021: 234x156: 550pp

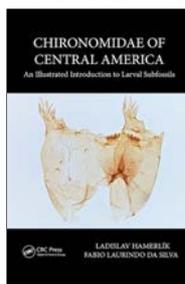
Hb: 978-0-367-74073-3: **£170.00**

eBook: 978-1-003-15596-6

* For full contents and more information, visit: www.routledge.com/9780367740733

Chironomidae of Central America

An Illustrated Introduction To Larval Subfossils



Ladislav Hamerlik, Matej Bel University, Slovakia and Fabio Laurindo da Silva, Research Fellow, University of São Paulo Brazil

This illustrated introduction to Central American Chironomidae offers extensive photography material, as well as detailed morphological and ecological description of chironomid subfossils found in Central American lake sediments. The book uniquely provides two identification keys: one for living larvae occurring (or potentially being present) in Central America, and one for the recorded subfossil remains using limited morphological characters. Providing a comprehensive reference for aquatic ecologists, palaeolimnologists, students and researchers, the guide will also be of interest to non-academic

professionals working on applied research and biomonitoring of lakes.

CRC Press

Market: Life Science

November 2020: 235 x 156: 198pp

Hb: 978-0-367-55821-5: **£230.00**

Pb: 978-0-367-07606-1: **£89.99**

eBook: 978-0-429-02157-2

* For full contents and more information, visit: www.routledge.com/9780367076061

Climate Change and Plants

Biodiversity, Growth and Interactions

Edited by **Shah Fahad, Osman Sonmez, Shah Saud, Depeng Wang, Chao Wu, Muhammad Adnan and Veysel Turan**

Series: *Footprints of Climate Variability on Plant Diversity*

Evidence raises every day of the varying climate and its impression on both plants and animals. Climatic changes influence all the agriculture factors, which can potentially adversely affect their productivity. Plant activities are intimately associated to climate and concentration of atmospheric carbon dioxide. The book *Climate change and Plants Interactions: Complexities and Surprise* examines how plant growth characters influences/influenced by the climate change both in past and present scenarios. The book cover papers present the cutting-edge research in key determinates of plant growth in response to atmospheric CO₂ enhancement and global warming.

CRC Press

Market: Agricultural Science

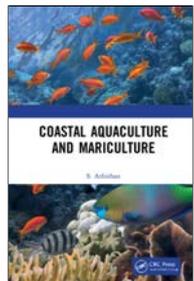
May 2021: 254 x 178: 248pp

Hb: 978-0-367-62327-2: **£125.00**

eBook: 978-1-003-10893-1

* For full contents and more information, visit: www.routledge.com/9780367623272

Coastal Aquaculture and Mariculture



S. Athithan

This book is an effort to consolidate and comprehensively present the coastal aquaculture & mariculture and divided into 39 chapters covering introduction, mariculture scenario, finfish farming, shellfish farming, molluscan farming, seaweed farming, recirculatory aquaculture systems, conservation aspects in mariculture etc. Nonetheless, the material presented has been thoughtfully selected and updated to make it of maximum use to the readers; ; Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Aquaculture

December 2020: 234x156: 244pp

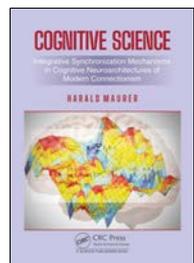
Hb: 978-0-367-69367-1: **£89.99**

eBook: 978-1-003-14241-6

* For full contents and more information, visit: www.routledge.com/9780367693671

Cognitive Science

Integrative Synchronization Mechanisms in Cognitive Neuroarchitectures of the Systemtheoretical Connectionism



Harald Maurer

The Mind and Brain are usually considered as one and the same nonlinear, complex dynamical system, in which information processing can be described with vector and tensor transformations and with attractors in multidimensional state spaces. Thus, an internal neurocognitive representation concept consists of a dynamical process which filters out statistical prototypes from the sensorial information in terms of coherent and adaptive n-dimensional vector fields.

CRC Press

Market: Biomedical Science

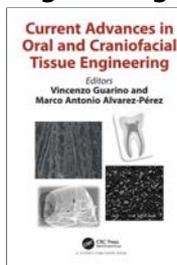
June 2021: 235 x 156: 400pp

Hb: 978-1-138-48708-6: **£150.00**

eBook: 978-1-351-04352-6

* For full contents and more information, visit: www.routledge.com/9781138487086

Current Advances in Oral and Craniofacial Tissue Engineering



Edited by **Vincenzo Guarino**, National Research Council of Italy; Institute of Polymers and composites and Biomaterials, Naples Italy. and **Marco Antonio Alvarez-Perez**, National Autonomous University of Mexico (UNAM), Tissue Bioengineering Laboratory, DEPEl-Faculty of Dentistry, Mexico City, Mexico

Oral tissue engineering involves the study of current approaches for in vitro regeneration of soft and hard tissues located into the oral cavity. In this context, recent approaches involves the use of innovative biomaterials to replace the lost or damaged human oral tissues. Recent discoveries in materials science and nanotechnology are drastically changing the traditional

approach to dentistry by the design of innovative devices able more efficiently supporting the natural regeneration process. The objective of this book is to highlight current progress in tissue engineering for various dental hard/soft tissues including enamel, dentin, pulp, etc.

CRC Press

Market: Science

November 2020: 254 x 178: 236pp

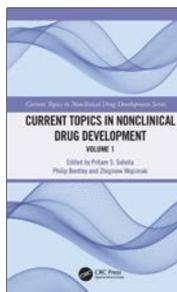
Hb: 978-1-138-39091-1: **£150.00**

eBook: 978-0-429-42305-5

* For full contents and more information, visit: www.routledge.com/9781138390911

Current Topics in Nonclinical Drug Development

Volume 1



Edited by **Pritam S. Sahota**, Global ToxPath, LLC., Kennewick, WA, USA, **Philip Bentley**, Toxicodynamix International, LLC., Hendersonville, North Carolina, USA and **Zbigniew Wojcinski**, Drug Development & Preclinical Services, LLC., Ann Arbor, Michigan, USA

Series: *Current Topics in Nonclinical Drug Development Series*

The inaugural volume in the Current Topics in Nonclinical Drug Development Series explores the critical issues and current topics in nonclinical drug development. Chapters in this book cover individual topics and strategies in drug development from compound characterization to drug registration. The book will aid toxicologists, toxicologic pathologists, consultants, regulators, Study Directors, and nonclinical scientists dealing with

day-to-day issues in study design, evaluation of findings, and presentation of data.

CRC Press

Market: Biomedical Science

December 2020: 234x156: 336pp

Hb: 978-0-367-13627-7: **£150.00**

eBook: 978-0-429-02753-6

* For full contents and more information, visit: www.routledge.com/9780367136277

Developing Climate Resilient Crops

Improving Global Food Security and Safety

Edited by **Shah Fahad, Osman Sonmez, Shah Saud, Depeng Wang, Chao Wu, Muhammad Adnan and Veysel Turan**

Series: *Footprints of Climate Variability on Plant Diversity*

Developing Climate Resilient Crops; A window for improving global food security and safety project is timely, as the world is gradually waking up to the fact that a global food crisis of enormous proportions is brewing. Climate change is creating immense problems for the agricultural productivity worldwide, resulting in higher food prices. This book elucidates the causative aspects of climate modification related to agriculture, soil and plants, and discusses the relevant resulting mitigation process and also how new tools and resources can be used to develop climate resilient crops.

CRC Press

Market: Agriculture Science

May 2021: 254 x 178: 288pp

Hb: 978-0-367-62347-0: **£125.00**

eBook: 978-1-003-10903-7

* For full contents and more information, visit: www.routledge.com/9780367623470

Development of Sensory and Neurosecretory Cell Types

Vertebrate Cranial Placodes, volume 1

Gerhard Schlosser

Series: *Evolutionary Cell Biology*

Most of the cranial sense organs of vertebrates arise from embryonic structures known as cranial placodes. This book focuses on the development of sensory and neurosecretory cell types from cranial placodes by introducing the vertebrate head with its sense organs and neurosecretory organs and providing an overview of the various cranial placodes and their derivatives. Schlosser discusses how these primordia are established in the early embryo, how individual placodes develop, and how various placodally derived sensory and neurosecretory cell types differentiate into discrete structures.

CRC Press

Market: Life Science

April 2021: 234x156: 360pp

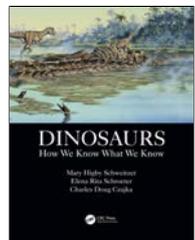
Hb: 978-1-138-06146-0: **£110.00**

eBook: 978-1-315-16231-7

* For full contents and more information, visit: www.routledge.com/9781138061460

Dinosaurs

How We Know What We Know



Mary Higby Schweitzer, Department of Biological Sciences, College of Sciences, North Carolina State University, Raleigh, North Carolina, USA, Elena Rita Schroeter, Department of Biological Sciences, North Carolina State University, Raleigh, North Carolina, USA and Charles Doug Czajka, Marine, Earth and Atmospheric Sciences Department, North Carolina State University, Raleigh, North Carolina, USA

This textbook introduces research on dinosaurs by describing the science behind how we know what we know about dinosaurs. A wide range of topics is covered, from fossils and taphonomy to dinosaur physiology, evolution, and extinction.

In addition, sedimentology, paleo-tectonics, and non-dinosaurian Mesozoic life are discussed. There is a special opportunity to capitalize on the enthusiasm for dinosaurs that students bring to classrooms to foster a deeper engagement in all sciences. Students are encouraged to synthesize information, employ critical thinking, construct hypotheses, devise methods to test these hypotheses, and come to new defensible conclusions, just as paleontologists do.

CRC Press

Market: Life Science

November 2020: 279 x 216: 562pp

Hb: 978-1-138-60816-0: **£180.00**

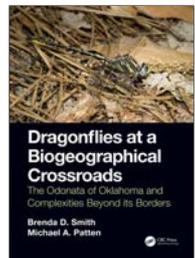
Pb: 978-0-367-56381-3: **£74.99**

eBook: 978-0-429-46671-7

* For full contents and more information, visit: www.routledge.com/9780367563813

Dragonflies at a Biogeographical Crossroads

The Odonata of Oklahoma and Complexities Beyond Its Borders



Brenda D. Smith and Michael A. Patten

This lavishly illustrated book examines the distribution, ecology, conservation status, and biogeography of 176 species of dragonflies in the southern plains of the US, where 12 ecoregions converge. The topics discussed, such as phenotypic variation and ecology, are applicable across the US and much of North America. Maps indicate level of documentation and allow visualization of the biogeographical associations of a given species. This book will be sought out by dragonfly researchers and enthusiasts, entomologists, amateur naturalists, paleontologists, conservation biologists, educators, and regional historians. It will also be readily accessible to the lay public.

CRC Press

Market: Entomology

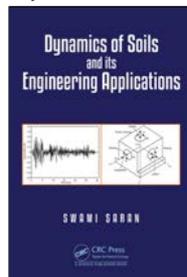
November 2020: 279 x 216: 738pp

Hb: 978-0-367-44035-0: **£29.99**

eBook: 978-1-003-00756-2

* For full contents and more information, visit: www.routledge.com/9780367440350

Dynamics of Soils and Its Engineering Applications



Swami Saran

This work comprises the fundamental concepts of dynamic behavior of soils, demonstrating the response of various engineering structures like foundations, slopes, walls, etc. against dynamic and seismic loading. The illustrations and examples mentioned in the book will help field engineers and researchers in developing concepts of vibrations, wave propagation, dynamic earth pressure, dynamic bearing capacity, liquefaction and design principles of machine foundation. This study bridges the fundamental behavior of the soil and structure to its advanced response against seismic and dynamic loading to ascertain the stability of the system thus providing greater insight in this field.

CRC Press

Market: Civil Engineering

May 2021: 254 x 178: 586pp

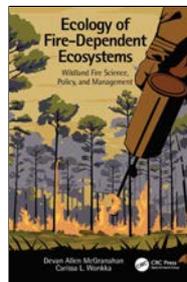
Hb: 978-0-367-52987-1: **£170.00**

eBook: 978-1-003-08003-9

* For full contents and more information, visit: www.routledge.com/9780367529871

Ecology of Fire-Dependent Ecosystems

Wildland Fire Science, Policy, and Management



Devan Allen McGranahan, North Dakota State University, Fargo, North Dakota, USA and Carissa L. Wonkka, University of Nebraska, Lincoln, Nebraska, USA

This textbook for upper-level courses in fire ecology and wildland fire management will help students design and conduct robust wildland fire research projects and critically interpret and apply fire science in any management, education, or policy situation. It emphasises variability in wildland fire as an ecological regime and provides tools for students, researchers and managers to assess and connect fire environment and fire behaviour to fire effects. It reviews literature, synthesises concepts, and identifies research gaps and policy needs. The book also demonstrates how fire policy can adapt to cultural and socio-ecological

objectives.

CRC Press

Market: Environmental Science

January 2021: 279 x 216: 266pp

Hb: 978-1-138-59717-4: **£190.00**

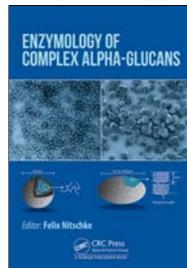
Pb: 978-1-138-59715-0: **£74.99**

eBook: 978-0-429-48709-5

* For full contents and more information, visit: www.routledge.com/9781138597150



Enzymology of Complex Alpha-Glucans



Edited by Felix Nitschke

Glycogen and Starch: So Similar, yet so Different. Both carbohydrates are central to the primary metabolism of a large part of the living kingdom. Generally, animals, fungi, bacteria store glycogen, while plants largely rely on starch. This volume provides a broad and current views on both glycogen and starch, in lower and higher organisms. Beside biochemistry, physiology and regulation of glycogen and starch metabolism the reader can expect an insight into glycogen storage diseases and select methods and relevant techniques.

CRC Press

Market: Life Science

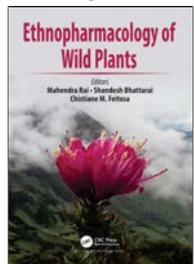
July 2021: 254 x 178: 344pp

Hb: 978-1-138-50520-9: **£145.00**

eBook: 978-1-315-14644-7

* For full contents and more information, visit: www.routledge.com/9781138505209

Ethnopharmacology of Wild Plants



Edited by **Mahendra Rai**, Department of Biotechnology, SGB Amravati University, India, **Shandesh Bhattarai**, Nepal Academy of Science and Technology, Nepal and **Chistiane M. Feitosa**, Federal University of Piaui, Brazil

Wild plants signify a vital health and economic constituent of biodiversity. In recent years, research interest on wild plants has increased. This book contains valuable information on wild plants and their ethnopharmacological properties. It deliberates on traditional usage and ethnopharmacological properties of wild plants. It will be useful to policy makers, researchers working in the areas of biodiversity, ethnopharmacology, ethno-biology, conservation biology and biodiversity prospecting.

CRC Press

Market: Ethnobiology

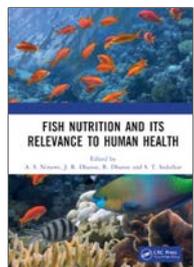
February 2021: 254 x 178: 426pp

Hb: 978-0-367-51202-6: **£180.00**

eBook: 978-1-003-05281-4

* For full contents and more information, visit: www.routledge.com/9780367512026

Fish Nutrition And Its Relevance To Human Health



Edited by **A. S. Ninawe**, **J. R. Dhanze**, **R. Dhanze** and **S. T. Indulkar**

This book is an important document in filling the gap of requisite fish nutrition and sustainable aquaculture in different agro-climatic zone and it's relevance to human health. The book include 14 chapters addressing various aspect of nutritional requirement of cultivable finfishes of freshwater, brackish water and marine eco system including cold water and valley region fisheries. Various aspects on larval and adult feeding with cultivation and intensification of live food organisms including copepods is discussed.

Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Aquatic Science

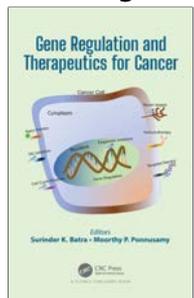
November 2020: 246x174: 402pp

Hb: 978-0-367-61982-4: **£170.00**

eBook: 978-1-003-10758-3

* For full contents and more information, visit: www.routledge.com/9780367619824

Gene Regulation and Therapeutics for Cancer



Edited by **Surinder K. Batra** and **Moorthy Palanimuthu Ponnusamy**, Department of Biochemistry and Molecular Biology, Nebraska Medical Center, Nebraska, USA

Advances in biotechnology have brought gene therapy to the forefront of medical research. The prelude to successful gene therapy, i.e. the efficient transfer and expression of a variety of human genes into target cells, has already been accomplished in several systems. Specifically, gene regulation and targeted therapy are essential for cancer and thus gene regulation and therapeutics are a practical addition to the arsenal of approaches to many human therapies in the 21st century. This book focuses on specific gene regulation and therapeutics in various cancers and new technology used in the field, giving an overall picture to scientists who are working in cancer research.

CRC Press

Market: Life Science

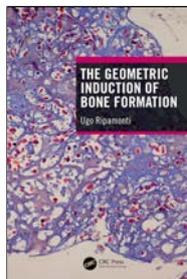
March 2021: 235 x 156: 328pp

Hb: 978-1-138-71242-3: **£150.00**

eBook: 978-1-315-20019-4

* For full contents and more information, visit: www.routledge.com/9781138712423

The Geometric Induction of Bone Formation



Ugo Ripamonti, University of the Witwatersrand, Bone Research Lab, Johannesburg, South Africa

This novel book describes new biomaterials that offer mechanistic osteogenic surfaces for rapid autonomous bone repair and generation. The chapters frame our understanding of regenerative medicine in primate species, including humans. The goal is to unravel the fundamental biological mechanisms of bone formation and repair unique humans. The target audience is broad and dovetails with several disciplines both in the academic and private biotech sectors primarily involved in molecular biology, tissue biology, tissue engineering, biomaterial science, reconstructive surgery, orthopedic, plastic and dental surgery.

CRC Press

Market: Life Science

December 2020: 234x156: 258pp

Hb: 978-0-367-19578-6: **£110.00**

eBook: 978-0-429-20329-9

* For full contents and more information, visit: www.routledge.com/9780367195786

Green Synthesis in Nanomedicine and Human Health

Edited by **Richard L. K. Glover**, International Science Council, South Africa, **Daniel Nyanganyura**, International Science Council for Science, South Africa, **Rofhiwa Bridget Mulaudzi**, Romukhu (Pty) Ltd, South Africa and **Maluta Steven Mufamadi**, Nabio Consulting (Pty) Ltd., South Africa

Green synthesis is an emerging method for deriving nanoparticles present in natural plants for use in nanomedicine. Written by experts in the field, *Green Synthesis in Nanomedicine and Human Health* showcases the exciting developments of this specialty and its potential for promoting human health and wellbeing. This practical book provides information on novel preparation methods for identifying nanoparticles present in natural plants. It discusses applications of nanoparticles in combating diseases and antimicrobial resistance, and places green synthesis and nanomedicine in the African orthodox and traditional healthcare context.

CRC Press

Market: Agriculture

March 2021: 234x156: 346pp

Hb: 978-0-367-90216-2: **£150.00**

Pb: 978-0-367-71081-1: **£68.99**

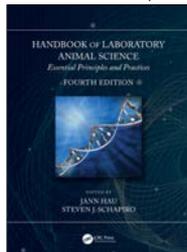
eBook: 978-1-003-02319-7

* For full contents and more information, visit: www.routledge.com/9780367710811

4th Edition

Handbook of Laboratory Animal Science

Essential Principles and Practices



Edited by **Jann Hau**, University of Copenhagen & Rigshospitalet, Denmark and **Steven J. Schapiro**, The University of TX MD Anderson Cancer Cntr.

Building upon the success of previous editions of the *Handbook of Laboratory Animal Science*, this revision combines all three volumes in one definitive guide. It covers the essential principles and practices of Laboratory Animal Science as well as selected animal models. Each chapter focuses on an important subdiscipline of laboratory animal science meaning the chapters can be read and used as stand-alone texts. With new contributors at the forefront of their fields, the book reflects the scientific and technological advances of the past decade, responds to

advances in our understanding of animal behavior and emphasizes the importance of implementing the three Rs.

CRC Press

Market: Life Science

May 2021: 210 x 280: 1016pp

Hb: 978-1-138-34180-7: **£190.00**

eBook: 978-0-429-43996-4

Prev. Ed Hb: 978-1-420-08455-9

* For full contents and more information, visit: www.routledge.com/9781138341807

4th Edition

Handbook of Plant and Crop Physiology

Edited by **Mohammad Pessaraki**, The University of Arizona, Tucson, USA

The new edition of this well-regarded handbook offers a unique, comprehensive, and complete collection of topics in the field of plant and crop physiology. Containing more than 90 percent new material, substantial revisions, and two new sections, this edition covers the physiology of plant and crop growth and development, cellular and molecular aspects, plant genetics and production processes.

CRC Press

Market: Crop Science

July 2021: 210 x 280: 1136pp

Hb: 978-0-367-55454-5: **£210.00**

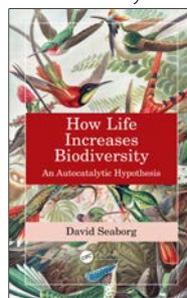
eBook: 978-1-003-09364-0

Prev. Ed Hb: 978-1-466-55328-6

* For **full contents** and more information, visit: www.routledge.com/9780367554545

How Life Increases Biodiversity

An Autocatalytic Hypothesis



David Seaborg, Foundation for Biological Conservation and Research, Walnut Creek, California, USA

Life maximizes biodiversity; this is the hypothesis of this book. An atmosphere favorable for life, including high oxygen and the ozone layer, and favorable nitrogen and carbon dioxide levels stimulated increases in biodiversity. Symbiosis drives diversification and macroevolution; e.g. bacteria makes nitrogen available to plants. Ecosystems interact symbiotically. Horizontal gene transfer, often mediated by viruses, is common, drives major evolutionary transitions, and is "symbiotic evolution." These observations and others suggest that life has created a positive feedback loop stimulating biodiversity.

CRC Press

Market: Life Science

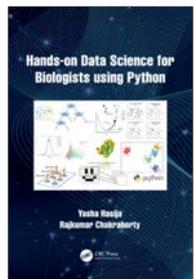
January 2021: 234x156: 304pp

Hb: 978-1-138-34140-1: **£150.00**

eBook: 978-0-429-44013-7

* For **full contents** and more information, visit: www.routledge.com/9781138341401

Hands on Data Science for Biologists Using Python



Yasha Hasija, Delhi Technological University, Delhi, India and **Rajkumar Chakraborty**, Delhi Technological University, Delhi, India

Hands-on Data Science for Biologists using Python has been conceptualized to address the massive data handling needs of modern-day biologists. With the advent of high throughput technologies and consequent availability of omics data, biological science has become a data-intensive field. This hands-on textbook has been written with the inception of easing data analysis by providing an interactive, problem-based instructional approach in Python programming language.

CRC Press

Market: Biomedical Science

February 2021: 254 x 178: 224pp

Hb: 978-0-367-54679-3: **£160.00**

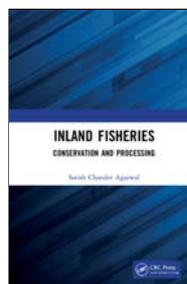
Pb: 978-0-367-54678-6: **£64.99**

eBook: 978-1-003-09011-3

* For **full contents** and more information, visit: www.routledge.com/9780367546786

Inland Fisheries

Conservation and Processing



Satish Chander Agarwal

Out of identified about 22000 fish species, only 10% belongs to ; freshwater. Only 107 species have been found suitable as culturable. Hence, major chunk ; of fish are not cultured by man but used by him as food or other uses. It is therefore, the natural fisheries is very important for human being and proper management and legislation are needed to have the sustainable production. This book talks about various ways of conserving the ecosystem for fish and various sustainable ways of fish processing in detail. ; Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Fisheries

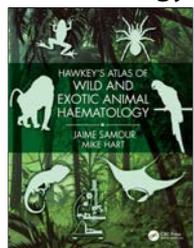
February 2021: 246x174: 428pp

Hb: 978-0-367-75731-1: **£170.00**

eBook: 978-1-003-16375-6

* For **full contents** and more information, visit: www.routledge.com/9780367757311

Hawkey's Atlas of Wild and Exotic Animal Haematology



Jaime Samour and **Mike Hart**

This revised, updated and expanded edition of Christine Hawkey's *A Colour Atlas of Comparative Veterinary Haematology* is bursting with high-quality images to aid identification of blood cells and haemoparasites in the different species commonly seen in private practice and zoological collections. It will assist veterinarians in the identification of normal and abnormal blood cells and in understanding the structural differences of blood cells between the various taxa within the Animal Kingdom. With the help of this guide, readers will be able to understand haemoresponses in the presence of specific and non-specific disease processes.

CRC Press

Market: Veterinary Medicine

December 2020: 279 x 216: 288pp

Hb: 978-0-367-25701-9: **£104.00**

eBook: 978-0-429-29904-9

* For **full contents** and more information, visit: www.routledge.com/9780367257019



Invertebrate Zoology

A Tree of Life Approach

Bernd Schierwater, ITZ, TiHo University, Hannover, Germany and **Rob DeSalle**, American Museum of Natural History, New York, USA

Invertebrate Zoology: A Tree of Life Approach is a comprehensive textbook adopting an explicitly phylogenetic organization. With the explosion of Next Generation Sequencing approaches, there has been a sea-change in the recognized phylogenetic relationships among and between invertebrate lineages. In addition, the merger of evolutionary and developmental biology (evo-devo) has dramatically contributed to changes in the understanding of invertebrate biology. Synthesizing these three approaches (classical morphology, sequencing data, and evo-devo studies) offers students a unique perspective of invertebrate diversity.

