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Highlights

Mechanical Engineering Catalogue 2023

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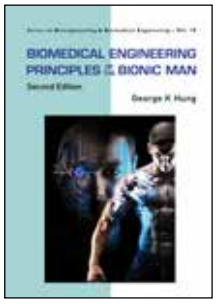
Mechanical Engineering

CONTENTS

Bioengineering

Series on Bioengineering and Biomedical Engineering - Vol 10



BIOMEDICAL ENGINEERING PRINCIPLES OF THE BIONIC MAN

(2nd Edition)

by **George K Hung** *(Rutgers University, USA)*

This comprehensive compendium provides an up-to-date scientific source of biomedical engineering principles of "replacement parts and assist devices" for the bionic man. It covers biomechanics, biochemistry, rehabilitation, tissue engineering, and sports science, as well as applications in cardiovascular, visual, auditory, and neurological systems.

Readership: The useful reference text benefits students, scientists, and laymen keen in understanding the fundamental underlying principles of biomedical devices and procedures, along with recent advances in transplant methodology, gene therapy, stem cell research, and sports science.

600pp	**Jun 2023**	
978-981-125-918-0	**US$138**	**£110**
978-981-125-919-7(ebook)	**US$207**	**£165**

BIOENGINEERING FLUID MECHANICS

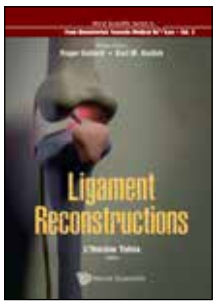
by **Tin-Kan Hung** *(University of Pittsburgh, USA)*

- Relates the conventional fluid engineering to the different phenomena in bioengineering system
- Provides a systematic framework for life scientists to comprehend the mechanics of biological flow processes

Readership: Researchers, professionals, academics, graduate and advanced undergraduate students in biomedical engineering, engineering mechanics, mechanical & aerospace engineering, chemical engineering and civil & environmental engineering.

200pp	**Feb 2023**	
978-981-4295-15-4	**US$68**	**£56**

World Scientific Series: From Biomaterials Towards Medical Devices - Vol 3



LIGAMENT RECONSTRUCTIONS

edited by **L'Hocine Yahia** *(Université de Montréal, Canada)*

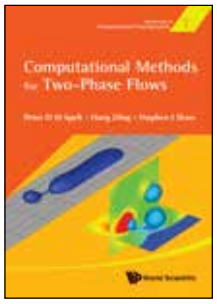
- Examines the history, recent evolutions and future perspectives of ACL reconstruction
- The movements of the knee joint, the function of the ligaments controlling these movements and the role of ligament repair in ACL surgery techniques are reviewed

Readership: Orthopaedic surgeons, medical students, biomedical science students, biomedical engineering students, biomedical science/ engineering teachers, Sports medicine students/teachers, School of Health and Rehabilitation Science, Physician for the Athletic Department, Biology and biomecAthletic Department, Biology and biomechanics teachers/students.

404pp	**Apr 2021**	
978-981-120-462-3	**US$168**	**£150**
978-981-120-463-0(ebook)	**US$252**	**£220**

Chemical Engineering

Advances in Computational Fluid Dynamics



COMPUTATIONAL METHODS FOR TWO-PHASE FLOWS

by **Peter D M Spelt** *(Imperial College London, UK)*, **Stephen J Shaw** *(Xi'an Jiaotong — University of Liverpool, Suzhou, China)* & **Hang Ding** *(University of California, Santa Barbara, USA)*

This book uniquely presents an overview of methods for the numerical simulation of a wide range of two-phase flows, aimed at a broad readership of engineers and scientists at graduate level. Given that numerous methods have been proposed recently in this field, the new book series could not have been more timely and much needed for an up-to-date overview of the advances, whilst not restricting the focus on two-phase flows or any particular method.

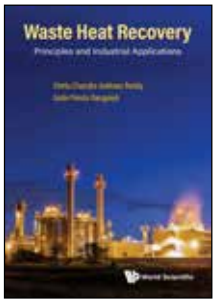
Readership: Scientists and engineers in the field of computational fluid dynamics of two-phase flows.

350pp	**Feb 2023**	
978-981-4280-97-6	**US$138**	**£115**
978-981-4280-98-3(ebook)	**US$207**	**£172**

WASTE HEAT RECOVERY

Principles and Industrial Applications

by **Chirla Chandra Sekhara Reddy** & **Gade Pandu Rangaiah** *(National University of Singapore, Singapore)*



This book presents a comprehensive coverage of fundamentals, latest technologies and industrial applications of Waste Heat Recovery (WHR) in process industries. Simple and effective WHR techniques are illustrated with industrial examples, to help readers to identify, calculate and develop heat recovery saving potential in their processes. Solution manual is provided for free to instructors who adopt this textbook. Please send your request to **sales@wspc.com**.

Readership: Researcher and graduate students in Industrial chemistry.

550pp	**May 2022**	
978-981-124-839-9	**US$168**	**£150**
978-981-124-840-5(ebook)	**US$252**	**£220**

Industrial and Systems Engineering / Manufacturing

WSPC Series in Advanced Integration and Packaging

CO-DESIGN AND MODELLING FOR ADVANCED INTEGRATION AND PACKAGING

Manufacturing and Reliability

by **Christopher Bailey**, **Stoyan Stoyanov** & **Hua Lu** *(University of Greenwich, UK)*

- Multi-domain modeling for advanced packaging and manufacturing technologies
- Demonstration of how modeling manufacturing/assembly processes can be used to inform subsequent modeling/ design analysis for reliability
- Design and modelling challenges and solutions for implementing advanced packaging and integration technologies in high reliability applications

Readership: Graduate students, researchers professionals, and electrical and mechanical engineers in advanced packaging of micro and power electronic systems, design and modelling community.

300pp	**Feb 2023**	
978-981-4740-20-3	**US$138**	**£115**
978-981-4740-21-0(ebook)	**US$207**	**£172**

World Scientific Series in 3D Printing - Vol 4

DIGITAL GASTRONOMY

From 3D Food Printing to Personalized Nutrition

by **Chee Kai Chua** *(Singapore University of Technology and Design, Singapore)*, **Wai Yee Yeong** *(Nanyang Technological University, Singapore)*, **Hong Wei Tan** *(Singapore University of Technology and Design, Singapore)*, **Yi Zhang** *(University of Electronic Science and Technology of China, China)*, **U-Xuan Tan** *Singapore University of Technology and Design, Singapore)*, **Chen Huei Leo** *(Singapore University of Technology and Design, Singapore)*, **Michinao Hashimoto** *(Singapore University of Technology and Design, Singapore)*, **Gladys Hooi Chuan Wong** *(Khoo Teck Puat Hospital, Singapore)*, **Justin Jia Yao Tan** *(Singapore University of Technology and Design, Singapore)* & **Aakanksha Pant** *(Singapore University of Technology and Design, Singapore)*

- The book offers the latest developments and insights into the growing 3D food printing industry. It is informative and wholesome in coverage for all aspects of 3D food printing — from its principles, printers and materials to its regulations and emerging technologies. In addition, our book is reader-friendly for all who are keen to learn more about 3D food printing, as no prior knowledge is required

Readership: Diploma and advanced diploma students, undergraduates, postgraduates, consultants, academics, researchers and professionals in food and nutrition, nutriceuticals and pharmaceutical or food technology related fields.