CRC Press

Market: Life Science

May 2021: 279 x 216: 574pp

Hb: 978-1-482-23581-4: **£99.99**

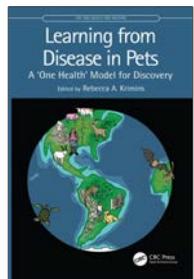
Pb: 978-0-367-68567-6: **£39.99**

eBook: 978-0-429-15905-3

* For **full contents** and more information, visit: www.routledge.com/9780367685676

Learning from Disease in Pets

A 'One Health' Model for Discovery



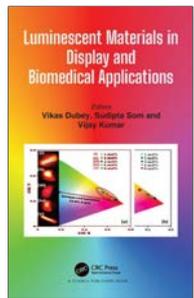
Edited by **Rebecca A. Krimsins**, Johns Hopkins University
Series: *CRC One Health One Welfare*

This is the first encompassing guide for veterinarians, researchers and physicians on conducting studies using spontaneous models of disease in animals. Using clinical trials to learn how pets with real disease respond to therapy can lead to breakthroughs in human medicine, as well as benefiting pets suffering from otherwise debilitating illness. The book details how to design a robust clinical study, encouraging veterinarians to build on and disseminate findings. It discusses communication styles, the ethics of using pets in veterinary clinical research, diseases that occur in animals and man, and regulatory requirements.

CRC Press
Market: Life Science
November 2020: 229 x 152: 306pp
Hb: 978-0-367-17316-6: **£190.00**
Pb: 978-0-367-17310-4: **£74.99**
eBook: 978-0-429-05617-8

* For full contents and more information, visit: www.routledge.com/9780367173104

Luminescent Materials in Display and Biomedical Applications



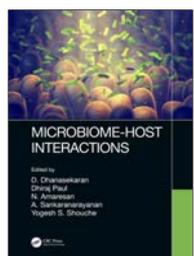
Edited by **Vikas Dubey**, Department of Physics, Bhilai Institute of Technology Raipur, Durg, Chhattisgarh, India, **Sudipta Som**, National Taiwan University, Taiwan and **Vijay Kumar**, Chandigarh University, Mohali, India

The book gives the impact of the photoluminescence and study of rare earth doped phosphors for fluorescent lamps, TV tubes, electroluminescent display devices, high quality image intensifiers and SSL (Solid State Lightening), LED (Light Emitting Diode), biomedical application of luminescent materials and LASER materials Application. Discusses WLED (White light emitting diode) for single host and single dopant and removal of the costly tri – band phosphor by single one.

CRC Press
Market: Physics
November 2020: 235 x 156: 282pp
Hb: 978-0-367-11212-7: **£190.00**
eBook: 978-0-429-02533-4

* For full contents and more information, visit: www.routledge.com/9780367112127

Microbiome-Host Interactions



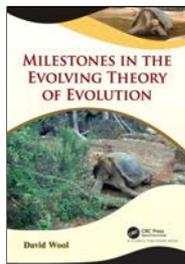
Edited by **D. Dhanasekaran**, Department of Microbiology, Bharathidasan University, Tiruchirappalli, Tamilnadu, India, **Dhiraj Paul**, National Center for Cell Science, India, **N. Amaran**, **A. Sankaranarayanan**, Uka Tarsadia University, India and **Yogesh S. Shouche**, National Centre for Cell Science, India

The contents of the Microbiome and Host Interactions book covered all area and new research trends in the fields of plant, animal, human and environmental microbiomes and their interactions. This book covered the details about the microbiome in soil environment to polar (Antarctic) microbiota, microbiome role in health and disease, microbiota functions in *Caenorhabditis elegans*, mycobiome in agroecosystem, rice root and actinorhizal root nodule microbiome, speleothems, microbiome of marine shallow water hydrothermal vents.

CRC Press
Market: Life Science
April 2021: 210 x 280: 390pp
Hb: 978-0-367-47990-9: **£170.00**
eBook: 978-1-003-03752-1

* For full contents and more information, visit: www.routledge.com/9780367479909

Milestones in the Evolving Theory of Evolution



David Wool, Tel Aviv University /Department of Zoology, Israel

The book illustrates how Darwin's theory has evolved, about the development of the biological world before Darwin, and great changes that took place with the incorporation of statistics, and after Darwin's death of genetics and mathematics. The formation of 'Modern Synthesis', protein electrophoresis, Discovery of DNA opened new avenues for the study of evolution.

CRC Press
Market: Evolutionary science
November 2020: 254 x 178: 344pp
Hb: 978-0-367-90333-6: **£150.00**
eBook: 978-1-003-02386-9

* For full contents and more information, visit: www.routledge.com/9780367903336

Neuron Signaling in Metabolic Regulation

Edited by **Qingchun Tong**, University of Texas Health Science Center, TX, USA

Series: *Methods in Signal Transduction Series*

This book focuses on neuron signaling in the regulation of metabolism and body weight and associated methods. In the recent years, progress has been made in identifying neurons, neural pathways, and non-neuron cells regulating feeding, as well as in delineating autonomic nervous systems targeting peripheral metabolic tissues in the regulation of energy expenditure and metabolism. This proposed book will cover recent progress on neuron signaling for body weight and metabolic regulation and the state-of-the-art methods that has been applied in this field. Readers will be exposed to latest research frontiers on neuron regulation of metabolism.

CRC Press
Market: Neurobiology
May 2021: 234x156: 376pp
Hb: 978-0-367-42029-1: **£120.00**
eBook: 978-0-367-82326-9

* For full contents and more information, visit: www.routledge.com/9780367420291

New Technologies for Reclamation of Industrial Wastewater



Pankaj Chowdhary and **Sujata Mani**

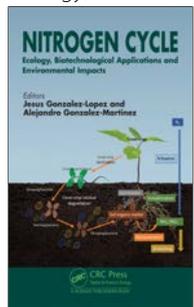
New Technologies for Reclamation of Industrial wastewater provides information on the types of industries and wastewaters containing a variety of toxic and recalcitrant compounds present in wastewater. It also focuses on the ecotoxicological as well as health hazards created from the chemicals being released along with the industrial effluents. It also covers various conventional as well as modern wastewater treatment technologies and their advantages and disadvantages.

CRC Press
Market: Environmental Science
February 2021: 216x138: 120pp
Hb: 978-0-367-43418-2: **£52.99**
eBook: 978-1-003-00328-1

* For full contents and more information, visit: www.routledge.com/9780367434182

Nitrogen Cycle

Ecology, Biotechnological Applications and Environmental Impacts



Edited by **Jesus Gonzalez-Lopez** and **Alejandro Gonzalez-Martinez**

Anthropogenic activity has clearly altered the N cycle contributing (among other factors) to climate change. This book aims to provide new biotechnological approach representing innovative strategies to solve specific problems related to the imbalance originating in the N cycle. Aspects such as new conceptions in agriculture, wastewater treatment, and greenhouse gas emissions are discussed in this book with a multidisciplinary vision. A team of international authors with wide experience have contributed up-to-date reviews, highlighting scientific principles and their environmental importance and integrating different biotechnological processes in environmental technology.

CRC Press

Market: Agricultural Science

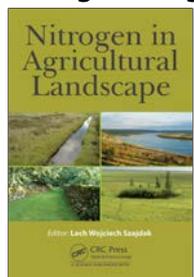
July 2021: 254 x 178: 304pp

Hb: 978-0-367-26037-8: **£150.00**

eBook: 978-0-429-29118-0

* For full contents and more information, visit: www.routledge.com/9780367260378

Nitrogen in Agricultural Landscape



Edited by **Lech Wojciech Szajdak**, Institute for Agricultural and Forest Environment, Polish Academy of Sciences, Poland
Agriculture transforms the environment. The simplification of agroecosystems structure increases the hazards of leaching, wind and water erosion, and volatilization of chemicals from soil. Soil nitrogen is of interest as a major crop nutrient, but also as a potential environmental pollutant. Knowledge about the behavior of soil nitrogen is desirable in order to optimize plant growth and crop yield and to minimize environmental side effects. This book also gives information about the function of biogeochemical barriers in the form of shelterbelts, which efficiently decrease the concentrations of various forms of nitrogen in ground water.

CRC Press

Market: AGRICULTURAL SCIENCES

July 2021: 234x156: 216pp

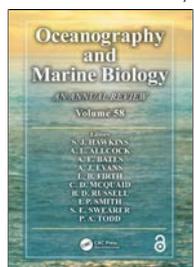
Hb: 978-0-367-34315-6: **£120.00**

eBook: 978-0-429-35135-8

* For full contents and more information, visit: www.routledge.com/9780367343156

Oceanography and Marine Biology

An Annual Review, Volume 58



Edited by **S. J. Hawkins**, University of Southampton, UK, **A. L. Allcock**, **A. E. Bates**, **L. B. Firth**, School of Biological and Marine Sciences, Plymouth University, UK, **I. P. Smith**, School of Biological Sciences, University of Aberdeen, U.K., **S. Swearer**, **A. Evans**, **P. Todd**, **B. Russell** and **C. McQuaid**

Series: Oceanography and Marine Biology - An Annual Review

'Oceanography and Marine Biology: An Annual Review' remains one of the most cited sources in marine science and oceanography. This volume considers such diverse topics as optimal design for ecosystem-level ocean observatories, the oceanography and ecology of Ningaloo, and priority species to support the functional integrity of coral reefs. Five of the nine

reviews in this volume are available to read Open Access on the book's Routledge webpage.

CRC Press

Market: Marine Science

November 2020: 254 x 178: 584pp

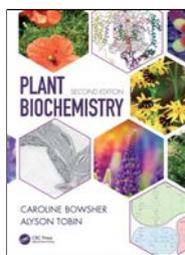
Hb: 978-0-367-36794-7: **£180.00**

eBook: 978-0-429-35149-5

* For full contents and more information, visit: www.routledge.com/9780367367947

2nd Edition

Plant Biochemistry



Edited by **Caroline Bowsher**, University of Manchester, UK and **Alyson Tobin**, University of St. Andrews, UK

Plant Biochemistry focuses on the molecular and cellular aspects of each major metabolic pathway and sets these within the context of the whole plant. Using examples from biomedical, environmental, industrial and agricultural applications, it shows how a fundamental understanding of plant biochemistry can be used to address real-world issues.

Plant Biochemistry is invaluable to undergraduate students who wish to gain insight into the relevance of plant metabolism in relation to current research questions and world challenges. It should also prove to be a suitable reference text for graduates and researchers who are new to the topic.

Garland Science

Market: Plant Biology

January 2021: 280 x 210: 454pp

Hb: 978-0-367-68535-5: **£150.00**

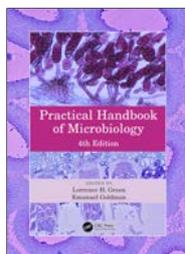
Pb: 978-0-815-34499-5: **£59.99**

eBook: 978-1-003-13798-6

* For full contents and more information, visit: www.routledge.com/9780815344995

4th Edition

Practical Handbook of Microbiology



Edited by **Emanuel Goldman**, New Jersey Medical School, Newark, USA and **Lorrence H Green**, Westbury Diagnostics, Inc, New York, USA

Practical Handbook of Microbiology, 4th edition provides basic, clear and concise knowledge and practical information about working with microorganisms. Useful to anyone interested in microbes, the book is intended to especially benefit four groups: trained microbiologists working within one specific area of microbiology; people with training in other disciplines, and use microorganisms as a tool or "chemical reagent"; business people evaluating investments in microbiology focused companies; and an emerging group, people in occupations and trades that

might have limited training in microbiology, but who require specific practical information.

CRC Press

Market: Life Science

March 2021: 279 x 216: 952pp

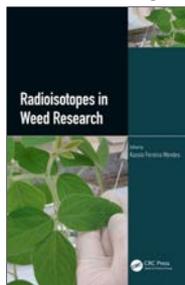
Hb: 978-0-367-56763-7: **£190.00**

eBook: 978-1-003-09927-7

Prev. Ed Hb: 978-1-466-58739-7

* For full contents and more information, visit: www.routledge.com/9780367567637

Radioisotopes in Weed Research



Edited by **Kassio Ferreira Mendes**

Herbicides are of great importance in weed management but there are real concerns around the residual effects these chemicals have on crop plants and the environment. Applying technological advances in radiation detection to weed research, this book explains how isotopic techniques can be used to identify degradation products and trace the fate of herbicides applied to crop plants. This book provides essential information on the historical use and recent advances of radioisotopes in weed research.

CRC Press

Market: Agriculture

December 2020: 234x156: 240pp

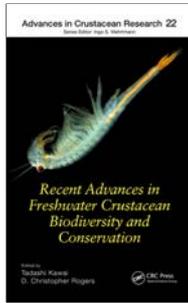
Hb: 978-0-367-43661-2: **£150.00**

Pb: 978-0-367-64340-9: **£59.99**

eBook: 978-1-003-00507-0

* For full contents and more information, visit: www.routledge.com/9780367643409

Recent Advances in Freshwater Crustacean Biodiversity and Conservation



Edited by **Tadashi Kawai**, Central Fisheries Research Institution, Japan and **D. Christopher Rogers**, University of Kansas, USA

Series: *Advances in Crustacean Research*

This book focuses on minor crustacean groups and regionally endemic groups, all from freshwaters. Chapters cover Maxillopods, Mysids, Cumaceans, Isopods, Amphipods, Branchiopods, Copepods, and Decapods. Each looks at global or regional faunas and discusses conservation issues for that group. The majority of the chapters are based on papers presented at symposia organised by the editors at two international scientific meetings held in Barcelona and Washington DC. This is a reliable, cutting-edge reference for anybody involved in crustacean research: students, researchers,

agencies and NGOs as well as science educators, conservationists, and government conservation policymakers.

CRC Press

Market: Marine Biology

March 2021: 234x156: 464pp

Hb: 978-0-367-44350-4: **£170.00**

eBook: 978-1-003-13956-0

* For full contents and more information, visit: www.routledge.com/9780367443504



Rehabilitation from COVID-19

An Integrated Traditional Chinese and Western Medicine Protocol

Edited by **Wenguang Xia** and **Xiaolin Huang**

Rehabilitation from COVID-19: An Integrated Traditional Chinese and Western Medicine Protocol contains basic knowledge about COVID-19, including its etiology, pathogenesis and treatment both in traditional Chinese medicine and western medicine. It also includes relative assessment and rehabilitation targeting residual dysfunctions due to COVID-19, such as pulmonary dysfunction, mental disorders, and malnutrition, among others.

Based on clinical experience from experts, this text has been compiled by those on the frontline against COVID-19 in Wuhan. It is an informative collection that will be helpful to patients and medical workers alike.

CRC Press

Market: Life Science

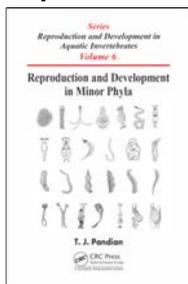
April 2021: 234x156: 328pp

Hb: 978-0-367-67836-4: **£59.99**

eBook: 978-1-003-14314-7

* For full contents and more information, visit: www.routledge.com/9780367678364

Reproduction and Development in Minor Phyla



T J Pandian

Series: *Reproduction and Development in Aquatic Invertebrates*

This book brings to light for the first time many interesting features in 25 minor phyletic invertebrates without being constrained by phylogenetic considerations. Most of these phyla are not speciose. However, some species abundant at densities of million/m³, a few flourish in anoxic habitat and a few others thrive in hot springs at 45-61°C. In them, parthenogenesis and clonal multiplication eliminate each other. Pseudocoelomates are all eutelics, i.e. mitosis ceases after hatching. Increase in tissue types seems to reduce parasitic mode of life from 99.9% in Aorganomorpha to 42% in pseudocoelomate Nematoda, 8% in hemocoelomate Pentastomida and 0% in eucoelomates.

CRC Press

Market: Biological Science

May 2021: 234x156: 325pp

Hb: 978-0-367-52335-0: **£105.00**

eBook: 978-1-003-05751-2

* For full contents and more information, visit: www.routledge.com/9780367523350

Making and Unmaking of the San Francisco Bay

Gary C. Howard, The Gladstone Institutes, San Francisco, California, USA and **Matthew R. Kaser**, Bell & Associates, San Francisco, California, USA

San Francisco Bay is a shallow estuary surrounded by a large population center. The forces that built it began with plate tectonics and involved the collision of the Pacific and North American plates and the subduction of the Juan de Fuca plate. Changes in the climate resulting from the last ice age yielded lower and then higher sea levels. Human activity influenced the Bay. Gold mining during the California gold rush sent masses of silt into the Bay. Humans have also built several major cities and filled significant parts of the Bay. This book describes the natural history and evolution of the SF Bay Area over the last 50 million years through the present and into the future.

CRC Press

Market: Environmental Science

April 2021: 229 x 152: 200pp

Hb: 978-1-138-59672-6: **£110.00**

Pb: 978-0-367-74771-8: **£42.99**

eBook: 978-0-429-48749-1

* For full contents and more information, visit: www.routledge.com/9780367747718

2nd Edition

Science and Technology of Organic Farming

Allen V. Barker, University of Massachusetts, Amherst, USA

Organic farming is not only a philosophy; it is also a well-researched science. The second edition of this highly regarded book presents the scientific basis of organic farming and the methods of application needed to achieve adequate yields through plant nutrition and protection.

Organic farming is a scientifically derived method of improving soil fertility to increase agricultural yields with limited chemical inputs. As such, it can both meet public demand for reduced chemical inputs in agriculture and play a key role in feeding a growing world population. This book gives comprehensive details on how soil fertility can be maintained and how plants can be nourished in organic agriculture.

CRC Press

Market: Agriculture

March 2021: 234x156: 232pp

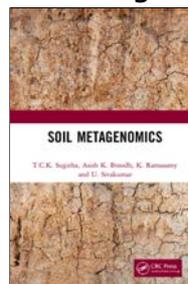
Hb: 978-0-367-54867-4: **£74.99**

eBook: 978-1-003-09372-5

Prev. Ed Hb: 978-1-439-81612-7

* For full contents and more information, visit: www.routledge.com/9780367548674

Soil Metagenomics



T.C.K. Sugitha, **Asish K. Binodh**, **K. Ramasamy** and **U. Sivakumar**

This book focuses on the recent advents and technological breakthroughs in metagenomic approaches coupled with their applications in agriculture. The intended audience include soil and environmental microbiologists, molecular biologists and policy makers. The book expertly describes the latest fourth generation metagenomic technologies from sample collection to data analysis, metatranscriptomic, metaproteomic and metabolomics studies

Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Aquaculture

December 2020: 234x156: 276pp

Hb: 978-0-367-69396-1: **£89.99**

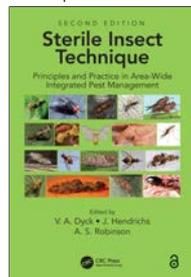
eBook: 978-1-003-14167-9

* For full contents and more information, visit: www.routledge.com/9780367693961

2nd Edition

Sterile Insect Technique

Principles And Practice In Area-Wide Integrated Pest Management

Edited by **Victor A. Dyck, Jorge Hendrichs and A.S. Robinson**

This second edition of the IAEA's bestselling *Sterile Insect Technique* responds to major advances since 2005 in the technology of the SIT. Seven brand new chapters capture the latest developments in the SIT technology. The demand for knowledge about, and application of, the SIT is only expected to increase substantially in an increasing number of countries, with more and more insect species becoming the target of this environment-friendly method of pest control.

CRC Press

Market: Life Science

February 2021: 246x174: 1216pp

Hb: 978-0-367-47434-8: **£155.00**

eBook: 978-1-003-03557-2

* For full contents and more information, visit: www.routledge.com/9780367474348

Synthetic Peptide Vaccine Models

Design, Synthesis, Purification and Characterization

Mesut Karahan

A new generation of technological vaccines protect against many infectious diseases. This book describes synthetic peptide-based vaccine prototypes – the future of vaccination. The book illustrates the use of peptides vaccine systems and makes predictions of future development.

CRC Press

Market: Vaccines

March 2021: 234x156: 310pp

Hb: 978-0-367-47328-0: **£99.99**

eBook: 978-1-003-14453-3

* For full contents and more information, visit: www.routledge.com/9780367473280

2nd Edition

Textbook of Allergy for the Clinician

Edited by **Pudupakkam K. Vedanthan**, University of Colorado, USA, **Harold S. Nelson**, National Jewish Health, USA, **Shripad N. Agashe**, Bangalore University, India, **PA Mahesh**, JSS Medical College, Karnataka, India and **Rohit Katial**, National Jewish Health, USA

The second edition of the TEXTBOOK OF ALLERGY FOR THE CLINICIAN is one of a kind, truly a global book with contributing authors from different parts of the world. The book carries the most recent view points as well as established methods in the diagnosis and management of allergic disorders. In addition to the clinical approach, significant amount of information is dedicated towards basic sciences to lay a solid foundation to the reader. This book is useful from medical students to consultants both in academic and clinical settings.

CRC Press

Market: Clinical Medicine

April 2021: 254 x 178: 444pp

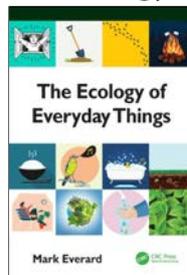
Hb: 978-0-367-40552-6: **£170.00**

eBook: 978-0-367-85470-6

Prev. Ed Hb: 978-1-466-59833-1

* For full contents and more information, visit: www.routledge.com/9780367405526

The Ecology of Everyday Things



Mark Everard, University of the West of England, UK

For many people, ecosystems may be a remote concept, yet we eat, drink, breathe and interface with them in every moment of our lives. In this engaging textbook, ecosystems scientist Dr Mark Everard considers a diversity of 'everyday things', including fascinating facts about their ecological origins: from the tea we drink, to things we wear, read and enjoy, to the ecology of communities and space flight, and the important roles played by germs and 'unappealing creatures' such as slugs and wasps. Ideal for use in undergraduate and school level teaching, it will also interest, educate, engage and enthuse a wide range of less technical audiences.

CRC Press

Market: Ecology

December 2020: 234x156: 178pp

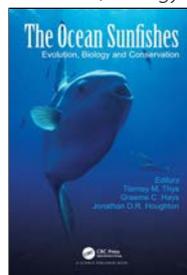
Hb: 978-0-367-63634-0: **£47.50**Pb: 978-0-367-63631-9: **£18.99**

eBook: 978-1-003-12005-6

* For full contents and more information, visit: www.routledge.com/9780367636319

The Ocean Sunfishes

Evolution, Biology and Conservation



Edited by **Tierney M. Thys, Graeme C. Hays and Jonathan D. R. Houghton**, Queen's University Belfast, School of Biological Sciences, County Antrim, UK

The Ocean Sunfishes: Evolution, Biology and Conservation is the first book together into one comprehensive volume our fundamental knowledge of the world-record holding, charismatic ocean behemoths in the family Molidae. From evolution and phylogeny to biotoxins, biomechanics, parasites, husbandry and popular culture, it outlines recent and future research from leading sunfish experts worldwide. This synthesis includes diet, foraging behavior, migration and fisheries bycatch and overhauls long-standing and outdated perceptions. This book provides the essential go-to resource for both lay and academic

audiences.

CRC Press

Market: Marine Biology

December 2020: 254 x 178: 310pp

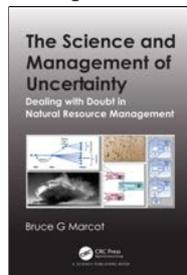
Hb: 978-0-367-35974-4: **£150.00**

eBook: 978-0-429-34336-0

* For full contents and more information, visit: www.routledge.com/9780367359744

The Science and Management of Uncertainty

Dealing with Doubt in Natural Resource Management



Bruce G. Marcot, USDA Forest Service, Pacific Northwest Research Station, Oregon, USA

Uncertainty can take many forms, can be represented in many ways, and can have important implications in decision-making and policy development. This book provides a rigorous scientific framework for dealing with uncertainty in real-world situations, and provides a comprehensive study of concepts, measurements, and applications of uncertainty in ecological modeling and natural resource management.

CRC Press

Market: Environmental Science

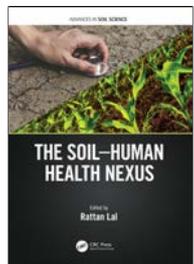
November 2020: 234x156: 286pp

Hb: 978-0-367-27601-0: **£230.00**Pb: 978-0-367-63340-0: **£89.99**

eBook: 978-0-429-29957-5

* For full contents and more information, visit: www.routledge.com/9780367633400

The Soil-Human Health-Nexus



Edited by **Rattan Lal**
Series: Advances in Soil Science

The term "soil health" refers to the functionality of a soil as a living ecosystem capable of sustaining plants, animals, and humans while also improving the environment.