200pp	Aug 2022	
978-981-125-740-7(pbk)	US$48	£40
978-981-125-590-8	US$88	£70
978-981-125-659-2(ebook)	US$132	£105

Series on Quality, Reliability and Engineering Statistics

DESIGN FOR SIX SIGMA FOR ENGINEERS

by **Matthew Hu** *(Wayne State University, USA)*, **Kai Yang** *(Wayne State University, USA)*, **Michael Sheh** *(Engineous Software Inc., USA)* & **Malik Kayupov** *(Engineous Software Inc., USA)*

- IDOV process for DFSS
- Inventive Design methods, numerical and CAE tools
- Step by step procedures, examples and case studies

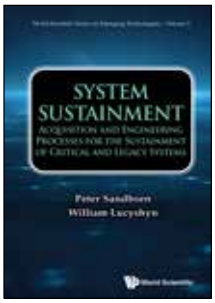
Readership: Graduate students, engineers and industrialists interested in the Design for Six Sigma methodology.

500pp	Feb 2023	
978-981-256-063-6	US$115	£95

World Scientific Series on Emerging Technologies: Avram Bar-Cohen Memorial Series

SYSTEM SUSTAINMENT

Acquisition and Engineering Processes for the Sustainment of Critical and Legacy Systems



by **Peter Sandborn** & **William Lucyshyn** *(University of Maryland, USA)*

The book adopts a holistic view that systems are more than just hardware and software, in addition they are supply chains, workforces, contracts, business models, acquisition processes and governance, if any of these elements fail, might lead to failure of the entire system.

Readership: This book is intended to be a resource for advanced undergraduate and graduate students in engineering (aerospace, civil, electrical, mechanical, and engineering management), business, and public policy who want to understand the ramifications of, and processes for, system sustainment. It is also a useful reference for industry short courses provided to practicing professionals, whom in many cases, were not introduced to system sustainment during their education and are now thrust into the field with minimal preparation.

364pp	Sep 2022	
978-981-125-684-4	US$128	£100
978-981-125-685-1(ebook)	US$192	£155

QUALITY MANAGEMENT ESSENTIALS

by **Ivan Popov** *(University of Portsmouth, UK)*

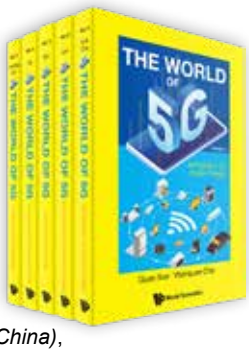
The book covers the essential tools used in quality control and quality management. There are a lot of practical questions and answers on quality.

Readership: Mechanical and manufacturing undergraduate and postgraduate students; engineers; A-level students taking Tech concepts.

200pp	Jun 2022	
978-1-80061-228-0	US$78	£60
978-1-80061-229-7(ebook)	US$117	£95

THE WORLD OF 5G

(In 5 Volumes)
Volume 1: Internet of Everything
Volume 2: Intelligent Manufacturing
Volume 3: Intelligent Home
Volume 4: Intelligent Transportation
Volume 5: Intelligent Medicine



by **Quan Xue** *(South China University of Technology, China)*, **Wenquan Che** *(South China University of Technology, China)*, **Jishun Guo** *(GAC Automotive R&D Center, China)*, **Wei Wu** *(Skyworth Group Co., Ltd, China)*, **Zhiqiang Xu** *(Guangzhou Hantele Communication Co. Ltd, China)*, **Wenhua Huang** *(Southern Medical University, China)* & **Haibin Lin** *(Affliated Hospital of Putian University, China)*

Editor-in-chief: **Quan Xue** *(South China University of Technology, China)*

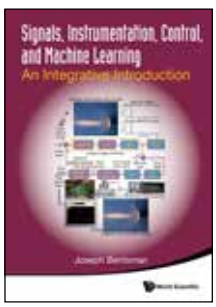
The Editor-in-Chief Professor Quan Xue is an expert in the field of millimeter-wave and Terahertz technology. In recent years, he has been focusing on the research of 5G core technologies. In this way, the technical content of this book has been described very clearly and easily understood. In addition, this book has very good readability due to the contribution of the editorial team with good sense of popular book writing. Moreover, this book provides a comprehensive introduction to the possible applications of 5G in several exciting industries, including manufacturing, medical, gaming, transportation, finance and other industries

Readership: Researchers and practitioners in the fields of 5G. General readers who are interested in the fields of 5G, undergraduate students.

736pp	May 2022	
978-981-125-017-0(Set)	US$320	£255
978-981-125-018-7(Set)(ebook)	US$480	£385

SIGNALS, INSTRUMENTATION, CONTROL, AND MACHINE LEARNING

An Integrative Introduction



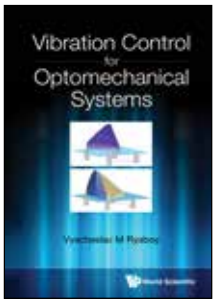
by **Joseph Bentsman** *(University of Illinois at Urbana-Champaign, USA)*

This book stems from a unique and a highly effective approach to introducing signal processing, instrumentation, diagnostics, filtering, control, system integration, and machine learning.

Readership: Researchers, professionals, academics, undergraduate and graduate students in mechanical engineering, electrical & electronic engineering, systems engineering and industrial engineering.

844pp	May 2022	
978-981-125-231-0(pbk)	US$98	£80
978-981-125-186-3	US$198	£175
978-981-125-187-0(ebook)	US$297	£260

VIBRATION CONTROL FOR OPTOMECHANICAL SYSTEMS



by **Vyacheslav M Ryaboy**
(MKS Instruments, USA)

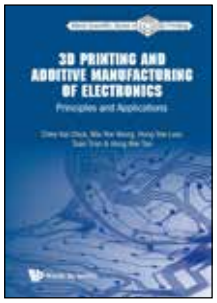
The unique text covers some topics that are important for optomechanical applications but are lacking in general vibration texts, such as dynamics and stability of elastically supported systems with high centers of gravity, physics of pneumatic isolators, and application of dynamic absorbers to vibration-isolated systems.

Readership: Professionals, academics, researchers, and graduate students in mechanical engineering, acoustics, optics, systems engineering and control.

280pp	**Dec 2021**	
978-981-123-733-1	**US$88**	**£75**
978-981-123-734-8(ebook)	**US$132**	**£115**

World Scientific Series in 3D Printing - Vol 3

3D PRINTING AND ADDITIVE MANUFACTURING OF ELECTRONICS



Principles and Applications
by **Chee Kai Chua** *(Singapore University of Technology and Design, Singapore)*, **Wai Yee Yeong** *(Nanyang Technological University, Singapore)*, **Hong Yee Low** *(Singapore University of Technology and Design, Singapore)*, **Tuan Tran** *(Nanyang Technological University, Singapore)* & **Hong Wei Tan** *(Singapore University of Technology and Design, Singapore)*

This book provides a comprehensive overview of the recent progress and discusses the fundamentals of the 3D printed electronics technologies, their respective advantages, shortcomings and potential applications. The book covers conventional contact printing techniques for printed electronics, 3D electronics printing techniques, materials and inks inks for 3D-printed electronics, substrates and processing for 3D-printed electronics, sintering techniques for metallic nanoparticle inks, designs and simulations, applications of 3D-printed electronics, and future trends.

Readership: Diploma and advanced diploma students, undergraduates, postgraduates, consultants, academics, researchers and professionals .

384pp	**May 2021**	
978-981-121-893-4(pbk)	**US$58**	**£50**
978-981-121-835-4	**US$138**	**£120**
978-981-121-836-1(ebook)	**US$207**	**£180**

SUSTAINING TOMORROW VIA INNOVATIVE ENGINEERING

edited by **David S-K Ting** & **Rupp Carriveau**
(University of Windsor, Canada)

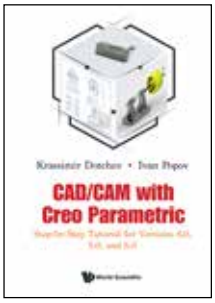
This book includes:

- The state-of-the-art of sustaining tomorrow through innovative engineering
- The latest status on energy, energy mix, advancement in renewable energy, including the complementary energy storage using hydrogen
- Innovative architecture for more sustainable buildings, including retrofitting of aging tall buildings, and innovative ways to improve our air, water and coastline with nearshore biodiversity reclamation. Sustainable development through the water-energy-food nexus

Readership: Academic Researchers and Graduate Students dealing with Energy and Sustainability, and policymakers interested in these subjects.

356pp	**Mar 2021**	
978-981-122-802-5	**US$118**	**£105**
978-981-122-803-2(ebook)	**US$177**	**£155**

CAD/CAM WITH CREO PARAMETRIC



Step-by-Step Tutorial for Versions 4.0, 5.0, and 6.0
by **Krassimir Dotchev** & **Ivan Popov**
(University of Portsmouth, UK)

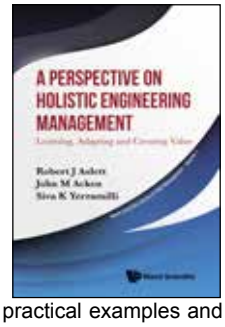
The purpose of this book is to introduce the reader to 3D CAD/CAM modelling using Creo Parametric (Creo) software. This concise textbook consists of ten lessons covering the basics in Part and Assembly Modelling, Mould Design, NC Simulation, and Engineering Drawings.

Readership: Valuable to undergraduates, graduates, researchers and practitioners in the fields of Mechanical, Manufacturing, Aerospace, and Automotive Engineering — as well as general Engineering departments — who requires guidance on using Creo Parametric in CAD/CAM subject areas.

340pp	**Feb 2021**	
978-1-78634-945-3(pbk)	**US$48**	**£40**
978-1-78634-933-0	**US$98**	**£85**
978-1-78634-934-7(ebook)	**US$147**	**£130**

World Scientific Series in R&D Management - Vol 7

A PERSPECTIVE ON HOLISTIC ENGINEERING MANAGEMENT



Learning, Adapting and Creating Value
by **Robert J Aslett** *(3e8 Consulting, USA)*, **John M Acken** *(Portland State University, USA)* & **Siva K Yerramilli** *(Synopsys Inc., USA)*

The content for this book is based on over 105 years of combined experience working in a rapidly changing industry. In most chapters, practical examples and case studies of the concepts provided are given.

Readership: Advanced undergraduate/graduate students, researchers and practitioners in the field of engineering and technology management, and engineers and managers.

516pp	**Mar 2021**	
978-981-122-832-2	**US$138**	**£120**
978-981-122-833-9(ebook)	**US$207**	**£180**

World Scientific Series in Advanced Manufacturing

MANUFACTURING IN THE ERA OF 4TH INDUSTRIAL REVOLUTION

A World Scientific Reference (In 3 Volumes) Volume 1: Recent Advances in Additive Manufacturing Volume 2: Recent Advances in Industrial Robotics Volume 3: Augmented, Virtual and Mixed Reality Applications in Advanced Manufacturing
edited by **Hugh Bruck** *(University of Maryland, College Park, USA)*, **Yong Chen** *(University of Southern California, USA)*, **Satyandra K Gupta** *(University of Southern California, USA)*, **Venkat N Krovi** *(Clemson University, USA)*, **Craig Schlenoff** *(National Institute of Standards and Technology, USA)*, **Monica Bordegoni** *(Politecnico di Milano, Italy)* & **James Ritchie** *(Heriot-Watt University, UK)*
Editor-in-chief: **Satyandra K Gupta** *(Univ. of Southern California, USA)*

- There are currently no books, if any, in the market that address the development of multifunctional structures using Additive Manufacturing
- Industrial Robots form the tip-of-the-spear for Industry 4.0 deployments and have rapidly evolved in shape, size and application deployments

Readership: Individuals working with Additive Manufacturing in industry, government, and academia.

1000pp	**Mar 2021**	
978-981-122-278-8(Set)	**US$980**	**£860**
978-981-122-279-5(Set)(ebook)	**US$1470**	**£1295**

Materials

NONLOCAL CONTINUUM DAMAGE AND PLASTICITY

Theory and Computations

by **Rashid K Abu Al-Rub** *(Texas A&M University, USA)*

The objective of this volume is to share the motivation and content of some of these exciting, new Mathematical Theory and Music in Mathematics courses while contributing concrete materials to interested readers.

Readership: Students, teachers, researchers. Also a library reference.

600pp	**Apr 2023**	
978-981-281-397-8	**US$190**	**£158**
978-981-281-398-5(ebook)	**US$285**	**£237**

Frontier Research in Computation and Mechanics of Materials and Biology - Vol 7

ACOUSTIC METAMATERIALS AND WAVE CONTROL

by **Xiaoming Zhou** *(Beijing Institute of Technology, China)* & **Gengkai Hu** *(Beijing Institute of Technology, China)*

This comprehensive title gives a broad overview on different aspects of acoustic metamaterials with a balance of theory and experiment. It is not only a collection of the authors'original works to these interesting topics, but also the main achievements in this field.

Readership: Researchers, academics, professionals and graduate students in mechanical engineering, condensed matter physics, new materials, classical mechanics and applied physics.