One of the notable ramifications of the Anthropocene is the growing risks of decline in soil health by anthropogenic activities like deforestation, biomass burning, excessive soil tillage, indiscriminate use of agrochemicals, excessive irrigation by flooding or inundation, and extractive farming practices. Degradation of soil health impacts nutritional quality of food, such as the uptake of heavy metals or deficit of essential

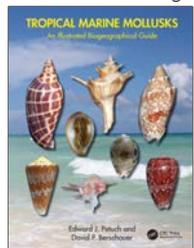
micro-nutrients, and contamination by pests and pathogens.

CRC Press
Market: Life Science
 December 2020: 254 x 178: 350pp
 Hb: 978-0-367-42214-1: **£150.00**
 Pb: 978-0-367-42213-4: **£66.99**
 eBook: 978-0-367-82273-6

* For full contents and more information, visit: www.routledge.com/9780367422134

Tropical Marine Mollusks

An Illustrated Biogeographical Guide



Edited by **Edward J. Petuch** and **David P. Berschauer**

This book continues pioneering research into the distributions of molluscan faunas, illustrating 1778 species of gastropods in full color, many extremely rare endemic species illustrated for the first time outside of their original descriptions. The book's documentation of evolutionary "hot spots" and geographically restricted endemic faunas can also be used as a base line for future studies on patterns of environmental deterioration and extinction in the marine biosphere. This book will appeal to physical and chemical oceanographers, systematic and evolutionary biologists, historical geologists, paleontologists, climatologists, geomorphologists, and physical geographers.

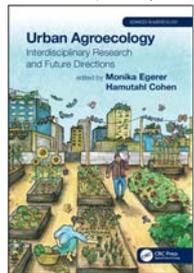
CRC Press
Market: Marine Science
 December 2020: 210 x 280: 373pp
 Hb: 978-0-367-63638-8: **£150.00**
 eBook: 978-1-003-12007-0

* For full contents and more information, visit: www.routledge.com/9780367636388



Urban Agroecology

Interdisciplinary Research and Future Directions



Edited by **Monika Egerer**, Environmental Studies Department, University of California, Santa Cruz and **Hamutahl Cohen**, Environmental Studies Department, University of California, Santa Cruz

Series: Advances in Agroecology

Today, 20 percent of the global food supply relies on urban agriculture. This book shows how urban agroecologists measure flora and fauna that underpin the ecological dynamics of these socio-economic systems, and how people manage and benefit from these systems. By investigating the role of agroecology in cities, the book calls for the creation of spaces for food to be sustainably grown in urban spaces: an Urban Agriculture (UA)

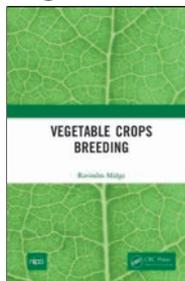
movement. Essential reading for graduate students, practitioners, policy makers and researchers, this book charts the course for accelerating this movement.

CRC Press
Market: Science
 December 2020: 254 x 178: 384pp
 Hb: 978-0-367-63664-7: **£190.00**
 Pb: 978-0-367-26001-9: **£74.99**
 eBook: 978-0-429-29099-2

* For full contents and more information, visit: www.routledge.com/9780367260019



Vegetable Crops Breeding



Ravindra Mulge

Information on breeding of vegetable crops is covered in very abridged form in this book. Depending on the objectives and genetics and genetic resources, breeding methods or procedures can be adopted and it will result in useful varieties or hybrids. Origin and evolution, genetics, genetic resources, breeding methods and varieties/hybrids developed is the sequence followed in presenting the information on each of the crops. ; Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with NIPA.

CRC Press
Market: Crop Science
 February 2021: 229 x 152: 310pp
 Hb: 978-0-367-75480-8: **£89.99**

* For full contents and more information, visit: www.routledge.com/9780367754808

Vertebrate Skeletal Histology and Paleohistology

Edited by **Vivian de Buffrénil**, Muséum National d'Histoire Naturelle, Paris, France (retired), **Armand J. de Ricqlès**, UPMC, Université Paris, France, **Louise Zylberberg**, Centre National de la Recherche Scientifique, Sorbonnes-Universités, Paris, France and **Kevin Padian**, University of California, Berkeley, USA

Synthesizing current advances in the biological problems of growth, metabolism, evolution, ecology, and behavior, this comprehensive and authoritative volume is built upon a foundation of concepts and technology generated over the past fifty years.

CRC Press
Market: Life Science
 May 2021: 210 x 280: 720pp
 Hb: 978-0-815-39288-0: **£200.00**
 eBook: 978-1-351-18959-0

* For full contents and more information, visit: www.routledge.com/9780815392880

What, if anything, are species?

Brent D. Mishler

Series: Species and Systematics

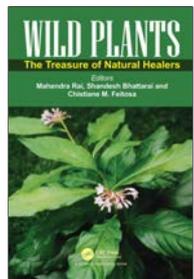
This book is an extended argument for abandoning the various single concepts and the "species" rank. The author proposes that the rank of "species" be replaced by a pluralistic view. In such taxonomy, the smallest identifiable lineages would be used within various divergent phylogenies in a context dependent manner. In such a view, "species" represents different sorts of things depending on the organism/lineage being considered. In practice, this is what is already done although it is not formally recognized.

CRC Press
Market: Life Science
 March 2021: 234x156: 176pp
 Hb: 978-1-498-71454-9: **£150.00**
 eBook: 978-1-498-71455-6

* For full contents and more information, visit: www.routledge.com/9781498714549

Wild Plants

The Treasure of Natural Healers



Edited by **Mahendra Rai**, SGB Amravati University, Maharashtra, India, **Shandesh Bhattarai**, Nepal Academy of Science and Technology and **Chistiane M. Feitosa**, Federal university of piaui, Brazil

This book offers a broad summary of the wild plants and their usage, as well as the growing interest in ethnopharmacology research. The book comprises of important issues such as diversity of wild plants with emphasis on medicinal and food plants, threats to wild plants and traditional ethnobotanical knowledge, their uses in skin diseases, snake-bites, in cosmeceuticals, etc. Moreover, the ethnopharmacological relevance of wild plants in Latin America has been discussed.

The chapters include a wide range of case studies, giving updated evidence on the importance of their wild plant resources from different countries including Peru, Nepal, Bangladesh, India, Pakistan, Brazil.

CRC Press

Market: Botany

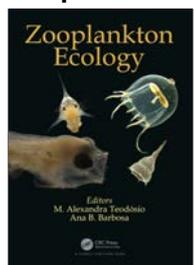
November 2020: 254 x 178: 468pp

Hb: 978-0-367-82087-9: **£170.00**

eBook: 978-1-003-02013-4

* For full contents and more information, visit: www.routledge.com/9780367820879

Zooplankton Ecology



Edited by **Maria Alexandra Teodosio**, Universidade do Algarve, Faro, Portugal and **Ana Maria Branco Barbosa**, Universidade do Algarve, Faro, Portugal

The book includes major aspects of Zooplankton ecology, including key processes and methodologies. For each functional group, processes and environmental drivers are explored allowing inferences to be drawn on the distribution patterns, impact of environmental alterations. This is followed by details on description – understanding – integration – prediction/inference. In the methodological section, advanced techniques are described, to ensure appropriate practical skills for subsequent application of this new quantitative techniques.

CRC Press

Market: Life Science

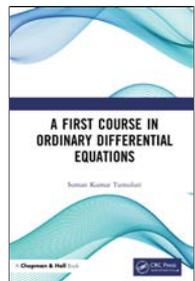
November 2020: 254 x 178: 292pp

Hb: 978-1-138-49645-3: **£170.00**

eBook: 978-1-351-02182-1

* For full contents and more information, visit: www.routledge.com/9781138496453

A First Course in Ordinary Differential Equations



Suman Kumar Tumuluri

A First course in Ordinary Differential Equations provides a detailed introduction to the subject focusing on analytical methods to solve ODEs and theoretical aspects of analyzing them when it is difficult/not possible to find their solutions explicitly. This two-fold treatment of the subject is quite handy not only for undergraduate students in mathematics but also for physicists, engineers who are interested in understanding how various methods to solve ODEs work. More than 300 end-of-chapter problems with varying difficulty are provided so that the reader can self examine their understanding of the topics covered in the text.

Chapman and Hall/CRC

Market: Mathematics

March 2021: 234x156: 336pp

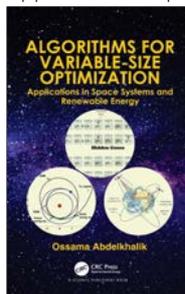
Hb: 978-0-815-35983-8: £74.99

eBook: 978-1-003-15375-7

* For full contents and more information, visit: www.routledge.com/9780815359838

Algorithms for Variable-Size Optimization

Applications in Space Systems and Renewable Energy



Ossama Abdelkhalik

This book focuses on systems architecture optimization. The first two parts are a concise presentation for classical optimization methods. Part three presents recent advances in systems architecture optimization. Part four outlines detailed engineering applications. The first two parts are suitable for undergraduate engineering students. As a whole, the book is suitable for graduate engineering students and engineers. The numerical algorithms as well as the applications are the core of the book with only a brief review for fundamental mathematical concepts.

CRC Press

Market: Engineering - General

April 2021: 234x156: 230pp

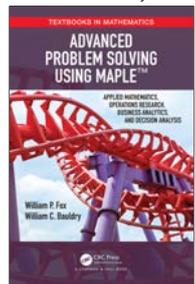
Hb: 978-0-815-36016-2: £155.00

eBook: 978-1-351-11910-8

* For full contents and more information, visit: www.routledge.com/9780815360162

Advanced Problem Solving Using Maple

Applied Mathematics, Operations Research, Business Analytics, and Decision Analysis



William P. Fox, U.S. Naval Post Graduate School and William Bauldry

Series: Textbooks in Mathematics

The text applies the mathematical modeling process by formulating, building, solving, analyzing, and criticizing mathematical models. Scenarios are developed within the scope of the problem solving process. The text focuses on discrete dynamical systems, optimization techniques, single-variable unconstrained optimization and applied problems, and numerical search methods. Additional coverage includes multivariable unconstrained and constrained techniques. Linear algebra techniques to model and solve problems such as the Leontief model, advanced regression technique include

nonlinear, logistics and Poisson are covered. Game Theory, the Nash equilibrium, Nash arbitration are also included.

Chapman and Hall/CRC

Market: Mathematics

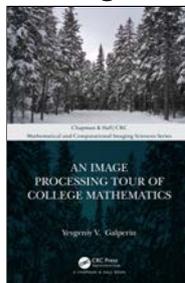
November 2020: 235 x 156: 404pp

Hb: 978-1-138-60187-1: £74.99

eBook: 978-0-429-46962-6

* For full contents and more information, visit: www.routledge.com/9781138601871

An Image Processing Tour of College Mathematics



Yevgeniy V. Galperin

Series: Chapman & Hall/CRC Mathematical and Computational Imaging Sciences Series

This book aims to provide meaningful context for reviewing key topics of college mathematics curriculum. The topics covered include a library of elementary functions, basic concepts of descriptive statistics, probability distributions of functions of random variables, definitions and concepts behind first- and second-order derivatives, most concepts and techniques of traditional linear algebra courses, an introduction to Fourier analysis, and a variety of discrete wavelet transforms – all of that in the context of digital image processing.

Chapman and Hall/CRC

Market: Mathematics

January 2021: 234x156: 346pp

Hb: 978-0-367-00202-2: £74.99

eBook: 978-0-429-40061-2

* For full contents and more information, visit: www.routledge.com/9780367002022

Algebraic Numbers and Functions

Results of Class Field Theory and L Functions

Franz Halter-Koch, University of Graz, Austria

Through a set of related yet distinct texts, the author offers a thorough presentation of the classical theory of algebraic numbers and algebraic functions: Ideal- and valuation-theoretic aspects, L functions and class field theory, together with a presentation of algebraic foundations which are usually undersized in standard algebra courses. These books contain the whole classical theory of algebraic numbers and algebraic functions together with the prerequisites that too often receive short coverage in standard courses. Thus it should enable a broader audience to get acquainted with these theories.

Chapman and Hall/CRC

Market: Mathematics

February 2021: 235 x 156: 400pp

Hb: 978-1-138-58358-0: £100.00

* For full contents and more information, visit: www.routledge.com/9781138583580

An Introduction to Optimization Techniques

Vikrant Sharma, Vinod Kumar Jain and Atul Kumar

Various pioneers in technology education have demonstrated the importance of analysis and optimization. Optimization is a precise procedure using design constraints and criteria to enable the planner to find the optimal solution. Wide and emerging uses of optimization techniques make it essential for students and professionals. This book will provide an in-depth coverage and understanding of the basic and advanced optimization techniques essential for managerial decision making. This book is aimed primarily at undergraduates and postgraduates of science, engineering and management studying optimization techniques.

Chapman and Hall/CRC

Market: Mathematics

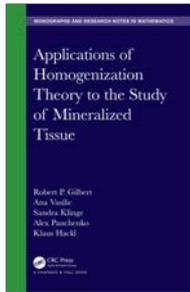
April 2021: 254 x 178: 424pp

Hb: 978-0-367-49324-0: £99.99

eBook: 978-1-003-04576-2

* For full contents and more information, visit: www.routledge.com/9780367493240

Applications of Homogenization Theory to the Study of Mineralized Tissue



Robert P. Gilbert, University of Delaware, Newark, USA, Ana Vasilic, Sandra Klinge, Alex Panchenko, Washington State University, Pullman, USA and Klaus Hackl

Series: *Chapman & Hall/CRC Monographs and Research Notes in Mathematics*

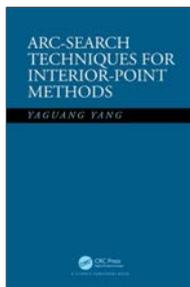
This book provides a thorough introduction to homogenization, a modeling procedure used to describe processes in complicated structures with known microstructures. It first presents the theoretical foundations of this powerful tool of analysis. Building on the theory, the authors explore various types of application problems, including flow in porous media, sound propagation in fluid saturated solids, acoustics of granular material, computational multiscale finite element methods, and interfaces

in viscoelastic materials. The book also discusses results in which G-limits have different structures from the initial operators.

Chapman and Hall/CRC
December 2020: 234x156: 297pp
Hb: 978-1-584-88791-1: **£89.99**
eBook: 978-0-429-14338-0

* For full contents and more information, visit: www.routledge.com/9781584887911

Arc-Search Techniques for Interior-Point Methods



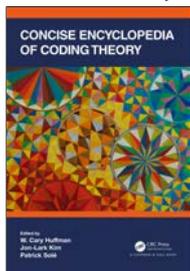
Yaguang Yang

This book discusses one of the most recent developments in interior-point methods, the arc-search techniques. Introducing these techniques result in an efficient interior-point algorithm with the lowest polynomial bound, which solves a long-standing issue of the interior-point methods in linear programming, i.e., the algorithm with the best polynomial bound is the least efficient and the most efficient interior-point algorithm cannot be proved to converge. The book also covers important results since 1990s and the extensions of the arc-search techniques to the general optimization problems, such as convex quadratic programming, linear complementarity problem.

CRC Press
Market: Applied Mathematics
November 2020: 234x156: 316pp
Hb: 978-0-367-48728-7: **£120.00**
eBook: 978-1-003-04251-8

* For full contents and more information, visit: www.routledge.com/9780367487287

Concise Encyclopedia of Coding Theory



Edited by W. Cary Huffman, Loyola University, USA, Jon-Lark Kim and Patrick Solé, CNRS/LAGA University of Paris 8

Most coding theory experts date the origin of the subject with the 1948 publication of *A Mathematical Theory of Communication* by Claude Shannon. Since then, coding theory has grown into a discipline with many practical applications requiring various mathematical techniques.

Most topics covered in this book are presented in short sections at an introductory level and progress from basic to advanced level.

The book is divided into three parts: part I fundamentals, part II families, and part III applications and cover cyclic codes, skew

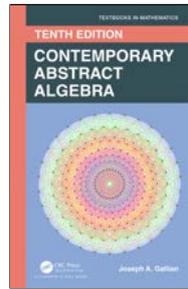
cyclic codes, AG codes, group algebra codes, alternative metrics, algorithmic techniques, interpolation decoding, etc.

Chapman and Hall/CRC
Market: Mathematics
March 2021: 254 x 178: 1000pp
Hb: 978-1-138-55199-2: **£190.00**
eBook: 978-1-315-14790-1

* For full contents and more information, visit: www.routledge.com/9781138551992

10th Edition

Contemporary Abstract Algebra



Joseph A. Gallian

Series: *Textbooks in Mathematics*

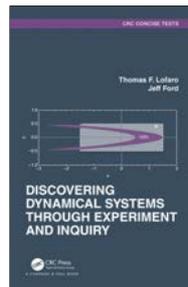
CONTEMPORARY ABSTRACT ALGEBRA, TENTH EDITION is primarily intended for an abstract algebra course whose main purpose is to enable students to do computations and write proofs. Gallian's text stresses the importance of obtaining a solid introduction to the traditional topics of abstract algebra, while at the same time presenting it as a contemporary and very much an active subject which is currently being used by working physicists, chemists, and computer scientists.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 246x189: 696pp
Hb: 978-0-367-65178-7: **£99.99**
eBook: 978-1-003-14233-1

* For full contents and more information, visit: www.routledge.com/9780367651787



Discovering Dynamical Systems Through Experiment and Inquiry



Thomas LoFaro and Jeff Ford

Series: *Textbooks in Mathematics*

The book differs from most texts on the topic by blending the use of computer simulations with inquiry-based learning (IBL). Students can discover examples and counterexamples through manipulations built into the software through a link to the website. While symbolic dynamics is a fairly standard topic in an undergraduate dynamics text, the authors emphasize it in a way that is more detailed and inclusive than is typically the case.

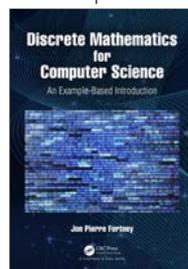
Chapman and Hall/CRC
Market: Mathematics
March 2021: 234x156: 224pp
Hb: 978-0-367-90394-7: **£76.99**
eBook: 978-1-003-02413-2

* For full contents and more information, visit: www.routledge.com/9780367903947



Discrete Mathematics for Computer Science

An Example-Based Introduction



Jon Pierre Fortney

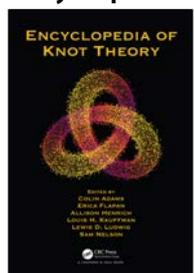
Discrete Mathematics for Computer Science: An Example-Based Introduction is intended for a first or second-year discrete mathematics course for computer science majors. It covers many important mathematical topics essential for future computer science majors, such as algorithms, number representations, logic, set theory, Boolean algebra, functions, combinatorics, algorithmic complexity, graphs, and trees.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 254 x 178: 272pp
Hb: 978-0-367-54988-6: **£130.00**
Pb: 978-0-367-54989-3: **£52.99**
eBook: 978-1-003-09147-9

* For full contents and more information, visit: www.routledge.com/9780367549893



Encyclopedia of Knot Theory



Edited by Colin Adams, Erica Flapan, Allison Henrich, Louis H. Kauffman, University of Illinois at Chicago, USA, Lewis D. Ludwig and Sam Nelson

This book provides short, interconnected articles on a variety of active areas in knot theory, and includes beautiful pictures, deep mathematical connections, and critical applications edited and contributed to by top researchers in the field of Knot Theory. Many of the articles in this book are accessible to undergraduates who are working on research or taking an advanced undergraduate course in knot theory. More advanced articles will be useful to graduate students working on a related thesis topic, to researchers in another area of topology who are interested in current results in knot theory, and to scientists who study the topology and geometry of biopolymers.

Chapman and Hall/CRC

Market: Mathematics

December 2020: 254 x 178: 953pp

Hb: 978-1-138-29784-5: £190.00

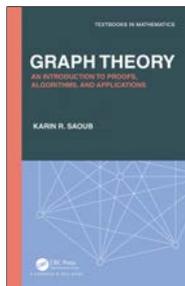
eBook: 978-1-138-29821-7

* For full contents and more information, visit: www.routledge.com/9781138297845



Graph Theory

An Introduction to Proofs, Algorithms, and Applications



Karin R Saoub, Roanoke College

Series: *Textbooks in Mathematics*

This text, for the first undergraduate course, will explore major topics in graph theory from both a theoretical and applied viewpoint. Topics will progress from understanding basic terminology, to addressing computational questions, and finally ending with broad theoretical results.

Examples and exercises will guide the reader through this progression, with particular care in strengthening proof techniques and written mathematical explanations.

Current applications and exploratory exercises are provided to further the reader's mathematical reasoning and understanding of the relevance of graph theory to the modern world.

Chapman and Hall/CRC

Market: Mathematics

March 2021: 234x156: 435pp

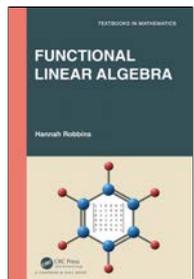
Hb: 978-1-138-36140-9: £74.99

Pb: 978-0-367-74375-8: £42.99

eBook: 978-1-138-36141-6

* For full contents and more information, visit: www.routledge.com/9780367743758

Functional Linear Algebra



Hannah Robbins, Roanoke College, USA

Series: *Textbooks in Mathematics*

This is a unique text authored to address the need for a one-term linear algebra course when students have only had calculus. It does not assume students have had a proofs course.

As readers work through this book, it is important to understand the basic ideas, definitions, and computational skills. The best way to do this is to work through enough examples and problems to make sure the material is thoroughly grasped.

The computational techniques used in this book can be done either by hand or using technology. This book specifically addresses how to use Mathematica, but feel free to use

whichever technological tool best suits your needs.

Chapman and Hall/CRC

Market: Mathematics

April 2021: 234x156: 408pp

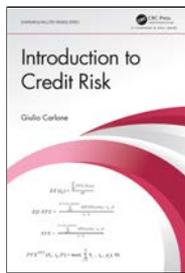
Hb: 978-0-367-48687-7: £74.99

eBook: 978-1-003-04228-0

* For full contents and more information, visit: www.routledge.com/9780367486877



Introduction to Credit Risk



Giulio Carbone

Series: *Chapman & Hall/CRC Finance Series*

This book on analysis of credit risk, derivatives, equity investments, portfolio management, quantitative methods, and risk management. This book can be used as an important tool to explain how to generate data rows of expected exposure to counterparty credit risk. The book also directs the reader on how to visualize, in real time, the results of this data, generated with a java tool.

Chapman and Hall/CRC

Market: Mathematics

November 2020: 254 x 178: 488pp

Hb: 978-0-367-47849-0: £150.00

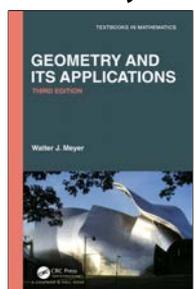
eBook: 978-1-003-03694-4

* For full contents and more information, visit: www.routledge.com/9780367478490



3rd Edition

Geometry and Its Applications



Walter J. Meyer

Series: *Textbooks in Mathematics*

This unique textbook combines traditional geometry presents a contemporary approach that is grounded in real-world applications. It balances the deductive approach with discovery learning, introduces axiomatic, Euclidean and non-Euclidean, and transformational geometry. The text integrates applications and examples throughout. The Third Edition offers many updates, including expanding on historical notes, *Geometry and Its Applications* is a significant text for any college or university that focuses on geometry's usefulness in other disciplines. It is especially appropriate for engineering and science majors, as well as future mathematics teachers.

Chapman and Hall/CRC

Market: Mathematics

March 2021: 234x156: 512pp

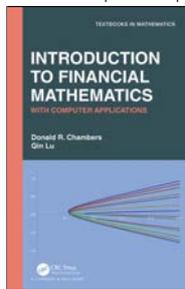
Hb: 978-0-367-18798-9: £99.99

eBook: 978-0-429-19832-8

* For full contents and more information, visit: www.routledge.com/9780367187989

Introduction to Financial Mathematics

With Computer Applications



Donald R. Chambers, Lafayette College, USA and Qin Lu, Lafayette College, USA

Series: *Textbooks in Mathematics*

This book's primary objective is to educate aspiring finance professionals about mathematics and computation in the context of financial derivatives. The authors offer a balance of traditional coverage and technology to fill the void between highly mathematical books and broad finance books.

A key feature of this book is its focus on applying models in three programming languages – R, Mathematica and EXCEL. Each of the three approaches offers unique advantages. The computer applications are carefully introduced and require little prior programming background.

Chapman and Hall/CRC

Market: Science/Mathematics

May 2021: 234x156: 592pp

Hb: 978-0-367-41039-1: £84.99

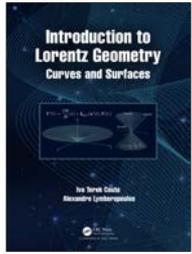
eBook: 978-0-367-81442-7

* For full contents and more information, visit: www.routledge.com/9780367410391



Introduction to Lorentz Geometry

Curves and Surfaces



Ivo Terek Couto and Alexandre Lymberopoulos

Introduction to Lorentz Geometry: Curves and Surfaces intends to provide the reader with the minimum mathematical background needed to pursue interesting questions such as: What is the shape of the universe? What is a spacetime? What is the relation between gravity and curvature? Why exactly is time treated in a different manner than other spatial dimensions? by presenting the classical theory of curves and surfaces in both Euclidean and Lorentzian ambient spaces simultaneously.