300pp	**Feb 2023**	
978-981-4641-68-5	**US$130**	**£108**
978-981-4641-69-2(ebook)	**US$195**	**£162**

NANOPARTICLE REINFORCED COMPOSITES FOR STRUCTURAL APPLICATIONS

by **Hassan Mahfuzn** *(Florida Atlantic University, USA)* & **Vinod Dhanak** *(The University of Liverpool, UK)*

Most of the books in this area are collections of papers from conferences that do not provide a continuous flow of materials towards developing nanocomposites. The information is rather discrete. The proposed book will have a seamless approach combining various facets of developing nanocomposites including basic science, synthesis and fabrication procedures, various characterization methodologies, and in-depth discussion of results

Readership: Graduate students and researchers in nanocomposites.

250pp	**Feb 2023**	
978-1-84816-482-6	**US$119**	**£99**
978-1-84816-483-3(ebook)	**US$179**	**£149**

Computational and Experimental Methods in Structures - Vol 12

WEAR IN ADVANCED ENGINEERING APPLICATIONS AND MATERIALS

edited by **Luis Rodríguez-Tembleque** *(Universidad de Sevilla, Spain)*, **Jesús Vázquez** *(Universidad de Sevilla, Spain)* & **M H Ferri Aliabadi** *(Imperial College London, UK)*

Predicting and optimizing the wear performance of tribological systems is of great interest in many mechanical applications, this book is written by leading experts to report on Computational Modelling and experimental studies on wear in practicing engineering applications.

Readership: This book is written for PhD students in Mechanical Engineering, whose research topics are clearly governed by wear and surface damage due to mechanical interface interactions. It also serves as an update on the most recent numerical or experimental studies on wear in practicing engineering applications and/or materials.

256pp	**Apr 2022**	
978-1-80061-068-2	**US$98**	**£85**
978-1-80061-069-9(ebook)	**US$147**	**£130**

Engineering Materials for Technological Needs - Vol 4

FUNCTIONAL MATERIALS

Electrical, Dielectric, Electromagnetic, Optical and Magnetic Applications

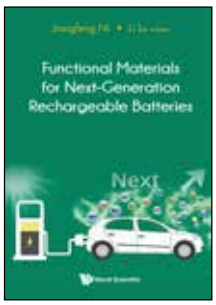
(2nd Edition)

by **Deborah D L Chung** *(University at Buffalo, The State University of New York, USA)*

This timely compendium covers the science and applications of functional materials in a comprehensive manner that is suitable for readers that do not have background on the electrical, dielectric, electromagnetic, optical and magnetic properties of materials. Prior knowledge of quantum mechanics or solid state physics is also not required. Only a semester of introductory materials science suffices.

Readership: Professionals, academics, researchers, and undergraduate graduate students in general materials science, mechanical engineering, electrical engineering, aerospace engineering and civil engineering.

552pp	**Nov 2021**	
978-981-123-883-3	**US$138**	**£120**
978-981-123-884-0(ebook)	**US$207**	**£180**



FUNCTIONAL MATERIALS FOR NEXT-GENERATION RECHARGEABLE BATTERIES

edited by **Jiangfeng Ni** *(Soochow University, China)* & **Li Lu** *(National University of Singapore, Singapore)*

This book starts with principles and fundamentals of lithium rechargeable batteries, followed by their designs and assembly. The book then focuses on the recent progress in the development of advanced functional materials, as both cathode and anode, for next-generation rechargeable batteries such as lithium-sulfur, sodium-ion, and zinc-ion batteries. One of the special features of this book is that both inorganic electrode materials and organic materials are included to meet the requirement of high energy density and high safety of future rechargeable batteries.

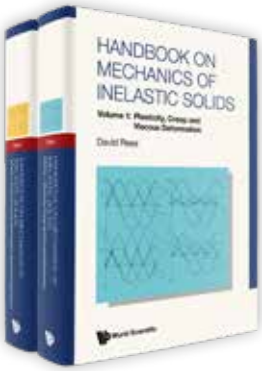
Readership: Advanced undergraduates, graduate students, scientists, and engineers who are interested in the battery technology.

228pp	**Mar 2021**	
978-981-123-066-0	**US$88**	**£75**
978-981-123-067-7(ebook)	**US$132**	**£115**

Mechanical Engineering

HANDBOOK ON MECHANICS OF INELASTIC SOLIDS

(In 2 Volumes)
Volume 1: Plasticity, Creep and Viscous Deformation
Volume 2: Finite and Cyclic Deformation; Structural Applications
by **David Rees** *(Brunel University London, UK)*



This handbook covers a number of the more recent developments regarding the mechanics of deforming solids. In recent years, much progress has been reported in the wide-ranging mechanical behaviour of solids under stress. Here the term stress in a solid arises from a number of external actions including direct tension, compression, pressure, bending, shear and torsion. Many of the topics covered are yet to find their way into the standard texts, which are often restricted to isotropic elasticity and plasticity.

Readership: This handbook is intended for an academic readership and is designed for researchers, engineers and advanced undergraduate, graduate and post-graduate students studying or dealing with inelastic solids and/or classical mechanics.

1160pp	**Feb 2023**	
978-1-80061-206-8(Set)	**US$690**	**£550**
978-1-80061-207-5(Set)(ebook)	**US$1170**	**£935**

Ship and Offshore Structural Mechanics - Vol 1

FINITE ELEMENT METHODS

Engineering Applications
by **Yong Bai** *(Zhejiang University, China)* & **Jeom Paik** *(University College London, UK)*

This unique compendium introduces FEM (Finite Element Methods) as a general numerical technique for the solution of various engineering problems. By keeping the mathematics simple, this reference volume includes a comprehensive presentation and analysis of algorithms of time-dependent phenomena plus beam, plate, and shell theories.

Readership: Researchers, professionals, academics and graduate students in civil engineering, mechanical engineering and ocean engineering.

300pp	**Jan 2023**	
978-981-121-904-7	**US$118**	**£105**
978-981-121-905-4(ebook)	**US$177**	**£155**

Frontier Research in Computation and Mechanics of Materials and Biology

IMMERSED METHODS FOR COUPLED CONTINUA

by **Sheldon Wang** *(Midwestern State University, USA)* & **Lucy Zhang** *(Rensselaer Polytechnic Institute, USA)*

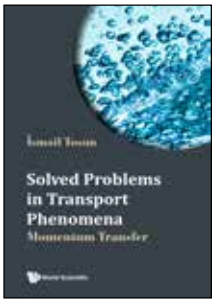
This compendium provides a broad introduction of original immersed boundary methods and current extension in computational mechanics communities. It highlights a comprehensive review of immersed methods in the context of computational fluid and solid mechanics.

Readership: Researchers, academics, professionals and graduate students in mechanical engineering, numerical analysis & computational maths, nonlinear science, and ocean engineering.

400pp	**Aug 2023**	
978-981-3234-50-5	**US$138**	**£121**
978-981-3234-51-2(ebook)	**US$207**	**£182**

SOLVED PROBLEMS IN TRANSPORT PHENOMENA

Momentum Transfer
by **Ismail Tosun** *(Middle East Technical University, Turkey)*



This unique compendium covers momentum transfer at the microscopic and macroscopic levels in the three stages of problem-solving, namely formulation, simplification, and mathematical solution. The book does not overwhelm students with a large repertoire of problems. Instead, it highlights clear and easy presentation to help students grasp the methodology in problem-solving.

Readership: Researchers, professionals, academics, and graduate students in chemical/mechanical/civil and environmental engineering.

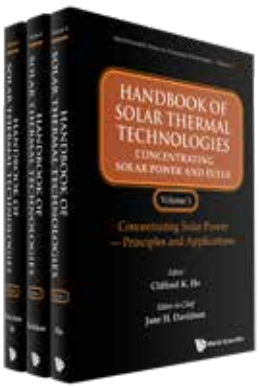
285pp	**Oct 2022**	
978-981-125-624-0	**US$98**	**£80**
978-981-125-625-7(ebook)	**US$147**	**£115**

World Scientific Series on Emerging Technologies: Avram Bar-Cohen Memorial Series

HANDBOOK OF SOLAR THERMAL TECHNOLOGIES

Concentrating Solar Power and Fuels
(In 3 Volumes) Volume 1: Concentrating Solar Power — Principles and Applications
Volume 2: Concentrating Solar for Thermochemical Fuels, Storage and Chemical Commodities Volume 3: Supplemental Material — Supporting Published Works
edited by **Clifford K Ho** *(Sandia National Lab., USA)* & **Jane H Davidson** *(University of Minnesota-Twin Cities, USA)*

Editor-in-chief: **Jane H Davidson** *(University of Minnesota-Twin Cities, USA)*



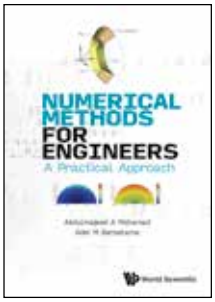
The three-volume handbook showcases the state of the art in the use of concentrated sunlight to produce electricity, industrial process heat, renewable fuels, including hydrogen and low-carbon synthesis gas, and valuable chemical commodities. The handbook illustrates the value and diversity of applications for concentrating solar power to contribute to the expanding decarbonization of multiple cross-cutting energy sectors.

Readership: Academia and research centers including national laboratories, graduate and senior level undergraduate students, and researchers.

950pp	**Nov 2022**	
978-981-124-853-5(Set)	**US$795**	**£700**
978-981-124-860-3(Set)(ebook)	**US$1493**	**£1315**

NUMERICAL METHODS FOR ENGINEERS

A Practical Approach
by **Abdulmajeed A Mohamad** *(University of Calgary, Canada)* & **Adel M Benselama** *(College of Mechanical and Aerotechnical Engineering, France)*



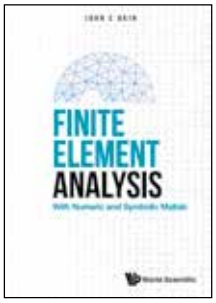
The unique compendium is an introductory reference to learn the most popular numerical methods cohesively. The text focuses on practical applications rather than on abstract and heavy analytical concepts. The key elements of the numerical methods are Taylor series and linear algebra. Based on the authors' years of experience, most materials on the text are tied to those elements in a unified manner.

Readership: Researchers, professionals, academics, undergraduate and graduate students.

250pp	**Sep 2022**	
978-981-125-525-0	**US$88**	**£70**
978-981-125-526-7(ebook)	**US$132**	**£105**

FINITE ELEMENT ANALYSIS

With Numeric and Symbolic Matlab
by **John E Akin** *(Rice University, USA)*



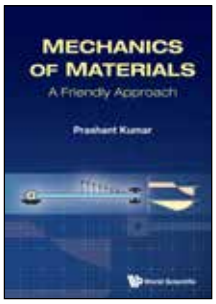
This comprehensive compendium presents the detailed theory, implementation and application of finite element analysis via heavily commented Matlab scripts. The book includes over 110 examples of the methods, and has a very detailed subject index. It uniquely illustrates the use of symbolic Matlab capabilities to derive element interpolation functions and to analytically integrated complicated element matrices.

Readership: Researchers, professionals, academics, undergraduate and graduate students in mechanical engineering, aerospace engineering, civil engineering and numerical analysis.

500pp	**Aug 2022**	
978-981-125-190-0(pbk)	**US$98**	**£85**
978-981-125-061-3	**US$158**	**£140**
978-981-125-062-0(ebook)	**US$237**	**£210**

MECHANICS OF MATERIALS

A Friendly Approach
by **Prashant Kumar** *(Indian Institute of Technology Kanpur, India)*



This comprehensive book presents materials with a three-dimensional approach rather than two-dimensional analysis adopted by existing books. It develops the required background thoroughly before basic elements such as stress and strain tensors are formulated. The presentation is richly filled with anecdotes, illustrations and solved examples. Special care has been taken to carry out algebra and the derivations in small digestible steps.

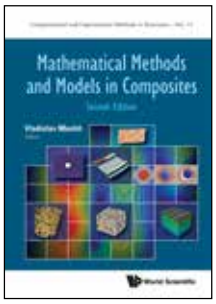
Readership: Researchers, professionals, academics, undergraduate and graduate students in mechanical engineering, civil engineering, aerospace engineering, materials science and chemical engineering.

350pp	**Aug 2022**	
978-981-124-845-0	**US$98**	**£85**
978-981-124-846-7(ebook)	**US$147**	**£130**

Computational and Experimental Methods in Structures

MATHEMATICAL METHODS AND MODELS IN COMPOSITES

(2nd Edition)
edited by **Vladislav Mantič** *(University of Seville, Spain)*



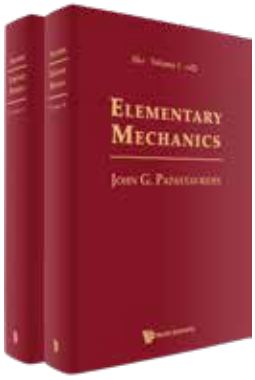
This book is an essential reference for graduate and doctoral students and researchers in mathematics, physics and composite engineering. Explanations and references in the book are sufficiently detailed to provide the necessary background to further investigate the fascinating subject of composites modelling and explore relevant research literature. It is also suitable for non-experts who wish to have an overview of both the mathematical methods and models used in the area of composites and of the open problems in this area that require further research.

Readership: An essential reference for researchers and graduate and doctoral students in mathematics, physics and composite engineering interested in structural behaviour and damage mechanisms.

708pp	**Jul 2022**	
978-1-80061-187-0	**US$188**	**£150**
978-1-80061-188-7(ebook)	**US$282**	**£225**

ELEMENTARY MECHANICS

(In 2 Volumes)
by **John G Papastavridis**
(Georgia Institute of Technology, USA)



- No volume of such scope [comprehensiveness + level + readability (multiple complementary notations, clear figures) + extensive list of references / bibliography] has ever been written, in any language — there are no real competitors. Like the author's other mechanics works, this is a UNIQUE and "BEST BUY" book (see e.g. amazon.com, amazon.co.uk)
- The project has already drawn very encouraging and enthusiastic comments from several distinguished academic colleagues and professionals from the US, Europe, and Russi

Readership: Teachers, and Researchers in most areas of engineering (especially aerospace, mechanical, and engineering mechanics), physics, and applied mathematics.