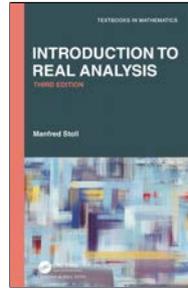
Chapman and Hall/CRC
Market: Mathematics
 December 2020: 210 x 280: 350pp
 Hb: 978-0-367-46864-4: **£99.99**
 eBook: 978-1-003-03157-4



* For full contents and more information, visit: www.routledge.com/9780367468644

3rd Edition

Introduction to Real Analysis



Manfred Stoll

Series: Textbooks in Mathematics

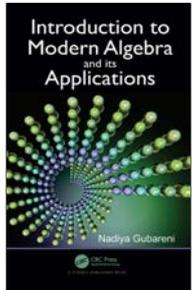
The emphasis of this now classic text is on sequences of real numbers, compact subsets of \mathbb{R} , as well as real-valued functions.

Chapman and Hall/CRC
Market: Mathematics
 March 2021: 216x138: 584pp
 Hb: 978-0-367-48688-4: **£89.99**
 eBook: 978-1-003-13735-1



* For full contents and more information, visit: www.routledge.com/9780367486884

Introduction to Modern Algebra and Its Applications



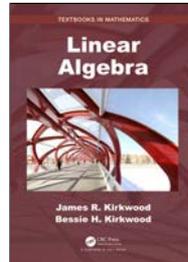
Nadiya Gubareni, Silesian University of Technology, Poland

The book provides an introduction to modern abstract algebra and its applications. It covers all major topics of classical theory of numbers, groups, rings, fields and finite dimensional algebras. The book also provides interesting and important modern applications in such subjects as Cryptography, Coding Theory, Computer Science and Physics. In particular, it considers algorithm RSA, secret sharing algorithms, Diffie-Hellman Scheme and ElGamal cryptosystem based on discrete logarithm problem. It also presents Buchberger's algorithm which is one of the important algorithms for constructing Gröbner basis.

CRC Press
Market: Algebra
 November 2020: 235 x 156: 394pp
 Hb: 978-0-367-82091-6: **£150.00**
 eBook: 978-1-003-01548-2

* For full contents and more information, visit: www.routledge.com/9780367820916

Linear Algebra



James R. Kirkwood, Sweet Briar College, Virginia, USA and Bessie H. Kirkwood

Series: Textbooks in Mathematics

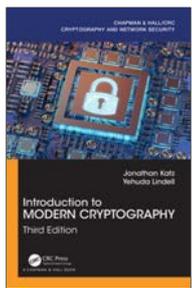
This is the second of a two-part set of books for the undergraduate linear algebra sequence. The text is for the more advanced course taught in most mathematics departments. This course is based around matrix theory and focused on the theory of linear algebra. In addition to the chapters found in the author's Elementary Linear Algebra, here he offers seven additional chapters including the Jordan Canonical Form and The Perron-Frobenius Theorem. The book emphasizes intuition as well as rigor. It offers a historical perspective.

Chapman and Hall/CRC
Market: Mathematics
 November 2020: 254 x 178: 428pp
 Hb: 978-1-498-77685-1: **£74.99**
 eBook: 978-1-498-77686-8

* For full contents and more information, visit: www.routledge.com/9781498776851

3rd Edition

Introduction to Modern Cryptography



Jonathan Katz, University of Maryland, College Park, USA and Yehuda Lindell, Bar-Ilan University, Ramat Gan, Israel

Series: Chapman & Hall/CRC Cryptography and Network Security Series

Now the most used textbook for introductory cryptography courses in both mathematics and computer science, the Third Edition builds upon previous editions by offering several new sections, topics, and exercises. The authors introduce the core principles of modern cryptography, with an emphasis on formal definitions, clear assumptions, and rigorous proofs of security. The book begins by focusing on private-key cryptography. The second half covers public-key cryptography, beginning with a self-contained introduction to the number theory needed to

understand the RSA, Diffie-Hellman, and El Gamal cryptosystems (and others), and adds coverage of post-quantum cryptography to this edition.

Chapman and Hall/CRC
Market: Mathematics
 December 2020: 254 x 178: 648pp
 Hb: 978-0-815-35436-9: **£99.99**
 eBook: 978-1-351-13303-6
 Prev. Ed Hb: 978-1-466-57026-9



* For full contents and more information, visit: www.routledge.com/9780815354369

2nd Edition

Luck, Logic, and White Lies

The Mathematics of Games

Jörg Bewersdorff

Luck, Logic, and White Lies: The Mathematics of Games considers a specific problem—generally a game or game fragment and introduces the mathematical methods. It contains a section on the historical development of the theories of games of chance, and combinatorial and strategic games.

This new edition features new and much refreshed chapters, including an all-new Part IV on the problem of how to measure skill in games. Readers are also introduced to new references and techniques developed since the previous edition.

A K Peters/CRC Press
Market: Mathematics
 April 2021: 234x156: 560pp
 Hb: 978-0-367-55296-1: **£110.00**
 Pb: 978-0-367-54841-4: **£42.99**
 eBook: 978-1-003-09287-2
 Prev. Ed Pb: 978-1-568-81210-6



* For full contents and more information, visit: www.routledge.com/9780367548414

Markov Random Flights



Alexander D. Kolesnik

Series: *Chapman & Hall/CRC Monographs and Research Notes in Mathematics*

This book is the first systematic presentation of the theory of Markov random flights in the Euclidean spaces of different dimensions. MRF is a stochastic dynamic system subject to the control of an external Poisson process and represented by the stochastic motion of a particle that moves at constant finite speed and changes its direction at random Poisson time instants. The initial (and each new) direction is taken at random according to some probability distribution on the unit sphere. Such stochastic motion is the basic model for describing many

real finite-velocity transport phenomena arising in statistical physics, chemistry, financial markets etc.

Chapman and Hall/CRC

Market: Mathematics

February 2021: 254 x 178: 406pp

Hb: 978-0-367-56494-0: £140.00

eBook: 978-1-003-09813-3

* For full contents and more information, visit: www.routledge.com/9780367564940

2nd Edition

Math and Art

An Introduction to Visual Mathematics

Sasho Kalajdzievski, University of Manitoba, Winnipeg, Canada

This book explores the potential of mathematics to generate visually appealing objects and reveals some of the beauty of mathematics. It includes numerous illustrations, photographs, and art reproductions to demonstrate how mathematics can inspire or generate art.

Sequentially organized according to mathematical maturity level, each chapter covers a cross section of mathematics. For art students, the book stresses an understanding of the mathematical background of relatively complicated yet intriguing visual objects. For science students, it presents various elegant mathematical theories and notions.

Chapman and Hall/CRC

Market: Mathematics

March 2021: 254 x 178: 520pp

Hb: 978-0-367-07613-9: £130.00

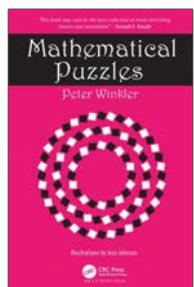
Pb: 978-0-367-07611-5: £52.99

eBook: 978-0-429-02160-2

Prev. Ed Pb: 978-1-584-88913-7

* For full contents and more information, visit: www.routledge.com/9780367076115

Mathematical Puzzles



Peter Winkler

Research in mathematics is much more than solving puzzles, but most people will agree that solving puzzles is not just fun: it helps focus the mind and increase one's armory of techniques for doing mathematics. *Mathematical Puzzles* will, for the first time, make the connection explicit by isolating important mathematical methods, then using them to solve puzzles and prove a theorem.

A K Peters/CRC Press

Market: Mathematics

December 2020: 234x156: 410pp

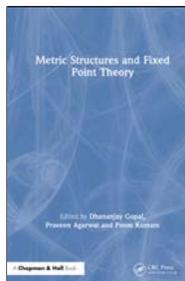
Hb: 978-0-367-20693-2: £56.99

Pb: 978-0-367-20692-5: £22.99

eBook: 978-0-429-26291-3

* For full contents and more information, visit: www.routledge.com/9780367206925

Metric Structures and Fixed Point Theory



Edited by Dhananjay Gopal, GURU GHASIDAS VISHWAVIDYALAYA, Chhattisgarh, India., Praveen Agarwal, Anand International Clg. of Engg, India and Poom Kumam, KMUTT, Bangkok, Thailand.

Metric Structures and Fixed Point Theory provides an extensive understanding and latest updates on the subject. The book decomposed into nine chapters not only shows diversified aspects on popular generalizations of metric spaces such as symmetric, b-metric, w-distances, G-metric, modular metric, probabilistic metric, fuzzy metric, graphical metric and corresponding fixed point theory but also motivate to work on existing open problems on the subject. This could be helpful for those who want to pursue their research career in metric

fixed point theory and its related areas. It may also be used as a text book for post graduate and research students.

Chapman and Hall/CRC

Market: Mathematics

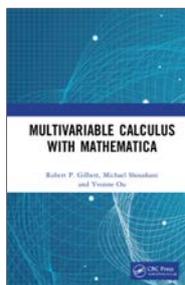
March 2021: 254 x 178: 216pp

Hb: 978-0-367-68914-8: £140.00

eBook: 978-1-003-13960-7

* For full contents and more information, visit: www.routledge.com/9780367689148

Multivariable Calculus with Mathematica



Robert P. Gilbert, University of Delaware, Newark, USA, Michael Shoushani and Yvonne Ou

This textbook aims to address the calculus of several variables. Instead of just using Mathematica to directly solve problems, the students are encouraged to learn the syntax and to write their own code to solve problems. This not only encourages scientific computing skills but at the same time stresses the complete understanding of the mathematics. Questions are provided at the end of the chapters to test the student's theoretical understanding of the mathematics, and there are also computer algebra questions which test the student's ability to apply their knowledge in non-trivial ways.

Chapman and Hall/CRC

Market: Mathematics

November 2020: 235 x 156: 428pp

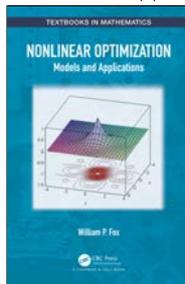
Hb: 978-1-138-06268-9: £74.99

eBook: 978-1-315-16147-1

* For full contents and more information, visit: www.routledge.com/9781138062689

Nonlinear Optimization

Models and Applications



William P. Fox

Series: *Textbooks in Mathematics*

The study of nonlinear optimization is both fundamental and a key course for applied mathematics, operations research, management science, industrial engineering, and economics at most colleges and universities. The use of linear programming software for microcomputers has become widely available. Like most tools, however, it is useless unless the user understands its applications and purpose. The user must ensure that the mathematical input accurately reflects the real-world problem to be solved and that the numerical results are correctly used. Therefore, the mathematical modeling framework is critical to setting up and solving mathematical programming problems.

Chapman and Hall/CRC

Market: Mathematics

December 2020: 235 x 156: 416pp

Hb: 978-0-367-44415-0: £74.99

eBook: 978-1-003-00957-3

* For full contents and more information, visit: www.routledge.com/9780367444150

Nonlinear Second Order Parabolic Equations

Mingxin Wang

The book covers theories and methods in the field of parabolic equations, including topics that are useful but hard to find elsewhere. These include L_p theory, Schauder theory, the maximum principle and the comparison principle. Numerous examples are provided, especially from the field of ecology, while exercises after every chapter, are included. This book is based on tried and tested teaching materials used at the Harbin Institute of Technology over the past 10 years. Special care is taken to make the book suitable for classroom teaching as well as for self-study among graduate students.

CRC Press

Market: Mathematics, Differential Equations, Nonlinear equations

March 2021: 254 x 178: 296pp

Hb: 978-0-367-71198-6: **£120.00**

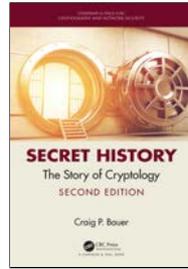
Pb: 978-0-367-71284-6: **£42.99**

eBook: 978-1-003-15016-9

* For full contents and more information, visit: www.routledge.com/9780367712846

Secret History

The Story of Cryptology



Craig Bauer, York College of Pennsylvania, Physical Sciences Department, USA

Series: Chapman & Hall/CRC Cryptography and Network Security Series

This unique, award winning book offers a thorough yet accessible treatment of both the mathematics and history of cryptology. Requiring minimal mathematical preparation, the book presents the mathematics in sufficient detail and weaves the history throughout the chapters. In addition to the fascinating historical and political sides of cryptology, the author—a former Scholar-in-Residence at the U.S. National Security Agency (NSA) Center for Cryptologic History—includes interesting instances

of codes and ciphers in crime, literature, music, and art. The book helps further enliven the already extremely popular field of cryptology.

Chapman and Hall/CRC

Market: Computer Science & Engineering

February 2021: 254 x 178: 636pp

Hb: 978-1-138-06123-1: **£68.99**

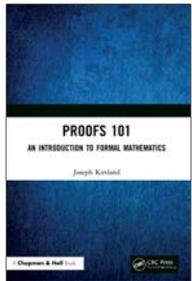
eBook: 978-1-315-16253-9

* For full contents and more information, visit: www.routledge.com/9781138061231



Proofs 101

An Introduction to Formal Mathematics



Joseph Kirtland

Proofs 101: An Introduction to Formal Mathematics serves as an introduction to proofs for mathematics majors who have completed the calculus sequence (at least Calculus I and II) and Linear Algebra.

It prepares students for the proofs they will need to analyse and write, the axiomatic nature of mathematics, and the rigors of upper-level mathematics courses. Basic number theory, relations, functions, cardinality, and set theory will provide the material for the proofs and lay the foundation for a deeper understanding of mathematics, which students will need to carry with them throughout their future studies

Chapman and Hall/CRC

Market: Mathematics

November 2020: 234x156: 196pp

Hb: 978-0-367-53693-0: **£115.00**

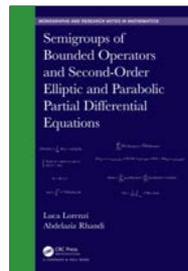
Pb: 978-0-367-53681-7: **£44.99**

eBook: 978-1-003-08292-7

* For full contents and more information, visit: www.routledge.com/9780367536817



Semigroups of Bounded Operators and Second-Order Elliptic and Parabolic Partial Differential Equations



Luca Lorenzi, University of Parma and **Abdelaziz Rhandi**, University of Salerno

Series: Chapman & Hall/CRC Monographs and Research Notes in Mathematics

This book aims to propose a unified approach to elliptic and parabolic equations with bounded and smooth coefficients. The book will highlight the connections between these equations and the theory of semigroups of operators, while demonstrating how the theory of semigroups represents a powerful tool to analyze general parabolic equations.

Features

Useful for students and researchers as an introduction to the field of partial differential equations of elliptic and parabolic type. Introduces the reader to the theory of operator semigroups as a tool for the analysis of partial differential equations.

Chapman and Hall/CRC

Market: Mathematics

December 2020: 254 x 178: 502pp

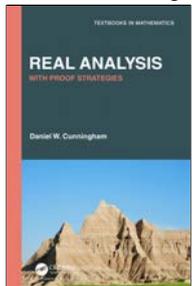
Hb: 978-0-367-20629-1: **£170.00**

eBook: 978-0-429-26259-3

* For full contents and more information, visit: www.routledge.com/9780367206291

Real Analysis

With Proof Strategies



Daniel W. Cunningham

Series: Textbooks in Mathematics

Typically, undergraduates see real analysis as one of the most difficult courses that a mathematics major is required to take. The main reason for this perception is twofold: Students must comprehend new abstract concepts and learn to deal with these concepts on a level of rigor and proof not previously encountered. A key challenge for an instructor of real analysis is to find a way to bridge the gap between a student's preparation and the mathematical skills that are required to be successful in such a course. The book not only presents the fundamental theorems of real analysis, but also shows the reader how to compose and produce the proofs of these theorems.

Chapman and Hall/CRC

Market: Mathematics

December 2020: 254 x 178: 281pp

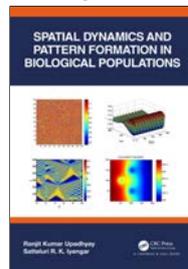
Hb: 978-0-367-54965-7: **£74.99**

eBook: 978-1-003-09136-3

* For full contents and more information, visit: www.routledge.com/9780367549657



Spatial Dynamics and Pattern Formation in Biological Populations



Ranjit Kumar Upadhyay and **Satteluri R. K. Iyengar**, Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad, India

The book provides an introduction to deterministic (and some stochastic) modeling of spatiotemporal phenomena in ecology, epidemiology, and neural systems. The book begins with detailed description of how spatial dynamics/diffusive processes influence the dynamics of biological populations. These processes play a key role in understanding the outbreak and spread of pandemics which help us in designing the control strategies from the public health perspective. A brief discussion on the functional mechanism of the brain (single neuron models and network level) with classical models of neuronal dynamics in space and time is given.

Chapman and Hall/CRC

Market: Mathematics

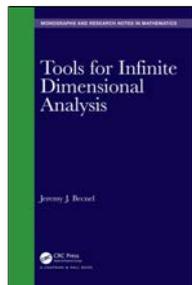
January 2021: 254 x 178: 480pp

Hb: 978-0-367-55550-4: **£190.00**

eBook: 978-1-003-09395-4

* For full contents and more information, visit: www.routledge.com/9780367555504

Tools for Infinite Dimensional Analysis



Jeremy J. Becnel

Series: *Chapman & Hall/CRC Monographs and Research Notes in Mathematics*

Over the past 6 decades, several extremely important fields in mathematics have been developed. Among these are Itô calculus, Gaussian measures on Banach spaces etc., which has many applications, ranging from finance to biology. The background material stems from an abstract subject called infinite dimensional topological vector spaces. This book aims to address these problems by providing an introduction to the background material for infinite dimensional analysis that is friendly in style and accessible to graduate students and researchers.

Chapman and Hall/CRC

Market: Mathematics

December 2020: 234x156: 288pp

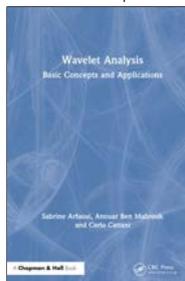
Hb: 978-0-367-54366-2: £140.00

eBook: 978-1-003-08897-4

* For full contents and more information, visit: www.routledge.com/9780367543662

Wavelet Analysis

Basic Concepts and Applications



Sabrina Arfaoui, Anouar Ben Mabrouk and Carlo Cattani

Wavelet Analysis: Basic Concepts and Applications provides a basic and self-contained introduction to the ideas underpinning wavelet theory and its diverse applications. This book is suitable for master's or PhD students, senior researchers, or scientists working in industrial settings, where wavelets are used to model real world phenomena and data needs (such as finance, medicine, engineering, transport, images, signals etc.)

Chapman and Hall/CRC

Market: Mathematics

April 2021: 254 x 178: 256pp

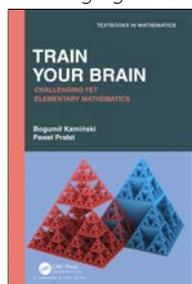
Hb: 978-0-367-56218-2: £89.99

eBook: 978-1-003-09692-4

* For full contents and more information, visit: www.routledge.com/9780367562182

Train Your Brain

Challenging Yet Elementary Mathematics



Bogumil Kaminski and Pawel Pralat

Series: *Textbooks in Mathematics*

The book contains selected problems aimed for high school students that are interested in competing in math competitions or simply for people of all ages and backgrounds who want to expand their knowledge and to challenge themselves with interesting questions. The problems are mostly selected from an extensive collection of problems from Polish Mathematical Olympics and many appear here in English for the first time. Each chapter consists of many sections devoted to a collection of related topics. Each of these sections starts with a problem followed by the necessary background (definitions and theorems used), careful and detailed solution, and discussion of possible

generalizations

Chapman and Hall/CRC

Market: Mathematics

December 2020: 234x156: 380pp

Hb: 978-0-367-67935-4: £38.99

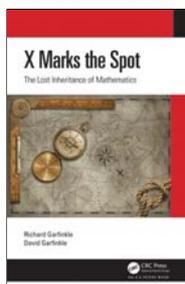
Pb: 978-0-367-56487-2: £38.99

eBook: 978-1-003-09798-3

* For full contents and more information, visit: www.routledge.com/9780367564872

X Marks the Spot

The Lost Inheritance of Mathematics



Richard Garfinkle, Oakland University, USA and David Garfinkle

This book is written from the point of view of the users of mathematics. Since the beginning, mathematical concepts and techniques (such as arithmetic and geometry) were created as tools with a particular purpose like counting sheep and measuring land areas.

Understanding those purposes leads to a greater understanding of why mathematics developed as it did. This book strives to give a guided tour of the development of various branches of mathematics (and what they're used for) that will give the reader this intuitive understanding.

A K Peters/CRC Press

Market: Mathematics

January 2021: 234x156: 488pp

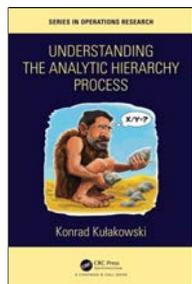
Hb: 978-0-367-18706-4: £150.00

Pb: 978-0-367-18704-0: £42.99

eBook: 978-0-429-19775-8

* For full contents and more information, visit: www.routledge.com/9780367187040

Understanding the Analytic Hierarchy Process



Konrad Kulakowski

Series: *Chapman & Hall/CRC Series in Operations Research*

The aim of this book is to provide the reader with a critical guide to AHP. In this book, the AHP method is considered primarily as a mathematical technique supporting the decision-making process.

This method provides a convenient and versatile framework for modelling multi-criteria decision problems, evaluating alternatives and deriving final priorities. Rather than imposing a "correct" decision, AHP allows the user to create a ranking of alternatives, then choose the one which is the best (or among the best). At the core of AHP is a pairwise comparisons (PC) method. This is an old technique known in various forms since

at least the Middle Ages.

Chapman and Hall/CRC

Market: Mathematics

November 2020: 235 x 156: 262pp

Hb: 978-1-138-03232-3: £120.00

eBook: 978-1-315-39222-6

* For full contents and more information, visit: www.routledge.com/9781138032323

21st Century Nanoscience

A Handbook (Ten-Volume Set)



Edited by **Klaus D. Sattler**, University of Hawaii, Honolulu, USA

Series: *21st Century Nanoscience*

This up-to-date reference is the most comprehensive summary of the field of nanoscience and its applications. It begins with fundamental properties at the nanoscale and then goes well beyond into the practical aspects of the design, synthesis, and use of nanomaterials in various industries. It emphasizes the vast strides made in the field over the past decade – the chapters focus on new, promising directions as well as emerging theoretical and experimental methods. The contents incorporate experimental data and graphs where appropriate, as well as supporting tables and figures with a tutorial approach.

CRC Press

Market: Nanoscience & Technology

December 2020: 279 x 216: 4142pp

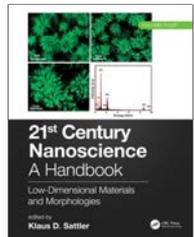
Hb: 978-0-815-36578-5: £1400.00

eBook: 978-1-351-26056-5

* For full contents and more information, visit: www.routledge.com/9780815365785

21st Century Nanoscience – A Handbook

Low-Dimensional Materials and Morphologies (Volume Four)



Edited by **Klaus D. Sattler**, University of Hawaii, Honolulu, USA

Series: *21st Century Nanoscience*

This up-to-date reference is the most comprehensive summary of the field of nanoscience and its applications. It begins with fundamental properties at the nanoscale and then goes well beyond into the practical aspects of the design, synthesis, and use of nanomaterials in various industries. It emphasizes the vast strides made in the field over the past decade – the chapters focus on new, promising directions as well as emerging theoretical and experimental methods. The contents incorporate

experimental data and graphs where appropriate, as well as supporting tables and figures with a tutorial approach.

CRC Press

Market: Nanoscience & Technology

November 2020: 279 x 216: 484pp

Hb: 978-0-815-35528-1: £150.00

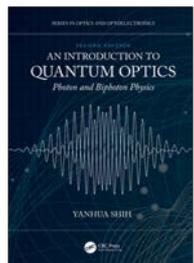
eBook: 978-0-429-34729-0

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2nd Edition

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such as the concept of the photon and distinguishability bring the entire contents up to date.