1680pp	**Aug 2022**	
978-981-4603-04-1(Set)	**US$384**	**£319**
978-981-4603-05-8(Set)(ebook)	**US$576**	**£478**

RECENT DEVELOPMENTS INSTRUCTURAL HEALTH MONITORING AND ASSESSMENT — OPPORTUNITIES AND CHALLENGES

Bridges, Buildings and Other Infrastructures
edited by **Achintya Haldar** *(University of Arizona, USA)* & **Abdullah Al-Hussein** *(University of Basrah, Iraq)*

- The area is evolving all over the world especially with recent major failures bringing the subject to our attention
- There is increasing interest in the area within the profession as engineers, inspectors, maintenance workers, students, etc. are looking for guidance since our infrastructures are degrading, some of them are over their design life, and we do not have resources to upgrade or replace them

Readership: Advanced undergraduate and graduate students, academic/researchers and practitioners in the maintenance of infrastructures.

448pp	**Feb 2022**	
978-981-124-300-4	**US$148**	**£120**
978-981-124-301-1(ebook)	**US$222**	**£175**

ADVANCED LASER AND COMPETING TECHNOLOGIES EASILY EXPLAINED

by **Dieter Schuöcker** *(Technical University of Vienna, Austria)* & **Georg Schuöcker**

This book treats the basic principles underlying laser technology, long-time-used equipment and processes but also the most recent improvements and applications, then compares it with the competing conventional technologies. Each of these two parts is preceded by tutorials that inform the reader about the physical basis of the respective technologies. In addition, hazards of these technologies and respective protection are treated for both cases.

Readership: Professionals in Mechanical, electrical, physical and materials engineering and production — Research, development and production / academia (undergraduates) and industry.

224pp	**Feb 2022**	
978-981-124-635-7	**US$78**	**£60**
978-981-124-636-4(ebook)	**US$117**	**£95**

EFFICIENT UNCONVENTIONAL MODELS OF MULTI-COMPONENT MAGNETIC HYSTERESIS

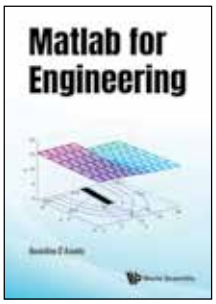
by **Amr A Adly** *(Cairo University, Egypt)*

This unique compendium deals with modeling magnetic media exhibiting hysteresis using computationally efficient phenomenological models that may be utilized in a wide spectrum of both coupled and non-coupled situations. The main factors affecting the behavior of media exhibiting hysteresis — such as magnetic field, mechanical stress and temperature — are dealt with from a higher-level perspective.

Readership: Professionals, academics, researchers, and graduate students in electrical and electronic engineering, superconductivity & magnetic materials and mechanical engineering.

116pp	**Jan 2022**	
978-981-123-736-2	**US$58**	**£50**
978-981-123-737-9(ebook)	**US$87**	**£75**

MATLAB FOR ENGINEERING



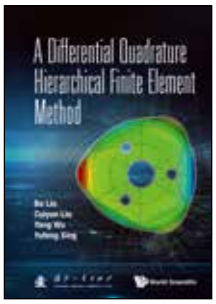
by **Berardino D'Acunto**
(University of Naples Federico II, Italy)

This book presents an introduction to Matlab for students and professionals working in the field of engineering and other scientific and technical sectors, who have an interest or need to apply Matlab as a tool for undertaking simulations and formulating solutions for the problems concerned.

Readership: Students of university courses on Computational Methods and Applied Mathematics for Engineering students, and Mathematics, Physics, and Chemistry students. Also ideal for industry technicians and professionals interested in learning how to use Matlab.

328pp	**Oct 2021**	
978-981-124-066-9	**US$78**	**£70**
978-981-124-067-6(ebook)	**US$117**	**£105**

A DIFFERENTIAL QUADRATURE HIERARCHICAL FINITE ELEMENT METHOD



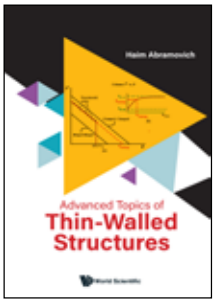
by **Bo Liu** *(Beihang University, China)*, **Cuiyun Liu** *(Beihang University, China)*, **Yang Wu** *(Institute of Applied Physics and Computational Mathematics, China)* & **Yufeng Xing** *(Beihang University, China)*

This unique compendium systemically introduces the construction of various DQHFEM elements of commonly used geometric shapes like triangle, tetrahedrons, pyramids, etc. Abundant examples are also included such as statics and dynamics, isotropic materials and composites, linear and nonlinear problems, plates as well as shells and solid structures.

Readership: Professionals, academics, researchers, and graduate students in engineering mechanics, mechanical engineering, aerospace engineering and civil engineering.

652pp	**Aug 2021**	
978-981-123-675-4	**US$178**	**£155**
978-981-123-676-1(ebook)	**US$267**	**£235**

ADVANCED TOPICS OF THIN-WALLED STRUCTURES



by **Haim Abramovich** *(Technion, Israel Institute of Technology, Haifa, Israel)*

This unique compendium presents some new topics related to thin-walled structures, like beams, plates and shells used in aerospace structures. It highlights their dynamic behaviors and also the correlation between compressive loading and natural frequency to enable a correlation between the two, yielding a valuable non-destructive tool, to predict buckling for thin-walled structures.

Readership: Professionals, academics, researchers and graduate students in aerospace engineering, materials science, engineering mechanics and materials engineering.

420pp	**Jun 2021**	
978-981-121-424-0	**US$148**	**£130**
978-981-121-425-7(ebook)	**US$222**	**£195**

SEMI-INVERSE METHOD IN NONLINEAR PROBLEMS OF AXISYMMETRIC SHELLS FORMING

by **Anatoly S Yudin** *(Southern Federal University, Russia)* & **Dmitry V Shchitov** *(North-Caucasus Federal University, Russia)*

- Provides a mathematical model adequate to the problem of complex shape of shells, taking into account the new metric and the physics of plastic behavior of the material
- Gives an original semi-analytical method that allows the user to effectively solve essentially nonlinear problems
- Application of real-life engineering problems are included in the book

Readership: Recommended for researchers, graduate students and advanced undergraduates studying physical and mathematical engineering as well as scientific and technical workers dealing with thin-walled structures.

248pp	**Mar 2021**	
978-1-78634-981-1	**US$88**	**£75**
978-1-78634-982-8(ebook)	**US$132**	**£115**

Ocean / Coastal Engineering

COASTAL MANAGEMENT IN THE FACE OF CLIMATE CHANGE

by **Dominic Reeve** *(University of Plymouth, UK)*

The book is aimed at practicing coastal managers and engineers; to provide some practical guide to using the results of research efforts over the last decade. The material is also suitable for final year undergraduates and MSc students. It brings together in one book material that is currently dispersed across many sources which are not easy for the non-expert to access.