CRC Press

Market: Physics

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State of the Art

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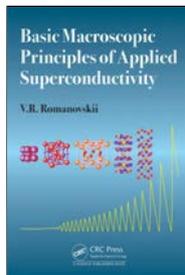
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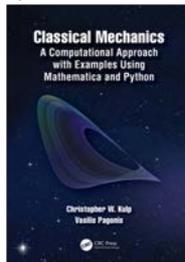
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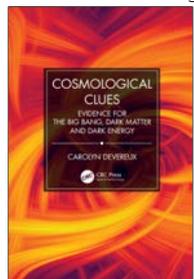
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CRC Press

Market: Physics

May 2021: 210 x 280: 1176pp

Hb: 978-1-138-59214-8: £550.00

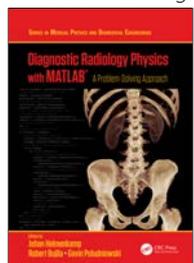
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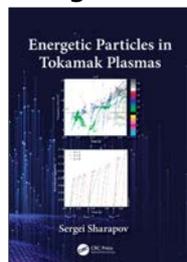
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March 2021: 254 x 178: 152pp

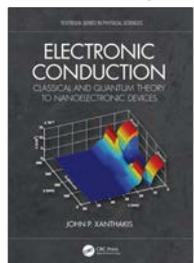
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CRC Press

Market: Physics

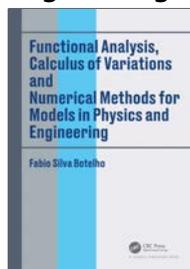
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November 2020: 254 x 178: 588pp

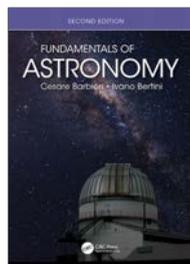
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CRC Press

Market: Physics

March 2021: 254 x 178: 376pp

Hb: 978-0-367-02373-7: **£89.99**

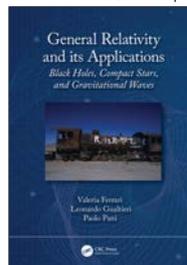
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Market: Physics

December 2020: 254 x 178: 494pp

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Market: Physics

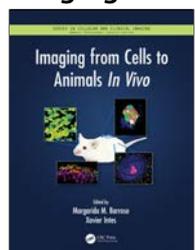
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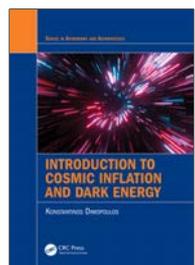
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CRC Press

Market: Physics

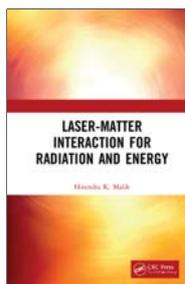
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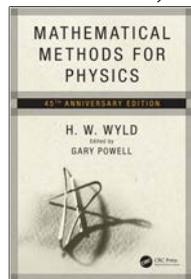
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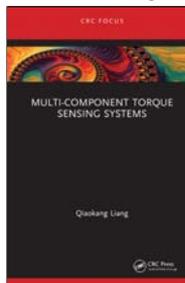
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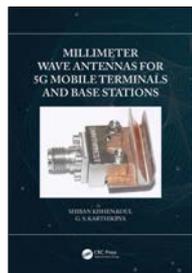
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engineering, electronics and communication engineering would also find the book to be resourceful.

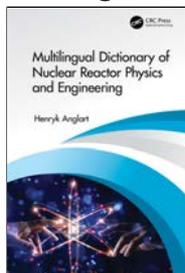
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CRC Press

Market: Medical Technology

April 2021: 254 x 178: 424pp

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eBook: 978-1-003-09540-8

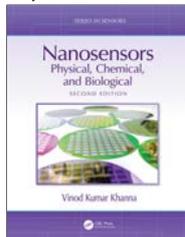
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and semiconductor fabrication as well as graduate students in physics and engineering pursuing electrical engineering and electronics courses with a focus on nanoscience and nanotechnology

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CRC Press

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eBook: 978-1-003-10541-1

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Plasma Technology in the Preservation and Cleaning of Cultural Heritage Objects

Radko Tiño, Katarína Vizárová, František Krčma, Milena Reháková, Viera Jančovičová and Zdenka Kozáková

Scientists have long been looking for alternative methods for the cleaning of historical and cultural museum objects as conventional methods often fail to completely remove surface films, leaving contamination and surface residues behind. Low-temperature plasmas have recently been found to provide a new, efficient and durable approach that maintains the safety of both the materials and personnel.

CRC Press

Market: Physics

February 2021: 234x156: 176pp

Hb: 978-0-367-22915-3: £89.99

eBook: 978-0-429-27761-0

* For full contents and more information, visit: www.routledge.com/9780367229153

Quantitative Bioimaging

An Introduction to Biology, Instrumentation, Experiments, and Data Analysis for Scientists and Engineers



Raimund J. Ober, Texas A & M University, Texas, USA, E. Sally Ward, Texas A & M Health Science Center, Texas, USA and Jerry Chao, Texas A & M University, Texas, USA

Cellular microscopy for live cell imaging has become an indispensable tool for solving biological problems. This textbook provides a truly unique introduction that integrates the concepts and methods of optics, molecular and cellular biology, image analysis, and bioengineering. The coverage spans from essential aspects of molecular and cellular biology to a detailed treatment of practical aspects, addressing such topics as colocalization, intracellular trafficking, 3D reconstruction, and membrane receptor dynamics. The authors take a two-tiered approach in

later chapters, providing a survey level overview followed by in-depth discussion that gives more detailed explanations.

CRC Press

Market: Biomedical Science

December 2020: 254 x 178: 552pp

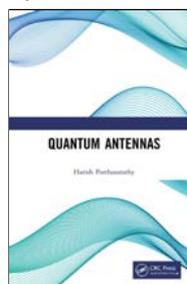
Hb: 978-1-138-59898-0: £99.99

eBook: 978-0-429-46989-3

* For full contents and more information, visit: www.routledge.com/9781138598980



Quantum Antennas



Harish Parthasarathy

This book is about several questions regarding how to describe the quantization of the current density in an antenna and about the nature of the quantum electromagnetic field produced by such a quantum current density. The second quantized current density can be built out of the Dirac field of electrons and positrons while the free electromagnetic or photon field is built out of solutions to the wave equation with coefficients being operators.

Note: T & F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Physics

February 2021: 234x156: 320pp

Hb: 978-0-367-75703-8: £89.99

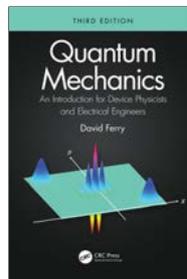
eBook: 978-1-003-16362-6

* For full contents and more information, visit: www.routledge.com/9780367757038

3rd Edition

Quantum Mechanics

An Introduction for Device Physicists and Electrical Engineers



David Ferry, Arizona State University, Tempe, USA

Quantum Mechanics: An Introduction for Device Physicists and Electrical Engineers, Third Edition provides a complete course in quantum mechanics for students of semiconductor device physics and electrical engineering. It provides the necessary background to quantum theory for those starting work on micro- and nanoelectronic structures and is particularly useful for those beginning work with modern semiconductor devices, lasers, and qubits.

CRC Press

Market: Physics

December 2020: 234x156: 328pp

Hb: 978-0-367-46915-3: £180.00

Pb: 978-0-367-46727-2: £69.99

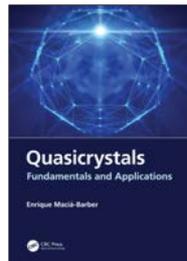
eBook: 978-1-003-03194-9

Prev. Ed Pb: 978-0-750-30725-3

* For full contents and more information, visit: www.routledge.com/9780367467272

Quasicrystals

Fundamentals and Applications



Enrique Maciá-Barber

Since the 2011 Nobel Prize was awarded in the field of quasicrystals, the area has undergone many developments. This book provides a complete and up-to-date compendium of our knowledge of quasicrystals and outlines future, next generation materials based on aperiodically ordered designs with a potential use in high performance technological devices. This text is an ideal introductory reference book for graduate students, senior scientists, and researchers coming from the fields of physics, chemistry, materials science and engineering.

CRC Press

Market: Physics

December 2020: 254 x 178: 392pp

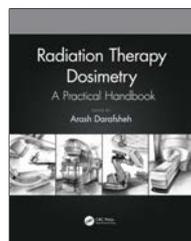
Hb: 978-0-815-38180-8: £170.00

eBook: 978-1-351-20915-1

* For full contents and more information, visit: www.routledge.com/9780815381808

Radiation Therapy Dosimetry

A Practical Handbook



Edited by **Arash Darafsheh**, Washington University School of Medicine, Department of Radiation Oncology

This comprehensive book covers the everyday use and underlying principles of radiation dosimeters used in radiation oncology clinics. It provides an up-to-date reference spanning the full range of current modalities with emphasis on practical know-how. The main audience is medical physicists, radiation oncology physics residents, and medical physics graduate students. The reader gains the necessary tools for determining which detector is best for a given application. Dosimetry of cutting edge techniques from radiosurgery to MRI-guided

systems to small fields and proton therapy are all addressed.

CRC Press

Market: Physics

March 2021: 279 x 216: 506pp

Hb: 978-1-138-54397-3: **£190.00**

eBook: 978-1-351-00538-8

* For full contents and more information, visit: www.routledge.com/9781138543973

The Cosmic Spacetime



Fulvio Melia

The growth of cosmology into a precision science represents one of the most remarkable stories of the past century. Much has been written chronicling this development, but rarely has any of it focused on the most critical element of this work—the cosmic spacetime itself. Addressing this lacuna is the principal focus of this book, documenting the growing body of evidence compelling us—not only to use this famous solution to Einstein's equations in order to refine the current paradigm, but—to probe its foundation at a much deeper level.

CRC Press

Market: Physics

November 2020: 254 x 178: 420pp

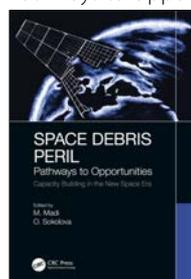
Hb: 978-0-367-53219-2: **£140.00**

eBook: 978-1-003-08102-9

* For full contents and more information, visit: www.routledge.com/9780367532192

Space Debris Peril

Pathways to Opportunities



Edited by **Matteo Madi**, Sirin Orbital Systems AG and **Olga Sokolova**

Space Debris Peril: Pathways to Opportunities takes readers through the whole spectrum of space debris problem – from technical, political, legal and socio-economical aspects – and represents an attempt to describe this credible risk and ways to mitigate its negative consequences, and create new opportunities.

CRC Press

Market: Physics

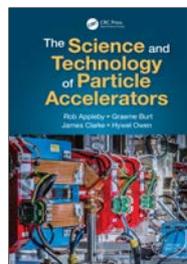
November 2020: 234x156: 266pp

Hb: 978-0-367-46945-0: **£89.99**

eBook: 978-1-003-03389-9

* For full contents and more information, visit: www.routledge.com/9780367469450

The Science and Technology of Particle Accelerators



Rob Appleby, University of Manchester School of Physics and Astronomy Manchester, UK, **Graeme Burt**, **James Clarke**, STFC Daresbury Laboratory Keckwick Lane, Daresbury Warrington, Cheshire WA4 4AD UK and **Hywel Owen**

This book provides integrated coverage of accelerator science and technology, this book presents the fundamental concepts alongside detailed engineering discussions and extensive practical guidance, including many numerical examples.

For each topic, the authors provide a description of the physical principles, a guide to the practical application of those principles, and a discussion of how to design the components that allow the application to be realised.

CRC Press

Market: Physics

December 2020: 254 x 178: 322pp

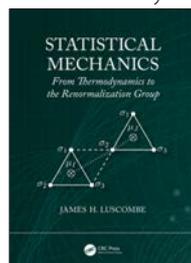
Hb: 978-1-138-49987-4: **£89.99**

eBook: 978-1-351-00796-2

* For full contents and more information, visit: www.routledge.com/9781138499874

Statistical Mechanics

From Thermodynamics to the Renormalization Group



James H. Luscombe

This textbook provides a comprehensive, yet accessible, introduction to statistical mechanics. Crafted and class-tested over many years of teaching, it carefully guides advanced undergraduate and graduate students who are encountering statistical mechanics for the first time through this – sometimes – intimidating subject. The book provides a strong foundation in thermodynamics and the ensemble formalism of statistical mechanics.

CRC Press

Market: Physics

December 2020: 254 x 178: 400pp

Hb: 978-0-367-68927-8: **£150.00**

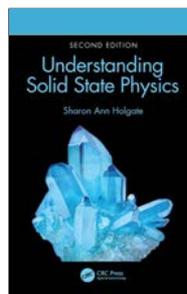
Pb: 978-1-138-54297-6: **£59.99**

eBook: 978-1-003-13966-9

* For full contents and more information, visit: www.routledge.com/9781138542976

2nd Edition

Understanding Solid State Physics



Sharon Ann Holgate

Keeping the mathematics to a minimum yet losing none of the required rigor, Understanding Solid State Physics, Second Edition clearly explains basic physics principles to provide a firm grounding in the subject. This new edition has been fully updated throughout, with recent developments and literature in the field, including graphene and the use of quasicrystalline materials, in addition to featuring new journalistic boxes and the reciprocal lattice.

CRC Press

Market: Physics

February 2021: 234x156: 448pp

Hb: 978-0-367-25528-2: **£220.00**

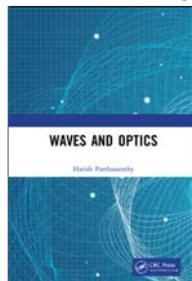
Pb: 978-0-367-24985-4: **£84.99**

eBook: 978-0-429-28823-4

Prev. Ed Pb: 978-0-750-30972-1

* For full contents and more information, visit: www.routledge.com/9780367249854

Waves and Optics



Harish Parthasarathy

This book covers all aspects of waves and optics ranging from one dimensional waves in a vibrating string, two dimensional waves in a vibrating membrane, both of which are transverse, three dimensional electromagnetic; waves generated by radiating antennas and longitudinal sound/pressure waves in an air column.

Note: T& F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

CRC Press

Market: Physics

February 2021: 234x156: 524pp

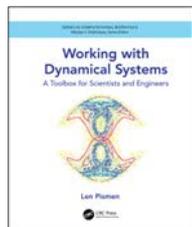
Hb: 978-0-367-75499-0: **£170.00**

eBook: 978-1-003-16273-5

* For full contents and more information, visit: www.routledge.com/9780367754990

Working with Dynamical Systems

A Toolbox for Scientists and Engineers



Len Pismen, Professor Leonid M. Pismen Chair in Fluid Mechanics, Technion Natan Komoy 11 Haifa, Haifa 3276116 Israel

Series: Series in Computational Biophysics

This book provides working tools for the study and design of dynamical systems applicable in physics and engineering. It offers a broad-based introduction to this potentially challenging area of study, taking an applications-oriented approach that emphasizes qualitative analysis rather than complex mathematics or simulation. The author, an internationally recognized authority

in the field, makes extensive use of examples and includes executable Mathematica notebooks that may be used to generate new examples as hands-on exercises. The coverage includes discussion of mechanical models, models of chemical reactions, dynamics of patterns, and dynamical systems in space.

CRC Press

Market: Physics

December 2020: 235 x 191: 250pp

Hb: 978-1-138-59171-4: **£99.99**

eBook: 978-0-429-48885-6

* For full contents and more information, visit: www.routledge.com/9781138591714

2nd Edition

A Guide to IT Contracting

Checklists, Tools, and Techniques

Michael R. Overly, Foley & Lardner LLP, Los Angeles, California, USA

This book presents a distillation of the most critical business and legal lessons learned from decades of drafting and negotiating virtually every type of technology-related agreement. Readers can quickly access information on almost every type of technology agreement and immediately understand what the agreement is intended to do, the key business and legal issues that must be addressed, tips and best practices for negotiation of certain terms of the agreement, and the most commonly pitfalls that are typically encountered. Readers are given tools to more intelligently address issues in technology contracting and how to negotiate these types of agreements.

Auerbach Publications

Market: Information Technology

April 2021: 234x156: 312pp

Hb: 978-0-367-48902-1: **£66.99**

eBook: 978-1-003-16646-7

Prev. Ed Hb: 978-1-439-87657-2

* For full contents and more information, visit: www.routledge.com/9780367489021**Augmented and Mixed Reality for Communities**

Edited by Joshua A. Fisher, Columbia College Chicago, USA

Augmented and Mixed Reality for Communities charts the emerging, innovative work of scholars and professionals implementing augmented and mixed reality in their cities. Both theoretical and practical, the book will provide students and practitioners with an overview of a rapidly developing field. Contained within are design insights for XR, methodologies for ethical design with communities, and interaction paradigms to increase engagement. Further, readers will grasp the ethical, legal, and political impact XR can and will have on communities in the future. Written by leading scholars, the book is a necessary primer for those interested in entering the space.

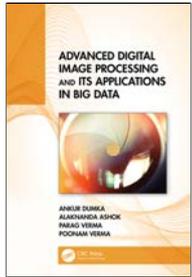
CRC Press

Market: Computer vision

July 2021: 234x156: 275pp

Hb: 978-0-367-51210-1: **£95.00**

eBook: 978-1-003-05283-8

* For full contents and more information, visit: www.routledge.com/9780367512101**Advanced Digital Image Processing and Its Applications in Big Data**

Ankur Dumka, Alaknanda Ashok, Pantnagar, College of Technology, G.B. Pant University of Agriculture and Technology, Rudrapur, Uttarakhand, India, Parag Verma and Poonam Verma

This book covers the technology of digital image processing in various fields with big data and their application. Readers will understand various technologies and strategies used in digital image processing to handling big data using machine-learning technique as well. This book will help to improve the skills of students and researchers in the fields of engineering, agriculture, and medical imaging. It focuses not only on theoretical and practical knowledge in the field but also on the traditional and latest tools and techniques adopted in image processing.

CRC Press

Market: Information Technology

December 2020: 234x156: 236pp

Hb: 978-0-367-36768-8: **£74.99**

eBook: 978-0-429-35131-0

* For full contents and more information, visit: www.routledge.com/9780367367688**Automated Software Testing with Cypress**

Narayan Palani

The book provides software testers using Cypress with key code examples and instructions for automated web applications for functional, visual testing, and compatibility testing needs. Cypress is an end-to-end automation testing tool which is emerging in the software testing market. It coincides with the increasing number of jobs for automation testers that require Cypress testing skills. Cypress helps in running tests fast and in testing across six different browsers. Moreover, it is the only automation testing tool that helps in running visual regression, API testing, and device compatibility testing without any additional tools.

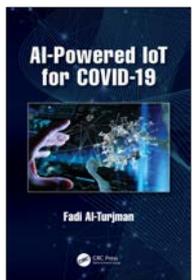
Auerbach Publications

Market: Software Development

April 2021: 234x156: 112pp

Hb: 978-0-367-75968-1: **£115.00**Pb: 978-0-367-69954-3: **£38.99**

eBook: 978-1-003-14511-0

* For full contents and more information, visit: www.routledge.com/9780367699543**AI-Powered IoT for COVID-19**

Fadi Al-Turjman

This book is dedicated to addressing the major challenges in fighting COVID-19 using AI and IoT technologies. AI-powered IoT is not only used in saving lives, but also in our daily life activities in diagnosing, controlling, and even tracking of COVID-19 patients. Challenges within this research area vary from cost and complexity to availability and accuracy. The aim of this book is hence to focus on both the design and implementation aspects of the AI-based IoT approaches in proposed COVID-19 solutions that are enabled and supported by sensor networks, cloud computing and 5G and beyond.

CRC Press

Market: Networks / AI

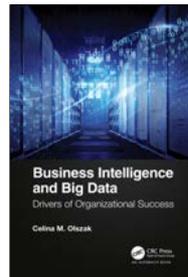
December 2020: 234x156: 212pp

Hb: 978-0-367-56674-6: **£74.99**

eBook: 978-1-003-09888-1

* For full contents and more information, visit: www.routledge.com/9780367566746**Business Intelligence and Big Data**

Drivers of Organizational Success



Celina M. Olszak

The book provides a theoretically and empirically grounded discussion how to design and use business intelligence (BI) and Big Data (BD) to provide multiple benefits for organizations. It examines the conceptualization of the BI and BD issue, identification of the BI and BD usage in organizations, assessment of the BI and BD maturity in various organizations, the factors that allow organizations to achieve the BI- and BD-based success, and a proposal for a comprehensive framework enabling business success based on the application of BI and BD.

Auerbach Publications

Market: Data Mining

November 2020: 234x156: 194pp

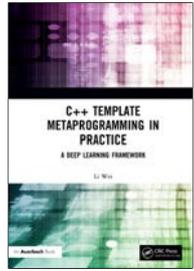
Hb: 978-0-367-37394-8: **£74.99**

eBook: 978-0-429-35350-5

* For full contents and more information, visit: www.routledge.com/9780367373948

C++ Template Metaprogramming in Practice

A Deep Learning Framework



Li Wei

Using the implementation of a deep learning framework as an example, C++ Template Metaprogramming in Practice: A Deep Learning Framework explains the application of metaprogramming in a relatively large project and emphasizes ways to optimize systems performance.

The book is suitable for developers with a basic knowledge of C++. Developers familiar with mainstream deep learning frameworks can also refer to this book to compare the differences between the deep learning framework implemented with metaprogramming and compile-time computing with deep learning frameworks using object-oriented methods.

Auerbach Publications

Market: C++ Programming

December 2020: 254 x 178: 338pp

Hb: 978-0-367-60956-6: **£99.99**

eBook: 978-1-003-10231-1

* For full contents and more information, visit: www.routledge.com/9780367609566

Closing the Analytics Talent Gap

An Executive's Guide to Working with Universities

Jennifer Priestley and Robert McGrath

Series: *Data Analytics Applications*

While most organizations recognize that universities can be a potentially rich resource for closing their analytical talent gaps, using universities exclusively for new hires is a lost opportunity for a more strategic engagement to have a positive impact on the analytical maturity of an organization. However, the concept of starting that conversation can be daunting. The book addresses the benefits and challenges of working with university analytics and data science programs at the undergraduate, masters, and doctoral levels, with a concluding chapter on executive education and training current employees.

Auerbach Publications

Market: IT Management

May 2021: 234x156: 120pp

Hb: 978-0-367-75466-2: **£105.00**

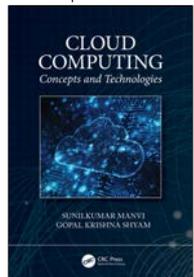
Pb: 978-0-367-48690-7: **£42.99**

eBook: 978-1-003-04230-3

* For full contents and more information, visit: www.routledge.com/9780367486907

Cloud Computing

Concepts and Technologies



Sunilkumar Manvi and Gopal Shyam

This book gives students a comprehensive overview of the latest technologies and guidance on cloud computing, and is ideal for those studying the subject in specific modules or advanced courses. It is designed in twelve chapters followed by laboratory setups and experiments. Each chapter has multiple choice questions with answers, as well as review questions and critical thinking questions. The chapters are practically-focused, meaning that the information will also be relevant and useful for professionals wanting an overview of the topic.

CRC Press

Market: Cloud Computing

March 2021: 234x156: 368pp

Hb: 978-0-367-55459-0: **£99.99**

Pb: 978-0-367-55461-3: **£42.99**

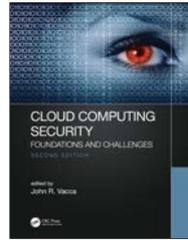
eBook: 978-1-003-09367-1

* For full contents and more information, visit: www.routledge.com/9780367554613

2nd Edition

Cloud Computing Security

Foundations and Challenges



Edited by John R. Vacca, TechWrite, Pomeroy, Ohio, USA

Overview of cloud computing security technology and implementation. Explores practical solutions to a wide range of cloud computing security issues. Chapters by leading experts in the field address immediate and long-term challenges cloud computing security. This comprehensive handbook serves as a professional reference and practitioner's guide to today's most complete and concise view of cloud computing security in areas such as data security, recovery, privacy, access control, trusted computing, as well as legal issues in areas such as regulatory compliance, auditing, and many others.

CRC Press

Market: Information Technology

November 2020: 279 x 216: 548pp

Hb: 978-0-367-15116-4: **£120.00**

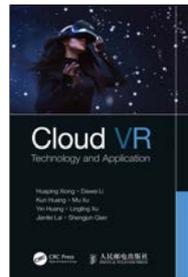
Pb: 978-0-367-56033-1: **£59.99**

eBook: 978-0-429-05512-6

* For full contents and more information, visit: www.routledge.com/9780367560331

Cloud VR

Technology and Application



Huaping Xiong, Dawei Li, Kun Huang, Mu Xu, Yin Huang, Lingling Xu, Jianfei Lai and Shengjun Qian

Based on the technical accumulation and practice of Huawei iLab in the Cloud VR field, this book systematically describes the advantages of Cloud VR technologies, technical requirements on clouds, networks, and terminals as well as solution implementation, Cloud VR experience evaluation baselines and methods, and current business practices.

This book is easy to understand and practical, and is suitable for VR vendors, VR technology enthusiasts, carriers, network vendors, cloud service providers, universities, and other enterprises or scientific research institutes.

CRC Press

Market: Cloud Computing / Virtual Reality

November 2020: 234x156: 258pp

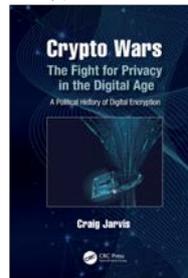
Hb: 978-0-367-49167-3: **£105.00**

eBook: 978-1-003-09043-4

* For full contents and more information, visit: www.routledge.com/9780367491673

Crypto Wars

The Fight for Privacy in the Digital Age: A Political History of Digital Encryption



Craig Jarvis

Crypto Wars is the first, and definitive, book of its kind. It offers a history of the half century contest between the US government and its citizens to control digital cryptography, a technology allowing citizens to place their communications beyond the State's reach, thus undermining law enforcement and intelligence capabilities. Thus, Crypto Wars is in part a history of how society balances security and privacy, whilst it also explores the power dynamic between citizenry and state, in the digital age. Whilst principally a history book on a technology topic, it draws in socio-economic, legal, and Geopolitical themes and myriad other complex disciplines.

CRC Press

Market: Cryptography / Politics

December 2020: 234x156: 440pp

Hb: 978-0-367-64245-7: **£114.99**

Pb: 978-0-367-64248-8: **£34.99**

eBook: 978-1-003-12367-5

* For full contents and more information, visit: www.routledge.com/9780367642488

Cyber Security in Mergers & Acquisitions

Rajinder Tumber

Cyber Security in Mergers & Acquisitions answers the question "How do I assess the maturity of an organisation's cyber security during the pre-deal phase, using security best practice?". This industry handbook is directed to professionals involved in M&A deals, as well as university students interested in M&A, private equity and cyber security. It adheres to cyber security best practice, and analyses key elements in the due diligence process, such as governance, risk management, supply chain assurance, regulatory compliance, cyber insurance, cyber threat intelligence, incident management, disaster recovery, and much more.

CRC Press

Market: Cybersecurity / Business

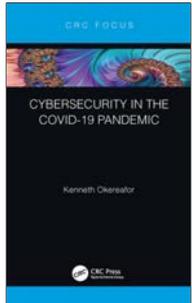
March 2021: 234x156: 256pp

Hb: 978-0-367-67678-0: **£54.99**

eBook: 978-1-003-13231-8

* For full contents and more information, visit: www.routledge.com/9780367676780

Cybersecurity in the COVID-19 Pandemic



Kenneth Okerefor

Cybersecurity in the COVID-19 Pandemic demystifies Cybersecurity concepts using real-world cybercrime incidents from the pandemic to illustrate how threat actors perpetrated computer fraud against valuable information assets particularly healthcare, financial, commercial, travel, academic, and social networking data. The book simplifies the socio-technical aspects of Cybersecurity, and draws valuable lessons from the impacts COVID-19 cyberattacks exerted on computer networks, online portals, and databases.

CRC Press

Market: Cybersecurity

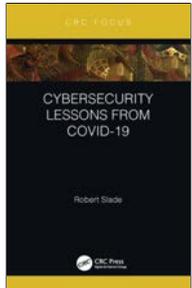
March 2021: 216x138: 188pp

Hb: 978-0-367-61091-3: **£44.99**

eBook: 978-1-003-10412-4

* For full contents and more information, visit: www.routledge.com/9780367610913

Cybersecurity Lessons from CoVID-19



Robert Slade

Using the SARS-CoV-2/CoVID-19 pandemic as a giant case study, and structured by the domains of information security, this book looks at what the crisis teaches us about security. It points out specific security fundamentals where social, medical, or business responses to the crisis failed, or needed to make specific use of those concepts. For the most part, these lessons are simply reminders of factors that get neglected during times of non-crisis, and particularly point out the importance of advance planning and resilience in systems and business.

CRC Press

March 2021: 216x138: 126pp

Hb: 978-0-367-68269-9: **£44.99**

eBook: 978-1-003-13667-5

* For full contents and more information, visit: www.routledge.com/9780367682699

CyRM

Mastering the Management of Cybersecurity

David Martin

After years of distinguished work as a corporate executive, board member, author, consultant, and expert witness in the field of risk management and cybersecurity, David X Martin is THE pioneering thought leader in the new field of CyRMSM. In this new book, Martin shares his experience and expertise to help you navigate today's dangerous cybersecurity terrain, and take proactive steps to prepare your company—and yourself—to survive, thrive...and keep your data (and your reputation) secure.

CRC Press

Market: IT Security

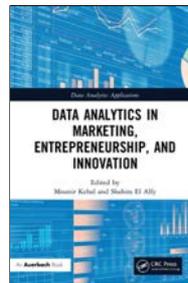
April 2021: 234x156: 144pp

Hb: 978-0-367-56531-2: **£57.99**

eBook: 978-1-003-09823-2

* For full contents and more information, visit: www.routledge.com/9780367565312

Data Analytics in Marketing, Entrepreneurship, and Innovation



Edited by Mounir Kehal and Shahira El Alfy

Series: *Data Analytics Applications*

This book gives researchers and practitioners insight on the techniques, tools, models, and cases of data analytics in the broad areas of innovation, entrepreneurship, and marketing. Innovation analytics helps identify opportunities of developing new products and services as well as improving existing methods of product manufacturing and service delivery. Entrepreneurial analytics facilitates the transformation of innovative ideas into strategy and helps entrepreneurs make critical decisions based on data-driven techniques. Marketing analytics is used in collecting, managing, assessing, and analyzing marketing data to predict trends, investigate customer preferences, and launch

campaigns.

Auerbach Publications

Market: Data Mining

January 2021: 234x156: 192pp

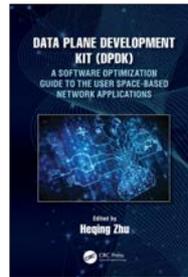
Hb: 978-0-367-18483-4: **£89.99**

eBook: 978-0-429-19661-4

* For full contents and more information, visit: www.routledge.com/9780367184834

Data Plane Development Kit (DPDK)

A Software Optimization Guide to the User Space-Based Network Applications



Edited by Heqing Zhu

This book brings together the insights and practical experience of some of the most experienced Data Plane Development Kit (DPDK) technical experts, detailing the trend of DPDK, data packet processing, hardware acceleration, packet processing and virtualization.

CRC Press

November 2020: 235 x 156: 324pp

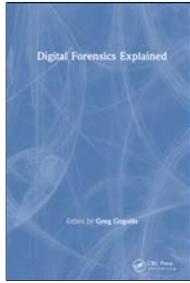
Hb: 978-0-367-52017-5: **£110.00**

Pb: 978-0-367-37395-5: **£44.99**

eBook: 978-0-429-35351-2

* For full contents and more information, visit: www.routledge.com/9780367373955

2nd Edition

Digital Forensics Explained

Edited by **Greg Gogolin**, Ferris State University, Big Rapids, Michigan, USA

Digital Forensics Explained, 2nd edition, covers the full life cycle of conducting a mobile and computer digital forensic examinations including planning and performing an investigation as well as report writing and testifying. Case reviews in corporate, civil and criminal situations are described from both prosecution and defence perspectives. The book draws from years of experience in local, state, federal and international environments and highlights the challenges presented from deficient cyber security practices.

CRC Press

Market: Digital Forensics

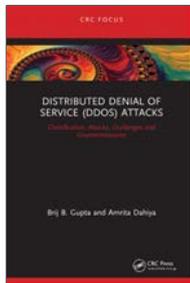
March 2021: 234x156: 242pp

Hb: 978-0-367-50281-2: **£120.00**Pb: 978-0-367-50343-7: **£48.99**

eBook: 978-1-003-04935-7

* For full contents and more information, visit: www.routledge.com/9780367503437**Distributed Denial of Service (DDoS) Attacks**

Classification, Attacks, Challenges and Countermeasures



Brij B. Gupta, National Institute of Technology Kurukshetra India and **Amrita Dahiya**

This book covers topics that describe taxonomies of DDoS attacks in detail, recent trends and classification of defensive mechanisms on the basis of deployment location, types of defensive action and economic incentive-based solutions. It introduces chapters discussing various DDoS attack types associated with different layers of security, attacker's motivations, importance of incentives and liabilities in any defensive solution. It illuminates the role of fair resource allocation schemes, separate payment mechanisms for attackers and legitimate users, negotiation models on cost and types of resources, risk assessments and transfer mechanisms.

CRC Press

Market: Cybersecurity

February 2021: 216x138: 142pp

Hb: 978-0-367-61974-9: **£44.99**

eBook: 978-1-003-10735-4

* For full contents and more information, visit: www.routledge.com/9780367619749**Enhancing Business Continuity and IT Capability**

System Administration and Server Operating Platforms



Nijaz Bajgorić, **Lejla Turulja**, **Semir Ibrahimović** and **Amra Alagić**

Enterprise servers play a mission-critical role in modern computing environments, especially from a business continuity perspective. Several models of IT capability have been introduced over the last two decades. Enhancing Business Continuity and IT Capability: System Administration and Server Operating Platforms proposes a new model of IT capability. It presents a framework that establishes the relationship between downtime on the one side and business continuity and IT capability on the other side, as well as how system administration and modern server operating platforms can help in improving business continuity and IT capability.

Auerbach Publications

Market: IT Management

December 2020: 234x156: 308pp

Hb: 978-0-367-61698-4: **£89.99**

eBook: 978-1-003-10609-8

* For full contents and more information, visit: www.routledge.com/9780367616984**Essential Enterprise Blockchain Concepts and Applications**Edited by **Kavita Saini**, **Pethuru Raj Chelliah** and **Deepak Kumar Saini**

Companies are adapting blockchain for improving such sectors as supply chain and other transactions in a secure and innovative way. Blockchain is being combined with existing technologies like cloud computing, Big Data and IoT to make revolutionary outcomes. This book explains essential research in enterprise application and technology. Unlike other blockchain books focused only on financial application, this book is a resource for researchers and practitioners who are looking for secure, viable, low-cost and workable applications. The proposed book provides concepts and research to rethink how to incorporate blockchain with existing technology.

Auerbach Publications

Market: Information Security

April 2021: 234x156: 264pp

Hb: 978-0-367-56488-9: **£74.99**

eBook: 978-1-003-09799-0

* For full contents and more information, visit: www.routledge.com/9780367564889**Handbook on Networked Multipoint Multimedia Conferencing and Multistream Immersive Telepresence using SIP**

Scalable Distributed Applications and Media Control over Internet



Radhika Ranjan Roy, United States Army Research Laboratory, USA

Handbook on Networked Multipoint Multimedia Conferencing and Multistream Immersive Telepresence using SIP: Scalable Distributed Applications and Media Control over Internet is the first book to put together all IETF request for comments (RFCs), and the internet drafts standards related to the multipoint conferencing and immersive telepresence.

This book includes mandatory and optional texts of all standards in a chronological and systematic way almost with one-to-one integrity from the beginning to end, allowing the reader to understand all aspects of the highly complex real-time applications.

CRC Press

Market: Networks & Communications

November 2020: 254 x 178: 1066pp

Hb: 978-0-367-56580-0: **£170.00**

eBook: 978-1-003-09845-4

* For full contents and more information, visit: www.routledge.com/9780367565800**Healthcare Informatics**

Strategies for the Digital Era



Stephan P. Kudyba, New Jersey Institute of Technology, Newark, USA

This book focuses on the evolving services, technologies and techniques that are evolving in the healthcare industry. It covers the types of HC service providers, corresponding technologies, and analytic methods and data issues. It delves into facets of the digital economy and how healthcare is adapting to it. The book covers such technologies as CPOE, Clinical Information Systems, Alerting Systems, EHS, medical sensors, monitoring and communications, and mobile healthcare. Finally, the book closes the loop on the efficiency enhancing process in healthcare by linking technologies, data and analytics with strategic within the healthcare organization that must be addressed to achieve

success.

Auerbach Publications

Market: Healthcare Informatics

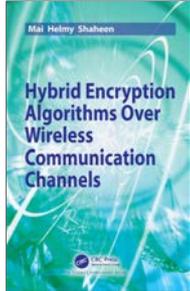
January 2021: 234x156: 265pp

Hb: 978-0-367-18485-8: **£59.99**

eBook: 978-1-003-14089-4

* For full contents and more information, visit: www.routledge.com/9780367184858

Hybrid Encryption Algorithms over Wireless Communication Channels



Mai Helmy Shaheen

Encryption and processing of digital data at every stage is vital due to its security. This work covers various topics ranging from digital data encryption algorithms, hybrid encryption algorithm, evaluation matrices, efficient data transmission for guarding against effective communication channel degradation, signal processing tools, mathematical model for the proposed data encryption algorithm, data compression and authentication tools that can be performed on encrypted data without variation of the data content, and comparison study between the proposed approaches and the state of the art approaches.

CRC Press

Market: Electronic Engineering

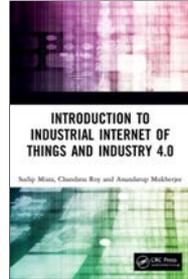
March 2021: 235 x 156: 268pp

Hb: 978-0-367-50815-9: **£94.99**

eBook: 978-1-003-05142-8

* For full contents and more information, visit: www.routledge.com/9780367508159

Introduction to Industrial Internet of Things and Industry 4.0



Sudip Misra, IIT Kharagpur, INDIA, Chandana Roy and Anandarup Mukherjee

Industrial Internet of Things (IIoT) the application of Internet of Things in various industries such as manufacturing, aviation, transportation, supply chain, mining, and healthcare. This book covers the significant aspects of IIoT, including the communication, connectivity, and interoperability, as well as core concepts and business models. Starting with an overview of IIoT and Industry 4.0, the book delves deeply into IIoT technology to discuss providers as well as communications protocols. The book concludes with sections on prescriptive and predictive analytics as well as case studies of industrial applications.

CRC Press

Market: Mobile and Wireless Communications

December 2020: 234x156: 398pp

Hb: 978-0-367-64471-0: **£74.99**

Pb: 978-0-367-89758-1: **£68.99**

eBook: 978-1-003-02090-5

* For full contents and more information, visit: www.routledge.com/9780367897581



Innovative Smart Healthcare and Bio-Medical Systems

AI, Intelligent Computing and Connected Technologies



Edited by Abdel-Badeeh Salem

This book presents models for the deployment of intelligent computing, information, and networking technologies to aid in preventing disease, improving the quality of care and lowering overall cost. It also discusses the potential role of the AI paradigms, computational intelligence and machine learning techniques which are used in developing the SHS. It will provide examples of potential usage of such technology in smart healthcare and and bio-medical systems.

CRC Press

Market: Computer Science - Healthcare

December 2020: 234x156: 258pp

Hb: 978-0-367-49061-4: **£110.00**

eBook: 978-1-003-04429-1

* For full contents and more information, visit: www.routledge.com/9780367490614

2nd Edition

Leading Virtual Project Teams

Adapting Leadership Theories and Communications Techniques to 21st Century Organizations

Margaret R. Lee

Series: Best Practices in Portfolio, Program, and Project Management

The second decade of the 21st century brought unprecedented challenges to traditional work places forcing the advance of working from home (telework). Individuals with little or no background in leadership, project management or virtual team management were suddenly placed into the environment of virtual work due to the global coronavirus COVID-19 pandemic. The book provides project management checklists and templates, and includes business cases, best practices, tools and techniques for virtual project management communications. The second edition features the latest meeting technology, using inclusive language, managing virtual relationships, and the work-at-home environment.

Auerbach Publications

Market: Project Management

April 2021: 234x156: 224pp

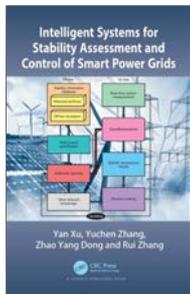
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Pb: 978-0-367-63595-4: **£41.99**

eBook: 978-1-003-11986-9

* For full contents and more information, visit: www.routledge.com/9780367635954

Intelligent Systems for Stability Assessment and Control of Smart Power Grids



Yan Xu, Nanyang Technological University, Singapore, Yuchen Zhang, Zhao Yang Dong, University of Sydney, Australia and Rui Zhang

The book presents state-of-the-art intelligent system solutions for advanced stability assessment and control of power systems in the smart grid age. With an aim of for using various power system measurement data to enhance the stability, it presents the architecture, algorithms, and applications of intelligent systems for on-line stability assessment, preventive stability control, real-time stability prediction, and emergency stability control. This book is a reference and guide for researchers, students, and engineers who seek to study and design intelligent systems to resolve stability assessment and control problems in the smart grid age.

CRC Press

Market: Engineering - Electrical

December 2020: 235 x 156: 302pp

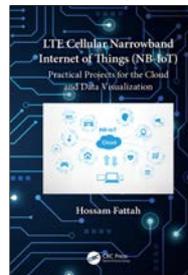
Hb: 978-1-138-06348-8: **£150.00**

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LTE Cellular Narrowband Internet of Things (NB-IoT)

Practical Projects for the Cloud and Data Visualization



Hossam Fattah

This book is a unique resource in understanding practical uses of the NB-IoT technology and serves as a handbook for technical and non-technical readers who are looking for practicing and exercising the cellular NB-IoT technology. The book serves and can be used by engineers, students, researchers, system integrators, mobile operators' technical staff, electronics enthusiasts.

CRC Press

Market: IT - Communications and Networks

March 2021: 234x156: 416pp

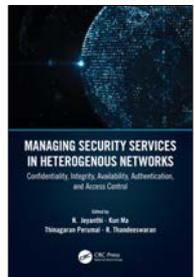
Hb: 978-0-367-63629-6: **£99.99**

eBook: 978-1-003-12001-8

* For full contents and more information, visit: www.routledge.com/9780367636296

Managing Security Services in Heterogeneous Networks

Confidentiality, Integrity, Availability, Authentication, and Access Control



Edited by **R. Thandeeswaran, Thinagaran Perumal, Kun Ma and N Jeyanthi**

This book sheds light upon the security threats, defenses, and remediation on various networking and data processing domains including wired networks, wireless networks, mobile ad hoc networks, wireless sensor networks, and social networks through the prisms of confidentiality, integrity, availability, authentication, and access control.

CRC Press

Market: IT - Security

December 2020: 234x156: 192pp

Hb: 978-0-367-45734-1: **£58.99**

eBook: 978-1-003-03404-9

* For full contents and more information, visit: www.routledge.com/9780367457341

Modern Cryptography with Proof Techniques and Implementations

Seong Oun Hwang, Intae Kim and Wai Kong Lee

Proof techniques in cryptography are very difficult to understand even for students or researchers who major in cryptography. In addition, in contrast to the excessive emphases on the security proof of the cryptographic schemes, practical aspects of them have received comparatively less attention. This book addresses these two issues by the following methodology by giving readers a clear and easy view of cryptographic schemes by providing detailed, structured proofs and by giving examples of applications of a scheme, if necessary or if applicable, so that students and practitioners may obtain a practical view of the scheme.

CRC Press

Market: Computer Science & Engineering

March 2021: 234x156: 528pp

Hb: 978-1-138-58408-2: **£74.99**

eBook: 978-1-003-15256-9

* For full contents and more information, visit: www.routledge.com/9781138584082

Nonfunctional Requirements in Mobile Application Development

Varun Gupta, Raj Kumar Chopra and Durg Singh Chauhan

Nonfunctional Requirements in Mobile Application Development is an empirical study of how non-functional requirements get the attention of software engineers during the development of mobile apps, especially m-commerce apps, in relation to functional apps.

CRC Press

Market: Software Engineering

April 2021: 216x138: 104pp

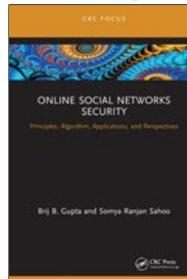
Hb: 978-0-367-74071-9: **£53.99**

eBook: 978-1-003-16092-2

* For full contents and more information, visit: www.routledge.com/9780367740719

Online Social Networks Security

Principles, Algorithm, Applications, and Perspectives



Brij B. Gupta, National Institute of Technology Kurukshetra India and **Somya Ranjan Sahoo**

This book entitled Online Social Networks Security: Principles, Algorithm, Applications, and Perspectives elaborates on various attacks with classifications, countermeasures and consequences. It also highlights some key contributions related to current defensive approaches of various attacks on OSNs. Moreover, it represents machine learning and deep learning-based approaches to militate against various attacks on OSNs. Moreover, different technological solutions are also discussed that have been proposed so far against OSNs based attacks.

CRC Press

Market: Cybersecurity

February 2021: 216x138: 122pp

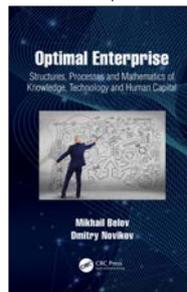
Hb: 978-0-367-61979-4: **£44.99**

eBook: 978-1-003-10737-8

* For full contents and more information, visit: www.routledge.com/9780367619794

Optimal Enterprise

Structures, Processes and Mathematics of Knowledge, Technology and Human Capital



Mikhail Belov and Dmitry Novikov

Series: *Complex and Enterprise Systems Engineering*

The approach in this book looks at an Enterprise, paired with its complex activity, as a complex sociotechnical system and an integrated set of structural and process models that need to be studied in their separate elements.

The book will be a valuable resource for Postgraduate and Doctoral students, Postdoctoral researchers, and Professors with research interests in Complex Systems and Operations research.

CRC Press

Market: Complex Systems

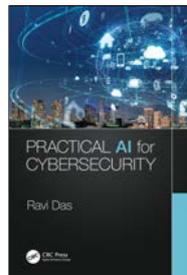
March 2021: 234x156: 344pp

Hb: 978-0-367-65243-2: **£99.99**

eBook: 978-1-003-12856-4

* For full contents and more information, visit: www.routledge.com/9780367652432

Practical AI for Cybersecurity



Ravi Das

The goal of this book is to explore the ways and methods as to how AI can be used in cybersecurity, with an emphasis upon its subcomponents of machine learning, computer vision, and neural networks. AI can be used to help automate the routine and ordinary tasks that are encountered by both penetration testing and threat hunting teams. The result here is that they will be able to spend more time finding and discovering all of the unknown cyber related vulnerabilities and weaknesses that their client is facing, and to come up with solid recommendations as to how they can be patched up quickly.

Auerbach Publications

Market: Information Security

February 2021: 234x156: 292pp

Hb: 978-0-367-70859-7: **£115.00**

Pb: 978-0-367-43715-2: **£44.99**

eBook: 978-1-003-00523-0

* For full contents and more information, visit: www.routledge.com/9780367437152

Principles and Practices of Transportation Planning and Engineering

Connie Tang and Lei Zhang

Holistic coverage offers a systematic view of the transportation project development process and enables readers to both see the big picture and master the specific science and engineering. For each project development step, the book covers critical aspects of law, science, and engineering. It identifies responsible agencies and describes the duties and responsibilities of these agencies involved along with their products and deliverables. The book also discusses the science, engineering and project and program management processes.

CRC Press

Market: Transportation

April 2021: 234x156: 320pp

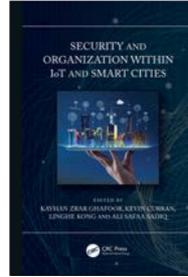
Hb: 978-0-367-70238-0: £170.00

Pb: 978-0-367-71474-1: £68.99

eBook: 978-1-003-14517-2

* For full contents and more information, visit: www.routledge.com/9780367714741

Security and Organization within IoT and Smart Cities



Edited by **Kayhan Zrar Ghafoor**, Koya University, Iraq, **Kevin Curran**, Ulster University, **Linghe Kong** and **Ali Safa Sadiq**

This book aims to provide the latest research developments and results in the domain of AI techniques for smart cyber ecosystems. It presents a holistic insight into AI-enabled theoretic approaches and methodology in IoT networking, security analytics using AI tools, and network automation, which ultimately enable intelligent cyber space. This book will be a valuable resource for students, researchers, engineers, policy makers working in various areas related to cybersecurity and privacy for Smart cities.

CRC Press

Market: Artificial Intelligence

December 2020: 234x156: 294pp

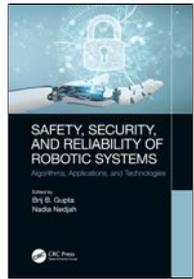
Hb: 978-0-367-89333-0: £59.99

eBook: 978-1-003-01863-6

* For full contents and more information, visit: www.routledge.com/9780367893330

Safety, Security, and Reliability of Robotic Systems

Algorithms, Applications, and Technologies



Edited by **Brij B. Gupta**, National Institute of Technology Kurukshetra (Institute of National Importance (INI)), India and **Nadia Nedjah**, State University of Rio de Janeiro, Brazil

With the increasing demand of robots for industrial or domestic use, it becomes indispensable to ensure their safety, security and reliability. Safety, Security and Reliability of robotic Systems: Algorithms, Applications and Technologies provides a broad and comprehensive coverage of the evolution of robotic systems, as well as industrial statistics and future forecasts.

This book is an essential resource for students, professionals and entrepreneurs who wish to understand the safe, secure, and reliable use of robotics in real-world applications.

CRC Press

Market: Robotics

December 2020: 234x156: 276pp

Hb: 978-0-367-33946-3: £84.99

eBook: 978-1-003-03135-2

* For full contents and more information, visit: www.routledge.com/9780367339463

Security without Obscurity

Frequently Asked Questions (FAQ)

Jeff Stapleton

Security without Obscurity: Frequently Asked Questions (FAQ) complements Jeff Stapleton's three other Security Without Obscurity books, to provide clear information and answers to the most commonly asked questions about information security solutions that use or rely on cryptography and key management methods. There is good and bad cryptography, bad ways of using good cryptography, and both good and bad key management methods. Consequently, information security solutions often have common but somewhat unique issues. These common and unique issues are expressed as an FAQ organized by related topic areas.

CRC Press

Market: IT Security

March 2021: 234x156: 240pp

Hb: 978-0-367-48612-9: £74.99

eBook: 978-1-003-04189-4

* For full contents and more information, visit: www.routledge.com/9780367486129

Secure Searchable Encryption and Data Management

Brij B. Gupta, National Institute of Technology Kurukshetra India and Ms Mamta

With the advent of IT revolution, the volume of data produced has increased exponentially and it is still showing an upward trend. This data may be abundant and enormous but it's a precious resource and it should be managed properly. In the management of this precious resource, cloud technology is playing an important role.

Secure Searchable Encryption and Data Management provides every necessary detail required to develop the secure searchable encryption scheme using both the symmetric and asymmetric cryptographic primitives along with the appropriate security model which ensures the minimum security required for the deployment of the scheme in real life scenarios.