Readership: Graduate students, practitioners, and researchers in coastal engineering, civil engineering, environmental management and planning and environmental engineering.

200pp	**Feb 2023**	
978-1-84816-583-0	**US$106**	**£88**
978-1-84816-584-7(ebook)	**US$159**	**£133**

WAVE DYNAMICS

edited by **Snehashish Chakraverty** *(National Institute of Technology Rourkela, India)* & **Perumandla Karunakar** *(Anurag University, Hyderabad, India)*

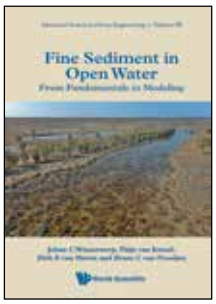
The aim of this book is to address the efficient and recently developed theories along with the basic equations of wave dynamics. The latest development of analytical/semi analytical and numerical methods with respect to wave dynamics are also covered. Further few challenging experimental studies are considered for related problems. This book presents advances in wave dynamics in simple and easy to follow chapters for the benefit of the readers/researchers.

Readership: This book is mainly written for the undergraduates, graduates, researchers, industry, faculties etc. all over the world as the book covers various analytical and numerical/ computational methods for solving different models governing water, sound, electromagnetic, seismic and shock waves.

296pp	**Mar 2022**	
978-981-124-535-0	**US$98**	**£80**
978-981-124-536-7(ebook)	**US$147**	**£115**

Advanced Series on Ocean Engineering - Vol 55

FINE SEDIMENT IN OPEN WATER



From Fundamentals to Modeling

by **Johan C Winterwerp** *(Deltares, The Netherlands & Delft University of Technology, The Netherlands)*, **Thijs van Kessel** *(Deltares, The Netherlands)*, **Dirk S van Maren** *(Deltares, The Netherlands)* & **Bram C van Prooijen** *(Delft University of Technology, The Netherlands)*

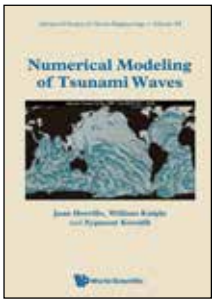
Fine Sediment in Open Water is mainly written for professional engineers working in estuaries and coastal systems. It provides the basis for a fundamental understanding of the physical, biological and chemical processes governing the transport and fate of fine sediment in open water and explains how this understanding can steer engineering studies with numerical models.

Readership: Professional engineers and academics studying the transport and fate of fine sediment in open water systems, particularly marine waters. Parts of the book are also appropriate for MSc and PhD students as an introduction to the subject.

644pp	**Dec 2021**	
978-981-124-361-5	**US$198**	**£175**
978-981-124-363-9(ebook)	**US$297**	**£260**

Advanced Series on Ocean Engineering - Vol 54

NUMERICAL MODELING OF TSUNAMI WAVES



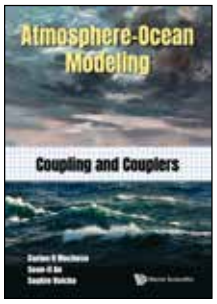
by **Juan Horrillo** *(Texas A&M University, USA)*, **William Knight** *(National Tsunami Warning Center (Retired), USA)* & **Zygmunt Kowalik** *(University of Alaska, Fairbanks, USA)*

"Reproducing and predicting tsunamis using numerical models not only helps us understand various phenomena such as earthquakes on the earth, volcanic areas and slips, but also saves lives from sudden tsunamis attacks. For that purpose, a highly reliable tsunami numerical model and analysis technology are required, and this book comprehensively introduces from the basics to the application." **Fumihiko Imamura, Professor of Tsunami Engineering, IRIDeS, Tohoku University**

Readership: Researchers and students in physical oceanography, ocean/civil engineers, computer science.

412pp	**Nov 2021**	
978-981-124-233-5	**US$148**	**£130**
978-981-124-234-2(ebook)	**US$222**	**£195**

ATMOSPHERE-OCEAN MODELING



Coupling and Couplers

by **Carlos R Mechoso** *(University of California Los Angeles, USA)*, **Soon-Il An** *(Yonsei University, South Korea)* & **Sophie Valcke** *(CERFACS, France)*

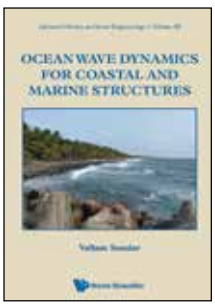
The present book fills a void in the current literature by presenting a basic and yet rigorous treatment of how the models of the atmosphere and the ocean are put together into a coupled system. The text of the book is divided into chapters organized according to complexity of the components that are coupled. Two full chapters are dedicated to current efforts on the development of generalist couplers and coupling methodologies all over the world.

Readership: Students, academics and researchers in meteorology/ climatology, and weather forecasting services.

204pp	**Aug 2021**	
978-981-123-446-0(pbk)	**US$48**	**£40**
978-981-123-293-0	**US$88**	**£75**
978-981-123-294-7(ebook)	**US$132**	**£115**

Advanced Series on Ocean Engineering - Vol 52

OCEAN WAVE DYNAMICS FOR COASTAL AND MARINE STRUCTURES



by **Vallam Sundar** *(Indian Institute of Technology Madras, India)*

Ocean Wave Dynamics for Coastal and Marine Structures is a recommended textbook for students and researchers in ocean sciences, engineering and related topics. It offers application of theoretical formulae to practical relevance through problem solving. This book will also be invaluable for professionals in ports, offshore and marine industries as well as consulting companies.

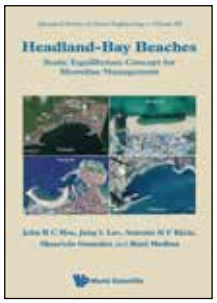
Readership: All IITs, NITs, Engineering colleges, Consultancy firms, Ports, etc in India. Governments departments dealing with coasts, harbour and Oceans. All Engineering colleges.

364pp	**Jul 2021**	
978-981-123-666-2	**US$98**	**£85**
978-981-123-667-9(ebook)	**US$147**	**£130**

Advanced Series on Ocean Engineering - Vol 53

HEADLAND-BAY BEACHES

Static Equilibrium Concept for Shoreline Management



by **John R C Hsu** *(University of Western Australia, Australia & National Sun Yat-sen University, Republic of China)*, **Jung L Lee** *(Sungkyunkwan University, South Korea)*, **Antonio H F Klein** *(Federal University of Santa Catarina, Brazil)*, **Mauricio González** *(Universidad de Cantabria, Spain)* & **Raúl Medina** *(Universidad de Cantabria, Spain)*

Although a plethora of books are available for coastal and ocean engineering and geomorphology, only a countable few have covered engineering applications of HBBs. On the contrary, this book with focus on the HBBs in static equilibrium aims to offer a comprehensive volume with knowledge and applications for coastal scientists, engineers, managers, students, and the general public interested in HBBs. Useful software tools for HBBs (MEPBAY, MeePaSoL, and SMC) are introduced in the book to aid in applications.