CRC Press

Market: Cybersecurity

March 2021: 234x156: 118pp

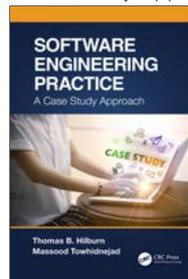
Hb: 978-0-367-61967-1: £44.99

eBook: 978-1-003-10731-6

* For full contents and more information, visit: www.routledge.com/9780367619671

Software Engineering Practice

A Case Study Approach



Thomas B. Hilburn, Embry-Riddle Aeronautical University, Daytona Beach, Florida, USA and **Massood Towhidnejad**, Embry-Riddle Aeronautical University, Daytona Beach, Florida, USA

This textbook explains software engineering through the use of a case study on the software development lifecycle. The case study covers the development of a DigitalHome (DH) System. A set of scenarios that provide a realistic framework for use of the DH System material are included along with exercises that provide students with an opportunity to engage in the software development practice within a team environment. Each chapter includes mini tutorials that introduce various software engineering topics discussed. Teacher notes and other web

resources are available upon qualified course adoption.

Chapman and Hall/CRC

Market: Software Engineering

December 2020: 234x156: 356pp

Hb: 978-1-466-59167-7: £59.99

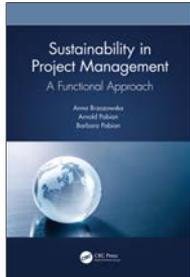
Pb: 978-0-367-68864-6: £59.99

eBook: 978-0-429-16849-9

* For full contents and more information, visit: www.routledge.com/9780367688646

Sustainability in Project Management

A Functional Approach



Anna Brzozowska, Arnold Pabian and Barbara Pabian
This book presents a new approach to the issue of project management, showing how it can be approached through the lens of sustainability. The focus is on a functional approach to the subject, allowing management and business to implement the methodology discussed. Topics discussed include sustainable planning, sustainable organizing, sustainable leading and sustainable controlling. The authors use their combined experience in the area to inform their novel approach.

The book will be especially useful for people who are project managers, members of project teams and other project stakeholders.

CRC Press

Market: Sustainable management

March 2021: 234x156: 224pp

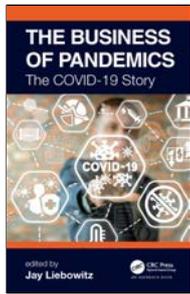
Hb: 978-0-367-51874-5: **£74.99**

eBook: 978-1-003-05557-0

* For full contents and more information, visit: www.routledge.com/9780367518745

The Business of Pandemics

The COVID-19 Story



Edited by **Jay Liebowitz**

A timely collection of chapters to guide business managers dealing with the challenges imposed by the COVID-19 Pandemic, this book starts with a review of lessons learned from the early days of the pandemic. It then examines analytics for modeling impacts of COVID-19. The book discusses the challenges and solutions for the supply chain, virtual business, IT infrastructure, the work from home environment, and online education. It concludes with insight on decision-making and managing communications in times of crisis.

Auerbach Publications

Market: Business

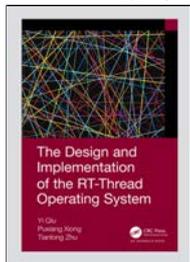
November 2020: 234x156: 254pp

Hb: 978-0-367-55742-3: **£59.99**

eBook: 978-1-003-09493-7

* For full contents and more information, visit: www.routledge.com/9780367557423

The Design and Implementation of the RT-Thread Operating System



Qiu Yi, Xiong Puxiang and Tianlong Zhu

This book covers embedded real-time multi-threaded operating system called RT-Thread. RT-Thread supports multiple chip architectures, compilers and IDEs, and is free to use. It is often used in Internet-of-Things (IoT) devices. The first part examines the kernel and describes its thread management, the realization of synchronization and communication between threads, clock management, memory management, interrupt management and migration. The second part covers component issues, including the device framework, tools, debugging, file systems, and networking. Each chapter features code samples.

Auerbach Publications

Market: Operating Systems

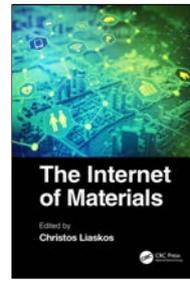
November 2020: 254 x 178: 412pp

Hb: 978-0-367-55486-6: **£74.99**

eBook: 978-1-003-09900-0

* For full contents and more information, visit: www.routledge.com/9780367554866

The Internet of Materials



Edited by **Christos Liaskos**

The book aspires to provide the foundational knowledge for creating the Internet of Materials, enabling smart environments of any scale physical attribute – from indoors wireless communications to medical imaging equipment. Although the set of involved disciplines covers a considerable span, we hope that the material will benefit experts and students alike.

CRC Press

December 2020: 235 x 156: 358pp

Hb: 978-0-367-45738-9: **£99.99**

eBook: 978-1-003-04380-5

* For full contents and more information, visit: www.routledge.com/9780367457389

Toward Solving Complex Human Problems

Techniques for Increasing Our Understanding of What Matters in Doing So



Brian E. White, CAU-SES (Complexity Are Us - Systems Engineering Strategies), Sudbury, Massachusetts, USA
Series: Complex and Enterprise Systems Engineering

This book serves three basic purposes, as a 1) tutorial-type reference for complex systems engineering (CSE) concepts and associated terminology, 2) recommendation of a proposed methodology showing how the evolving practice of CSE can lead to a more unified theory, and 3) complex systems (CSs) initiative for organizations to invest some of their resources toward helping to make the world a better place.

CRC Press

Market: Computer Engineering

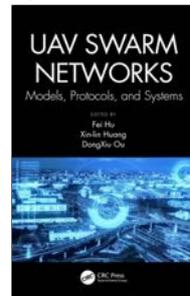
December 2020: 216 x 140: 156pp

Hb: 978-0-367-63848-1: **£49.99**

eBook: 978-1-003-12098-8

* For full contents and more information, visit: www.routledge.com/9780367638481

UAV Swarm Networks: Models, Protocols, and Systems



Edited by **Fei Hu**, University of Alabama, Tuscaloosa, USA, **Dongxiu Ou** and **Xin-lin Huang**

A UAV swarm network should consider the dynamic network topology and establish robust routing layer protocols. This requires that UAV network protocol be adaptive to swarm shape changes. This book covers all the important aspects in the management of UAV swarm network. It provides comprehensive coverage of the advanced network models, 7-layer protocols and system integration for UAV swarm network. It discusses popular applications of UAV networks; swarming behaviors, routing schemes during formation, transport layer congestion control, 3D routing, GPS-free protocols, swarm network management via SDN, etc.

CRC Press

December 2020: 234x156: 316pp

Hb: 978-0-367-45739-6: **£84.99**

eBook: 978-1-003-03932-7

* For full contents and more information, visit: www.routledge.com/9780367457396

Advanced Survival Models

Catherine Legrand

Series: *Chapman & Hall/CRC Biostatistics Series*

This textbook is for a second course in survival analysis, following on from the classic C&H/CRC textbook by Collett. It gathers together in a unified framework advanced survival models, including frailty, cure, competing risks, and joint models. It includes lots of real data examples to illustrate the methods, with implementation using R software. It could be used for an advanced course on survival analysis for graduate students in statistics and biostatistics.

Chapman and Hall/CRC

Market: Statistics

March 2021: 234x156: 376pp

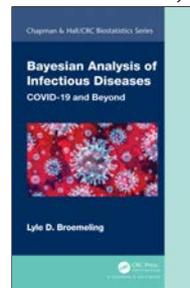
Hb: 978-0-367-14967-3: £99.99

eBook: 978-0-429-05416-7

* For full contents and more information, visit: www.routledge.com/9780367149673

Bayesian Analysis of Infectious Diseases

COVID-19 and Beyond



Lyle D. Broemeling, Broemeling and Associates Inc., USA.

Series: *Chapman & Hall/CRC Biostatistics Series*

Bayesian Analysis of Infectious Diseases -COVID-19 and Beyond shows how the Bayesian approach can be used to analyze the evolutionary behavior of infectious diseases, including the coronavirus pandemic. The book describes the foundation of Bayesian statistics while explicating the biology and evolutionary behavior of infectious diseases, including viral and bacterial manifestations of the contagion. The book discusses the application of Markov Chains to contagious diseases, previews data analysis models, the epidemic threshold theorem, and basic properties of the infection process. Also described are the chain binomial model for the evolution of epidemics.

Chapman and Hall/CRC

Market: Statistics

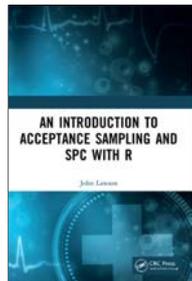
February 2021: 234x156: 334pp

Hb: 978-0-367-63386-8: £89.99

eBook: 978-1-003-12598-3

* For full contents and more information, visit: www.routledge.com/9780367633868

An Introduction to Acceptance Sampling and SPC with R



John Lawson, Brigham Young University, USA

In the modern, world sampling plans and the statistical calculations used in statistical quality control are done with the help of computers. To get more hands on experience in creating acceptance sampling plans and control charts necessarily involves the use of software. In industry, commercial software is often used. In this book we will focus on several R packages that can duplicate and in some cases exceed the functionality of these commercial programs. In addition to demonstrating how to use R for acceptance sampling and control charts, this book will focus on how the use of these specific tools can lead to quality improvements both within a company and within their supplier companies.

Chapman and Hall/CRC

Market: Statistics

January 2021: 234x156: 292pp

Hb: 978-0-367-56995-2: £120.00

Pb: 978-0-367-55576-4: £44.99

eBook: 978-1-003-10027-0

* For full contents and more information, visit: www.routledge.com/9780367555764

Bayesian Approaches in Oncology Using R and OpenBUGS



Atanu Bhattacharjee

Bayesian approach has become an alternative statistical tool for oncology research. In recent years, there has been a positive trend to accept the non-inferiority trial over conventional design. This book is planned to initiate Bayesian practice in routine oncology data analysis, sample size determination and teaches how to apply bayesian in joint longitudinal and survival analysis. The book is proposed to be extremely practical, focusing on building concepts and procedure to perform Bayesian in oncology setup.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 260pp

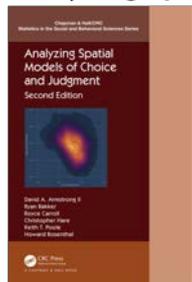
Hb: 978-0-367-35050-5: £89.99

eBook: 978-0-429-32944-9

* For full contents and more information, visit: www.routledge.com/9780367350505

2nd Edition

Analyzing Spatial Models of Choice and Judgment



David A. Armstrong, University of Western Ontario, Ryan Bakker, University of Georgia, Royce Carroll, Christopher Hare, University of California, Davis, Keith T. Poole and Howard Rosenthal

Series: *Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences*

This book show how to apply spatial models using R to a wide range of data used in political science. These models are similar to multidimensional scaling models long used in Psychology and MDS models overage. The book will be aimed at graduate students and researchers with elementary knowledge of the basics of R. The book will be a "how to" with lots of code examples and problems. In the second edition, nearly every

chapter will be updated to reflect these new R packages with new examples and new code advances that improve the estimation of Spatial Models of Choice and Judgment. The book will have a an expanded chapter 7 (advanced topics) showing more examples of frontier applications.

Chapman and Hall/CRC

Market: Statistics

November 2020: 234x156: 320pp

Hb: 978-1-138-71533-2: £59.99

eBook: 978-1-315-19760-9

* For full contents and more information, visit: www.routledge.com/9781138715332

Bayesian Thinking in Biostatistics

Gary L Rosner, Johns Hopkins Medicine, Baltimore, Maryland, USA, Purushottam Laud and Wesley O. Johnson, UC Irvine

Series: *Chapman & Hall/CRC Texts in Statistical Science*

With discussions on many recent developments in Bayesian methodologies, Bayesian Thinking in Biostatistics considers statistical issues in biomedical research, allowing for greater collaborations between biostatisticians and biomedical researchers. The text presents biostatistical methods from a Bayesian perspective. It includes an overview of Bayesian statistics, a discussion of rates and proportions with applications in clinical and other population-based studies, recent developments in clinical trial design, methods for evaluating censored data and diagnostic tests, and problems resulting from multiple comparisons.

Chapman and Hall/CRC

Market: Statistics

March 2021: 254 x 178: 616pp

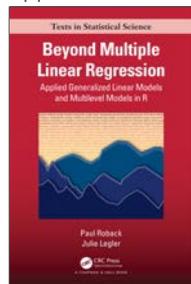
Hb: 978-1-439-80008-9: £89.99

eBook: 978-1-439-80010-2

* For full contents and more information, visit: www.routledge.com/9781439800089

Beyond Multiple Linear Regression

Applied Generalized Linear Models And Multilevel Models in R



Paul Roback, St. Olaf College, Northfield, Minnesota, USA and Julie Legler

Series: *Chapman & Hall/CRC Texts in Statistical Science*

Designed for advanced undergraduate or non-major graduate students in Advanced Statistical Modeling or Regression II as well as courses on Generalized Linear Models, Longitudinal Data Analysis, Correlated Data, or Multilevel Models, this text offers a unified discussion of generalized linear models and correlated data methods. It explores case studies involving real data and details material on R at the end of each chapter. A solutions manual is available for qualified instructors.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 436pp

Hb: 978-1-439-88538-3: £74.99

eBook: 978-0-429-06666-5

* For full contents and more information, visit: www.routledge.com/9781439885383



2nd Edition

Big Data and Social Science

Data Science Methods and Tools for Research and Practice



Edited by Ian Foster, University of Chicago, Illinois, USA, Rayid Ghani, University of Chicago, Illinois, USA, Ron S. Jarmin, Frauke Kreuter, University of Maryland, USA; University of Mannheim, Germany; and Institute for Employment Research, Germany and Julia Lane, New York University; American Institutes for Research, USA

Series: *Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences*

This classroom-tested book fills a major gap in graduate- and professional-level data science and social science education. It can be used to train a new generation of social data scientists to tackle real-world problems and improve the skills and

competencies of applied social scientists and public policy practitioners. It empowers you to use the massive and rapidly growing amounts of available data to interpret economic and social activities in a scientific and rigorous manner.

Chapman and Hall/CRC

Market: Statistics

November 2020: 235 x 191: 411pp

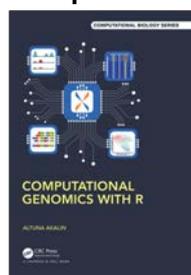
Hb: 978-0-367-34187-9: £120.00

Pb: 978-0-367-56859-7: £48.99

eBook: 978-0-429-32438-3

* For full contents and more information, visit: www.routledge.com/9780367568597

Computational Genomics with R



Altuna Akalin

Series: *Chapman & Hall/CRC Computational Biology Series*

Bioconductor books are the best-known in the field. They revolve around old technologies such as microarrays and do not have the fundamental sections such as introduction to R or statistics to include beginners or biologists who want to start analyzing data. This book will have fundamental theoretical and practical aspects of data analysis. It will be useful for beginners and experienced researchers that are looking for a recipe or an analysis approach. Since R has many packages, even experienced researchers will have to look for how particular functions are used in an analysis workflow. In that respect, although not the

main audience, experienced researchers will find use for this book.

Chapman and Hall/CRC

Market: Statistics

December 2020: 254 x 178: 462pp

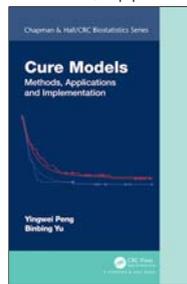
Hb: 978-1-498-78185-5: £99.99

eBook: 978-0-429-08431-7

* For full contents and more information, visit: www.routledge.com/9781498781855

Cure Models

Methods, Applications, and Implementation



Yingwei Peng, Department of Public Health Sciences, Queen's University, Kingston Ontario CANADA and Binbing Yu, MedImmune, LLC

Series: *Chapman & Hall/CRC Biostatistics Series*

The first book in the last 25 years that provides a comprehensive and systematic introduction to the basics of modern cure models, including estimation, inference, and software. Useful for statistical researchers and graduate students, and practitioners in other disciplines to have a thorough review of modern cure model methodology and to seek appropriate cure models in applications.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 270pp

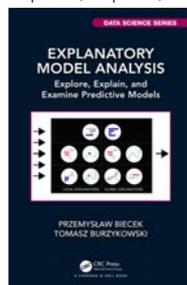
Hb: 978-0-367-14557-6: £74.99

eBook: 978-0-429-03230-1

* For full contents and more information, visit: www.routledge.com/9780367145576

Explanatory Model Analysis

Explore, Explain, and Examine Predictive Models



Przemyslaw Biecek and Tomasz Burzykowski, Hasselt University, Belgium

Series: *Chapman & Hall/CRC Data Science Series*

This book is about a new field in statistical machine learning – about interpretation and explanation of predictive models. Machine learning models are widely used in predictive modelling, both for regression and classification. Complex models like random forest, deep neural networks or gradient machines are used due to their flexibility and performance. Yet in many areas such “black-boxes” cannot be used unless their predictions can be explained and understood.

Chapman and Hall/CRC

Market: Statistics

February 2021: 234x156: 310pp

Hb: 978-0-367-13559-1: £74.99

eBook: 978-0-429-02719-2

* For full contents and more information, visit: www.routledge.com/9780367135591

Gini Inequality Index

Methods and Applications

Edited by Nitis Mukhopadhyay, University of Connecticut, USA and Partha Pratim Sengupta, National Institute of Technology, Durgapur, India

Gini Inequality Index: Methods and Applications features original high-quality peer-reviewed chapters prepared by internationally acclaimed researchers. They provide innovative methodologies whether quantitative or qualitative, covering welfare economics, development economics, optimization/non-optimization, econometrics, air quality, statistical learning, inference, sample size determination, big data science, and some heuristics. The importance of this effort lies on the fact that never before has such a wide dimension of leading research inspired by Gini's works and their applicability been collected in one edited volume.

Chapman and Hall/CRC

Market: Statistics

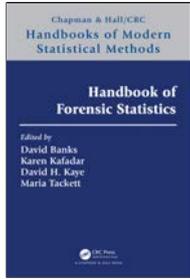
April 2021: 234x156: 264pp

Hb: 978-0-367-68835-6: £120.00

eBook: 978-1-003-14364-2

* For full contents and more information, visit: www.routledge.com/9780367688356

Handbook of Forensic Statistics



Edited by **David L. Banks**, Duke University, USA, **Karen Kafadar**, University of Virginia, Dept. of Statistics, Note: the address on contract is a PO Box, **David H. Kaye**, Penn State Law, Bigler Road, University Park, PA 16802 and **Maria Tackett**

Series: Chapman & Hall/CRC Handbooks of Modern Statistical Methods

Provides a definitive review of the state of best practice for statistical testimony across a wide range of the forensic sciences, including DNA and fingerprint matching, handwriting analysis, foot prints, eye witness identification, tool marks, bite marks, etc.

Chapman and Hall/CRC

Market: Statistics

November 2020: 254 x 178: 570pp

Hb: 978-1-138-29540-7: **£190.00**

eBook: 978-0-367-52770-9

* For full contents and more information, visit: www.routledge.com/9781138295407

Interface between Regulation and Statistics in Drug Development



Demissie Alemayehu, Birol Emir and **Michael Gaffney**, Pfizer Inc., New York

Series: Chapman & Hall/CRC Biostatistics Series

The book is designed to be accessible to readers with an intermediate knowledge of statistics, and can be a useful resource to statisticians, medical researchers, and regulatory personnel in drug development, as well as graduate students in the health sciences. The authors' decades of experience in the pharmaceutical industry and academia, and extensive regulatory experience, comes through in the many examples throughout the book.

Chapman and Hall/CRC

Market: Statistics

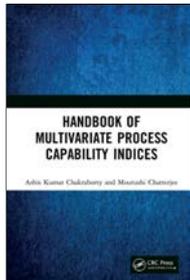
November 2020: 234x156: 172pp

Hb: 978-0-367-49048-5: **£89.99**

eBook: 978-1-003-04420-8

* For full contents and more information, visit: www.routledge.com/9780367490485

Handbook of Multivariate Process Capability Indices



Ashis Kumar Chakraborty, Indian Statistical Institute, WB, India and **Moutushi Chatterjee**, Assistant Professor, Lady Brabourne College, University of Calcutta, India

This book provides a thorough literature review on Multivariate Process Capability Indices. It discusses the various aspects and methodologies associated with the subject in one place. Several real-life data sets have been used to show the applications of different methodologies. The proposed book contains sixteen chapters and would be beneficial for researchers, teachers and practitioners.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 348pp

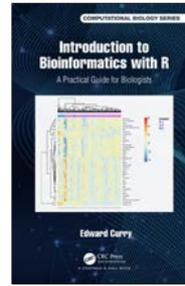
Hb: 978-0-367-02997-5: **£130.00**

eBook: 978-0-429-29834-9

* For full contents and more information, visit: www.routledge.com/9780367029975

Introduction to Bioinformatics with R

A Practical Guide for Biologists



Edward Curry, Imperial College, London

Series: Chapman & Hall/CRC Computational Biology Series

This book has been developed over years of training biological scientists and clinicians to analyse the large datasets available in their cancer research projects. Through the entire book, theoretical explanations are presented alongside step-by-step instructions for carrying out a number of widely-applicable data analysis tasks using freely available software. This book guides the reader through the basic principles of exploratory analysis and hypothesis testing in high-dimensional datasets, and the practicalities of installing statistical computing software and using this to handle different types of data tables.

Chapman and Hall/CRC

Market: Statistics

November 2020: 235 x 156: 310pp

Hb: 978-1-138-49895-2: **£130.00**

Pb: 978-1-138-49571-5: **£49.99**

eBook: 978-1-351-01531-8

* For full contents and more information, visit: www.routledge.com/9781138495715

Innovative Methods for Rare Disease Drug Development



Shein-Chung Chow, Duke University School of Medicine

Series: Chapman & Hall/CRC Biostatistics Series

In the US, a rare disease is defined by the Orphan Drug Act as a disorder/condition that affects less than 200,000 persons. For the approval of "orphan" drug products for rare diseases, the traditional approach of power analysis for sample size calculation is not feasible as only a limited number of subjects are available for clinical trials. In this case, innovative approaches are needed for providing evidence which meets the same standard as drugs in common conditions. This book focuses on biostatistical applications regarding design and analysis in pharmaceutical research and development from both regulatory and scientific (statistical) perspectives.

Chapman and Hall/CRC

Market: 1

November 2020: 234x156: 320pp

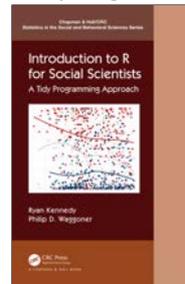
Hb: 978-0-367-50210-2: **£105.00**

eBook: 978-1-003-04936-4

* For full contents and more information, visit: www.routledge.com/9780367502102

Introduction to R for Social Scientists

A Tidy Programming Approach



Ryan Kennedy and **Philip D. Waggoner**

Series: Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences

The authors introduce R via the Tidyverse to social and behavioral scientists. They assume no prior experience with R, the Tidyverse, or computer programming. Primary audience is those serious about learning R for social and behavioral research: advanced undergraduates, graduate students, senior practitioners in the field.

Chapman and Hall/CRC

Market: Statistics

February 2021: 234x156: 192pp

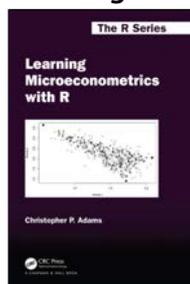
Hb: 978-0-367-46070-9: **£125.00**

Pb: 978-0-367-46072-3: **£48.99**

eBook: 978-1-003-03066-9

* For full contents and more information, visit: www.routledge.com/9780367460723

Learning Microeconometrics with R



Christopher P. Adams, Federal Trade Commission
Series: *Chapman & Hall/CRC The R Series*

This book provides an introduction to the field of microeconometrics through the use of R. The focus is on applying current learning from the field to real world problems. It uses R to both teach the concepts of the field and show the reader how the techniques can be used. It is aimed at the general reader with the equivalent of a bachelor's degree in economics, statistics or some more technical field. It covers the standard tools of microeconometrics, OLS, instrumental variables, Heckman selection and difference in difference. In addition, it introduces bounds, factor models, mixture models and empirical Bayesian analysis.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 376pp

Hb: 978-0-367-25538-1: **£74.99**

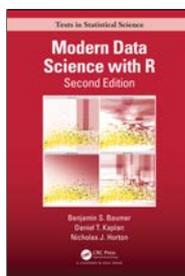
eBook: 978-0-429-28833-3

* For full contents and more information, visit: www.routledge.com/9780367255381



2nd Edition

Modern Data Science with R



Benjamin S. Baumer, Smith College, Northampton, MA,
Daniel T. Kaplan, Macalester College, Saint Paul, Minnesota,
USA and Nicholas J. Horton, Amherst College, Amherst, MA
Series: *Chapman & Hall/CRC Texts in Statistical Science*

New data technologies and database systems facilitate scraping data and merging information from different sources and formats and restructuring data into a form suitable for analysis. State-of-the-art workflow and tools foster well-documented and reproducible analysis. Modern statistical methods allow the analyst to fit and assess models as well as to undertake supervised or unsupervised learning to extract information. Contemporary data science requires tight integration of these

statistics, computing, data skills, mathematics, and communication. The text is intended for readers with some background in statistics and modest prior experience in scripting and programming.

Chapman and Hall/CRC

Market: Statistics

March 2021: 254 x 178: 673pp

Hb: 978-0-367-19149-8: **£74.99**

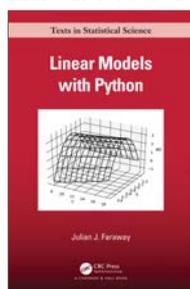
eBook: 978-0-429-20071-7

Prev. Ed Hb: 978-1-498-72448-7

* For full contents and more information, visit: www.routledge.com/9780367191498



Linear Models with Python



Julian J. Faraway
Series: *Chapman & Hall/CRC Texts in Statistical Science*

Like its widely praised, best-selling companion version, *Linear Models with R*, this book replaces R with Python to seamlessly give a coherent exposition of the practice of linear modeling. *Linear Models with Python* offers up-to-date insight on essential data analysis topics, from estimation, inference, and prediction to missing data, factorial models, and block designs. Numerous examples illustrate how to apply the different methods using Python. *Linear Models with Python* explains how to use linear models in physical science, engineering, social science, and business applications. It is ideal as a textbook for linear models or linear regression courses.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 308pp

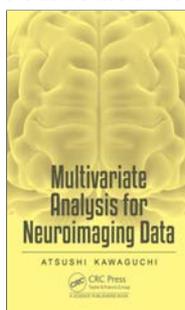
Hb: 978-1-138-48395-8: **£74.99**

eBook: 978-1-351-05341-9

* For full contents and more information, visit: www.routledge.com/9781138483958



Multivariate Analysis for Neuroimaging Data



Atsushi Kawaguchi

This book enables us to analyze statistically brain imaging data. It is meant for a wide range of researchers interested in biostatistics, data science, and neuroscience. It is useful to understand the background theory of standard software for neuroimaging data analysis. The state of art multivariate methods developed by the author's research team is explained here using numerical examples that have been formulated with the free statistical software R. This book supports the application of these methods to one's own data in neuroscience and encourages new research in biostatistics and data science.

CRC Press

Market: Statistics

June 2021: 234x156: 215pp

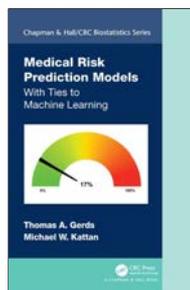
Hb: 978-0-367-25532-9: **£130.00**

eBook: 978-0-429-28960-6

* For full contents and more information, visit: www.routledge.com/9780367255329

Medical Risk Prediction Models

With Ties to Machine Learning



Thomas A. Gerds and Michael W. Kattan
Series: *Chapman & Hall/CRC Biostatistics Series*

The backbone of medical decision making is prediction. Few things are certain in medicine; most involve probabilities, which must be estimated somehow. Statistical prediction models can help in medical decision making. For example, the comparative effectiveness movement is largely about conveying the probabilities of benefits and harms associated with various alternatives, such as treatments. These predictions facilitate medical decision making and help with the evaluation of medical strategies. This book takes the viewpoint of the single patient and asks what does it mean that a risk prediction model performs well for a single individual?

Chapman and Hall/CRC

Market: Statistics

December 2020: 235 x 156: 306pp

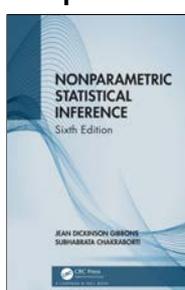
Hb: 978-1-138-38447-7: **£74.99**

eBook: 978-1-138-38448-4

* For full contents and more information, visit: www.routledge.com/9781138384477

6th Edition

Nonparametric Statistical Inference



Jean Dickinson Gibbons and Subhabrata Chakraborti

Since its first publication in 1971, Nonparametric Statistical Inference has been widely regarded as the source for learning about nonparametrics. The sixth edition carries on this tradition and incorporates computer solutions based on R and has been thoroughly revised and rewritten to make it more readable and reader-friendly. All of the R solutions are new and make this book much more useful for applications in the modern times. It has been updated throughout and contains 100 new citations, including some of the most recent, to make it more current and useful for researchers.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 694pp

Hb: 978-1-138-08744-6: **£89.99**

eBook: 978-1-315-11047-9

Prev. Ed Hb: 978-1-420-07761-2

* For full contents and more information, visit: www.routledge.com/9781138087446

Probability and Statistical Inference

From Basic Principles to Advanced Models

Miltiadis C. Mavrakakis, Imperial College London, United Kingdom and Jeremy Penzer, London School of Economics, UK

Series: *Chapman & Hall/CRC Texts in Statistical Science*

This book covers aspects of probability, distribution theory, and inference that are fundamental to a proper understanding of data analysis and statistical modelling. It presents these topics in an accessible manner without sacrificing mathematical rigour, bridging the gap between the many excellent introductory books and the more advanced, graduate-level texts. The book introduces and explores techniques that are relevant to modern practitioners, while being respectful to the history of statistical inference. It seeks to provide a thorough grounding in both the theory and application of statistics, with even the more abstract parts placed in the context of a practical setting.

Chapman and Hall/CRC

Market: Statistics

March 2021: 234x156: 424pp

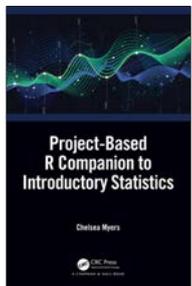
Hb: 978-1-584-88939-7: **£74.99**

eBook: 978-1-584-88940-3

* For full contents and more information, visit: www.routledge.com/9781584889397



Project-Based R Companion to Introductory Statistics



Chelsea Myers

One of the most difficult transitions students face when beginning a first "real" job after college is moving beyond solving the well-designed problems found in textbooks to tackling the messy, complex problems they face in the real world. *Statistics: A Project-Based Approach Using R* is designed as a companion text for undergraduate students who wish to learn basic R programming and gain experience analyzing data from larger, real-world projects. Topics covered include working with R and RStudio, basic descriptive statistics, two-way tables, simple linear regression and hypothesis testing for means and proportions.

Chapman and Hall/CRC

Market: Statistics

December 2020: 229 x 152: 183pp

Hb: 978-0-367-68734-2: **£115.00**

Pb: 978-0-367-26208-2: **£44.99**

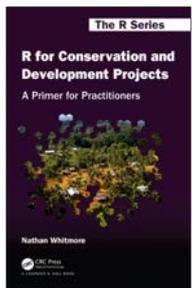
eBook: 978-0-429-29200-2

* For full contents and more information, visit: www.routledge.com/9780367262082



R for Conservation and Development Projects

A Primer for Practitioners



Nathan Whitmore, Independent Consultant - Dunedin, New Zealand

Series: *Chapman & Hall/CRC The R Series*

This book is bridging the gap for organisations and individuals, in an English as a second language setting, who need to learn and use R in a part-time professional context. It gives people with a non-technical background a set of skills to understand the usefulness of graphing, mapping, and modelling in R, using relatable examples throughout. It also provides background on inference and data integration in project management to assist the reader in understanding the logic and utility behind evidence-based decision making. The book explains the major functions in R in clear terms, making it accessible to everyone,

with the aim to demystify R and give people the confidence to use it.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 394pp

Hb: 978-0-367-20549-2: **£130.00**

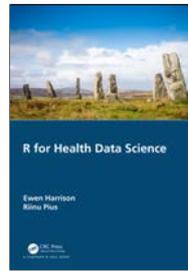
Pb: 978-0-367-20548-5: **£52.99**

eBook: 978-0-429-26218-0

* For full contents and more information, visit: www.routledge.com/9780367205485



R for Health Data Science



Ewen Harrison and Riinu Pius

In this age of information, the manipulation, analysis, and interpretation of data has become a fundamental part of professional life. From the understanding of disease and the development of new treatments, to the diagnosis and management of individual patients, the use of data and technology is now an integral part of the business of healthcare. Those working in healthcare interact daily with data, often without realising it. The conversion of this avalanche of information to useful knowledge is essential for high quality patient care. R for Health Data Analysis includes everything a healthcare professional needs to go from R Novice to R Guru.

Chapman and Hall/CRC

Market: Statistics

November 2020: 254 x 178: 364pp

Hb: 978-0-367-42832-7: **£150.00**

Pb: 978-0-367-42819-8: **£59.99**

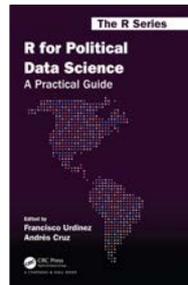
eBook: 978-0-367-85542-0

* For full contents and more information, visit: www.routledge.com/9780367428198



R for Political Data Science

A Practical Guide



Francisco Urdinez and Andres Cruz

Series: *Chapman & Hall/CRC The R Series*

This is a handbook for political scientists new to R who want to learn the most useful and common ways to interpret and analyze political data. This book is divided into 3 sections. The first, on the use of R, is for those users who are learning R or are migrating from another software. The second section, on econometric models, covers OLS, binary and survival models, panel data, and causal inference. The third section is a data science toolbox of some of the most useful tools in the discipline: data imputation, fuzzy merge of large datasets, web mining, quantitative text analysis, network analysis, mapping, spatial cluster analysis, and principal component analysis.

Chapman and Hall/CRC

Market: Statistics

November 2020: 254 x 178: 460pp

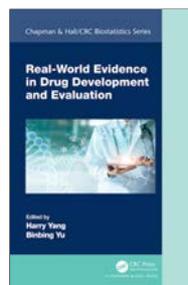
Hb: 978-0-367-81889-0: **£74.99**

eBook: 978-1-003-01062-3

* For full contents and more information, visit: www.routledge.com/9780367818890



Real-World Evidence in Drug Development and Evaluation



Edited by Harry Yang and Binbing Yu, MedImmune, LLC

Series: *Chapman & Hall/CRC Biostatistics Series*

This book concerns use of real world data (RWD) and real world evidence (RWE) to aid drug development across product cycle. RWD are healthcare data that are collected outside the constraints of conventional controlled randomized trials (CRTs); whereas RWE is the knowledge derived from aggregation and analysis of RWD. RWD include electronic health records (EHRs), medical claims, product and disease registries, patient reported outcomes (PROs), data from health-monitoring devices, genomic proteomic profiling, etc.

Chapman and Hall/CRC

Market: Statistics

February 2021: 234x156: 208pp

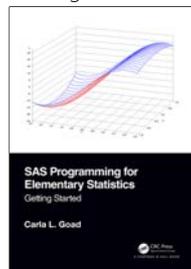
Hb: 978-0-367-02621-9: **£99.99**

eBook: 978-0-429-39867-4

* For full contents and more information, visit: www.routledge.com/9780367026219

SAS Programming for Elementary Statistics

Getting Started



Carla L. Goad, Oklahoma State University, Department of Statistics

This textbook provides an introduction to SAS Programming for elementary statistical methods. It does not require any previous experience of SAS, but the reader is assumed to have a basic understanding of statistics. It covers the basics of programming, including creation of datasets in SAS, debugging a program, and the overall construction of a SAS program. It covers all DATA Step operations, t-tests, confidence intervals, simple linear regression, and ANOVA. The book is full of examples and computer-based exercises, and has been developed from the vast experience of the author teaching from the material over

many years.

Chapman and Hall/CRC

Market: Statistics

December 2020: 254 x 178: 398pp

Hb: 978-1-138-58909-4: £140.00

Pb: 978-1-138-58902-5: £52.99

eBook: 978-0-429-49190-0

* For full contents and more information, visit: www.routledge.com/9781138589025



2nd Edition

Statistical Meta-Analysis using R and Stata

Ding-Geng (Din) Chen, University of North Carolina, Chapel Hill, USA and Karl E. Peace, Georgia Southern University, USA

Series: *Chapman & Hall/CRC Biostatistics Series*

The book provides a thorough presentation of statistical meta-analyses (MA) with step-by-step implementations using R/Stata which enables readers to gain an understanding of meta-analysis methods and R/Stata implementation so that they can use these two popular software packages to analyze their own meta-data. Each chapter gives examples of real studies compiled from the literature. After presenting the data and necessary background for understanding the applications, various methods for analyzing meta-data are introduced. The authors then develop analysis code using the appropriate R/Stata packages and functions.

Chapman and Hall/CRC

Market: Statistics

March 2021: 234x156: 544pp

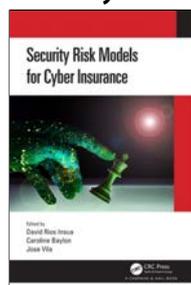
Hb: 978-0-367-18383-7: £89.99

eBook: 978-0-429-06124-0

Prev. Ed Hb: 978-1-466-50599-5

* For full contents and more information, visit: www.routledge.com/9780367183837

Security Risk Models for Cyber Insurance



Edited by David Rios Insua, Institute of Mathematical Sciences ICMAT-CSIC, Spain, Caroline Baylon and Jose Vila

Tackling the cybersecurity challenge is a matter of survival for society at large. Cyber insurance has been touted as part of the solution – based on the idea that insurers can incentivize companies to improve their cybersecurity by offering premium discounts. But cyber insurance levels remain limited because companies have difficulty determining which cyber insurance products to purchase, and insurance companies struggle to accurately assess cyber risk and thus develop cyber insurance products. To deal with these challenges, this volume presents new models for cybersecurity risk management, partly based on the use of cyber insurance.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 172pp

Hb: 978-0-367-33949-4: £74.99

eBook: 978-0-429-32948-7

* For full contents and more information, visit: www.routledge.com/9780367339494

Statistical Reasoning for Surgeons



Mitchell G. Maltenfort, Camilo Restrepo, Rothman Institute at Thomas Jefferson University Hospital and Antonia F. Chen

This is a concise book that explains ideas of statistical reasoning for an audience of practising surgeons. It is not a cookbook of methods, so does not contain any mathematics, but narrative descriptions of statistical concepts and their use for surgical applications. It covers topics of specific interest to surgeons, notably concerning patient outcomes after surgery. It uses concrete real examples to illustrate the usefulness of statistical methods.

Chapman and Hall/CRC

Market: Statistics

December 2020: 216x138: 152pp

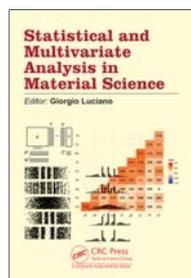
Hb: 978-1-138-09179-5: £120.00

Pb: 978-1-138-09170-2: £44.99

eBook: 978-1-315-10787-5

* For full contents and more information, visit: www.routledge.com/9781138091702

Statistical and Multivariate Analysis in Material Science



Edited by Giorgio Luciano

The present work is an introductory text in statistics, addressed to researchers and students in the field of material science. It aims to give the readers basic knowledge on how statistical reasoning is exploitable in this field, improving their knowledge of statistical tools and helping them to carry out statistical analyses and to interpret the results. It also focuses on establishing a consistent multivariate workflow starting from a correct design of experiment followed by a multivariate analysis process.

CRC Press

Market: Materials Science

May 2021: 234x156: 230pp

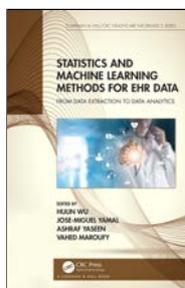
Hb: 978-1-138-19630-8: £127.00

eBook: 978-1-315-30227-0

* For full contents and more information, visit: www.routledge.com/9781138196308

Statistics and Machine Learning Methods for EHR Data

From Data Extraction to Data Analytics



Edited by Hulin Wu, Jose Miguel Yamal, Ashraf Yaseen and Vahed Maroufy

Series: *Chapman & Hall/CRC Healthcare Informatics Series*

The use of Electronic Health Records (EHR)/Electronic Medical Records (EMR) data is becoming more prevalent for research. This book covers many important topics related to using EHR/EMR data for research including data extraction, cleaning, processing, analysis, inference, and predictions based on many years of practical experience of the authors. The book carefully evaluates and compares the standard statistical models and approaches with those of machine learning and deep learning methods and reports the unbiased comparison results for these methods in predicting clinical outcomes based on the EHR data.

Chapman and Hall/CRC

Market: Statistics

December 2020: 234x156: 327pp

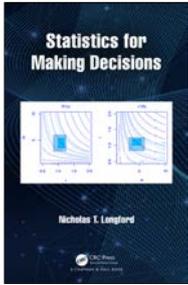
Hb: 978-0-367-44239-2: £99.99

eBook: 978-1-003-03000-3

* For full contents and more information, visit: www.routledge.com/9780367442392



Statistics for Making Decisions



Nicholas T. Longford, Imperial College, London 369 Fulham Road, 4th Floor London, SW10 9NH UK

The subject of the book is making decisions, that is, purposefully selecting one of a limited set of options, in the presence of uncertainty. Such uncertainty arises because of incomplete information about the state of the nature and environment, and lack of prescience (about the future). The purpose of a selection is to minimise our losses (or maximise our gains) in expectation.

Chapman and Hall/CRC

Market: Statistics

March 2021: 234x156: 307pp

Hb: 978-0-367-34267-8: £89.99

eBook: 978-0-429-32476-5

* For full contents and more information, visit: www.routledge.com/9780367342678

Structural Equation Modeling for Health and Medicine

Douglas Gunzler, Case Western Reserve University at MetroHealth Medical Centre, Adam T. Perzynski and Adam Christopher Carle, Cincinnati Children's Hospital Medical Center

Series: Chapman & Hall/CRC Biostatistics Series

This book gives an overview of structural equation modeling (SEM) specifically for applications in health and medicine. SEM is a very general, very powerful technique that is primarily used in the social sciences. Its use in the medical sciences is increasingly prevalent, and there is a real need for a book like this that presents the methods together with applications and software. It is designed to be accessible to applied researchers with a solid background in statistics, with necessary background in SEM included, and a focus on application rather than the theoretical details of the methods. There will be an appendix

Chapman and Hall/CRC

Market: Statistics

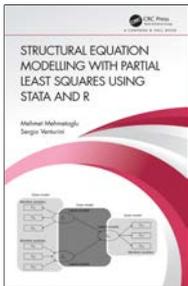
March 2021: 254 x 178: 376pp

Hb: 978-1-138-57425-0: £99.99

eBook: 978-0-203-70113-3

* For full contents and more information, visit: www.routledge.com/9781138574250

Structural Equation Modelling with Partial Least Squares Using Stata and R



Mehmet Mehmetoglu, Norwegian University of Science & Technology, Trondheim, Norway and Sergio Venturini, Department of Decision Sciences, Bocconi University, Milan

Partial least squares structural equation modelling (PLS-SEM) can be used to estimate models including latent variables, observed variables, or a combination of these. This book presents PLS-SEM as a useful practical statistical toolbox that can be used for estimating many different types of research models. In so doing, the authors provide the necessary technical prerequisites and theoretical treatment of various aspects of PLS-SEM prior to practical applications. The book is primarily aimed at researchers and graduate students from statistics, social science, psychology, and other disciplines.

Chapman and Hall/CRC

Market: Statistics

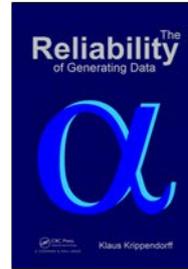
December 2020: 234x156: 400pp

Hb: 978-1-482-22781-9: £99.99

eBook: 978-0-429-17036-2

* For full contents and more information, visit: www.routledge.com/9781482227819

The Reliability of Generating Data



Klaus Krippendorff

This book expands on the author's seminal work in content analysis and develops methods for assessing the reliability of the kind of data that previously defied evaluations for this purpose. It opens with a discussion of the epistemology of reliable data, then presents the most basic alpha coefficient for the single-valued coding of predefined units. This familiar way of measuring reliability provides the platform for the succeeding chapters which start with an overview of alternative coefficients and then expand alpha one quality after another, including to cope with the reliabilities of multi-valued coding, segmenting texts into meaningful units, information retrievals etc.

Chapman and Hall/CRC

Market: Statistics

March 2021: 254 x 178: 328pp

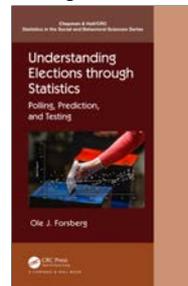
Hb: 978-0-367-63071-3: £99.99

eBook: 978-1-003-11202-0

* For full contents and more information, visit: www.routledge.com/9780367630713

Understanding Elections through Statistics

Polling, Prediction, and Testing



Ole J. Forsberg

Series: Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences

Written for those with only a brief introduction to statistics, this book takes you on a statistical journey from how polls are taken to how they can—and should—be used to estimate current popular opinion. Once an understanding of the election process is built, we turn towards testing elections for evidence of unfairness. While holding elections has become the *de facto* proof of government legitimacy, those electoral processes may hide the dirty little secret of the government illicitly ensuring a favorable election outcome.

Chapman and Hall/CRC

Market: Statistics/Political Science

September 2020: 235 x 156: 225pp

Hb: 978-0-367-89537-2: £140.00

Pb: 978-0-367-89535-8: £52.99

eBook: 978-1-003-01969-5

* For full contents and more information, visit: www.routledge.com/9780367895358

Using R for Bayesian Spatial and Spatio-Temporal Health Modeling

Andrew B. Lawson

Series: Chapman & Hall/CRC The R Series

The book fills a void in the literature and available software, providing a crucial link for students and professionals alike to engage in the analysis of spatial and spatio-temporal health data from a Bayesian perspective using R. The book emphasizes the use of MCMC via Nimble, BRugs, and CARBayes, but also includes INLA for comparative purposes. In addition, a wide range of packages useful in the analysis of geo-referenced spatial data are employed and code is provided. It will likely become a key reference for researchers and students from biostatistics, epidemiology, public health, and environmental science.

Chapman and Hall/CRC

Market: Statistics

April 2021: 234x156: 312pp

Hb: 978-0-367-49012-6: £74.99

eBook: 978-1-003-04399-7

* For full contents and more information, visit: www.routledge.com/9780367490126

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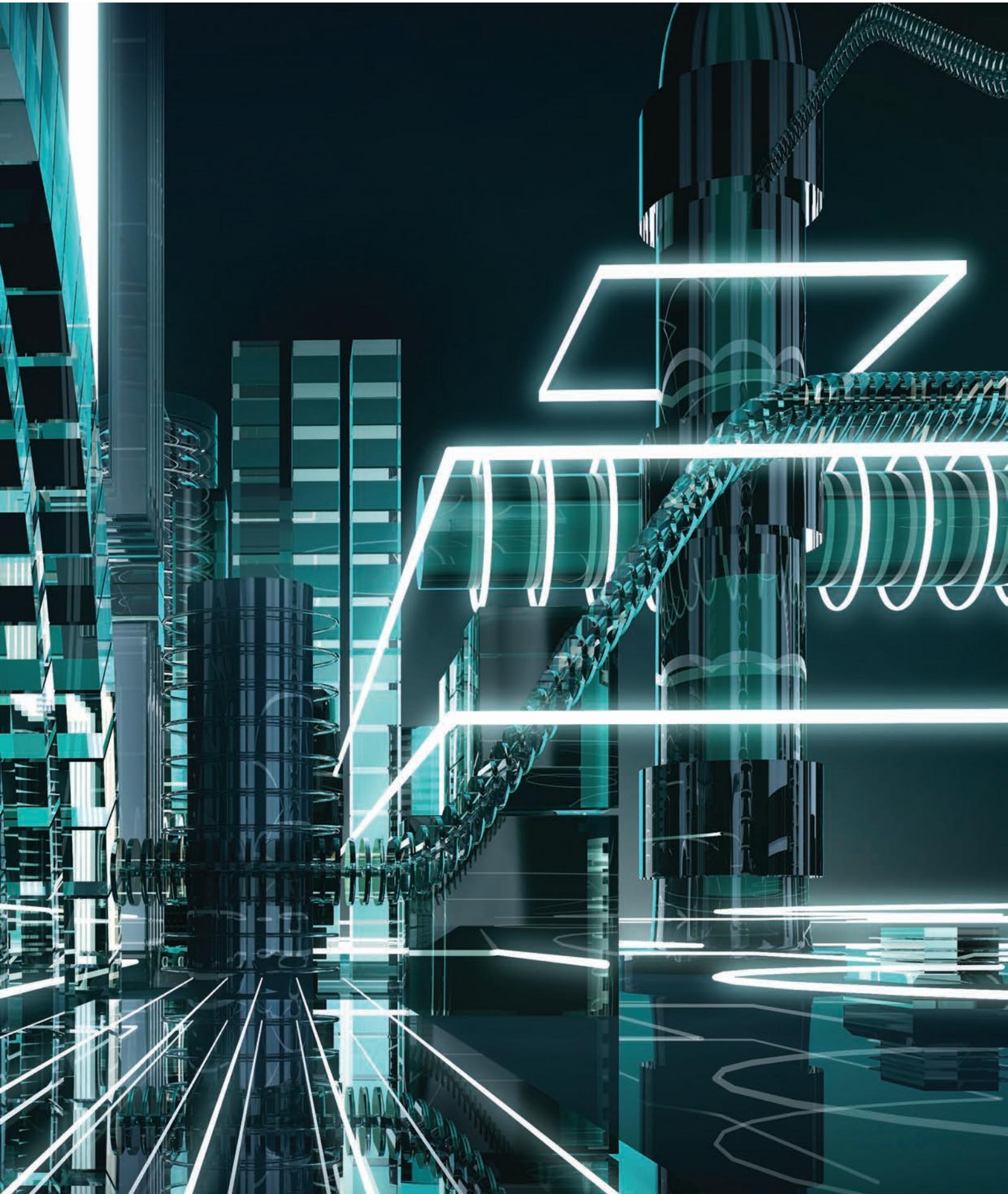
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