Readership: Coastal scientists, engineers, managers, students, and the general public interested in HBBs.

812pp	**Jun 2021**	
978-981-122-771-4	**US$198**	**£175**
978-981-122-772-1(ebook)	**US$297**	**£260**

PRINCIPLES OF MARINE VESSEL DESIGN

Concepts and Design Fundamentals of Sea Going Vessels

by **Prasanta Kumar Sahoo**
(Florida Institute of Technology, USA)

- There are several books on sea going vessels but their primary focus has been on aspects, which can be comprehensible to experienced naval architects
- This book has been written with beginners in mind who will find some of the resources very useful

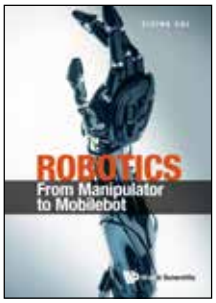
Readership: Students and general public with an interest ocean engineering, marine vessels and marine vessels design.

140pp	**Mar 2021**	
978-981-122-994-7	**US$68**	**£60**
978-981-122-995-4(ebook)	**US$102**	**£90**

Robotics

ROBOTICS

From Manipulator to Mobilebot



by **Zixing Cai** *(Central South University, China & Hunan ZIXING AI Academy, China)*

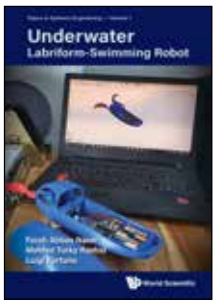
The book covers the core technology of robotics, including the basic theories and techniques of robot manipulator, mobile robots to focus on location navigation, and intelligent control underpinned by artificial intelligence and deep learning. Several case studies from national research projects in China are also included to help readers understand the theoretical foundations of robotics and related application developments. This book is a valuable reference for undergraduate and graduate students of robotics courses.

Readership: Advanced undergraduate, graduate and post-grad researcher in the discipline/profession of robotics, automatic control, mechatronic engineering, intelligent S&T, computer science and engineering, electronic engineering, management and decision system engineering, and other related fields.

580pp	**Nov 2022**	
978-981-125-346-1	**US$158**	**£125**
978-981-125-347-8(ebook)	**US$237**	**£190**

Topics in Systems Engineering - Vol 1

UNDERWATER LABRIFORM-SWIMMING ROBOT



by **Farah Abbas Naser** *(University of Basrah, Iraq)*, **Mofeed Turky Rashid** *(University of Basrah, Iraq)* & **Luigi Fortuna** *(University of Catania, Italy)*

This book provides a simplified description of how to design an underwater swimming robot, inspired by the mechanism of the Labriform mode of fish. This style of swimming depends on the pectoral fins only as a main locomotor for movement. A unique model with fins having a concave shape allows the highest thrust force to be achieved during the power period and the lowest drag force during the recovery period, especially if the velocity values between the powering and recovery periods are manipulated.

Readership: Advanced undergraduate and graduate students, researchers, mechanical and mechatronics engineers.

208pp	**Dec 2021**	
978-981-123-739-3	**US$88**	**£75**
978-981-123-740-9(ebook)	**US$132**	**£115**

Thermal Engineering / Packaging and Thermodynamics

STIRLING AND THERMAL-LAG ENGINES

Motive Power without the $C0_2$

by **Allan J Organ** *(University of Cambridge, UK & King's College London, UK)*

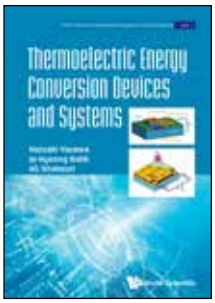
The book offers ready-made tools including a simplified algorithm for particle trajectory map construction; an author-patented mechanism delivering optimized working-gas distribution; flow and heat transfer data re-acquired in context and an illustrated re-derivation of the academically respected Method of characteristics which now copes with shock formation and flow-area discontinuities. All formulations are presented in sufficient detail to allow the reader to 'pick up and run' with them using the data offered in the book.

Readership: Lecturers and teachers of contemporary engineering syllabuses as well as members of thermodynamics groups at every university faculty worldwide.

500pp	**Jun 2022**	
978-1-80061-104-7	**US$148**	**£130**
978-1-80061-105-4(ebook)	**US$222**	**£195**

WSPC Series in Advanced Integration and Packaging - Vol 7

THERMOELECTRIC ENERGY CONVERSION DEVICES AND SYSTEMS



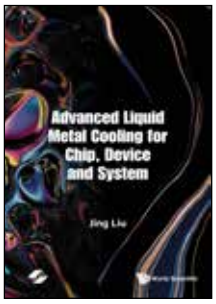
by **Kazuaki Yazawa** *(Purdue University, USA)*, **Je-Hyeong Bahk** *(University of Cincinnati, USA)* & **Ali Shakouri** *(Purdue University, USA)*

This unique compendium emphasizes key factors driving the performance of thermoelectric energy conversion systems. Important design parameters such as heat transfer at the boundaries of the system, material properties, and form factors are carefully analyzed and optimized for performance including the cost-performance trade-off. Numbers of examples are provided on the applications of thermoelectric technologies, e.g., power generation, cooling of electronic components, and waste heat recovery in wearable devices.

Readership: Professionals, researchers, academics, undergraduate and graduate students.

388pp	**Mar 2021**	
978-981-121-826-2	**US$128**	**£115**
978-981-121-827-9(ebook)	**US$192**	**£170**

ADVANCED LIQUID METAL COOLING FOR CHIP, DEVICE AND SYSTEM



by **Jing Liu** *(Tsinghua University, China)*

This compendium summarizes the core principles and practical applications of a brand-new advanced chip cooling category — liquid metal cooling. It illustrates the science and art of room temperature liquid metal enabled cooling for chip, device and system. The concise volume features unique scientific and practical merits, and clarified intriguing liquid metal coolant or medium behaviors in making new generation powerful cooling system.

Readership: Researchers, professionals, academics and graduate students in mechanical engineering, new materials and applied and technical physics.

960pp	**May 2022**	
978-981-124-585-5	**US$198**	**£160**
978-981-124-586-2(ebook)	**US$297**	**£235**

INTRODUCTION TO THERMOACOUSTIC DEVICES

by **Tetsushi Biwa** *(Tohoku University, Japan)*

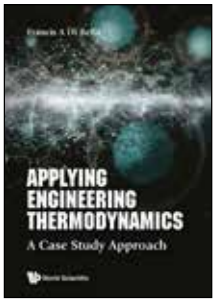
The book aims to provide a comprehensive overview of how the oscillations of gas and/or liquid columns make possible the mutual energy conversions between work flow and heat flow through thermal interactions between fluids and channel walls. The thermodynamic aspects of energy flows are highlighted by introducing Lagrangian point of view to explain the thermodynamic cycles that the fluid parcels undergo. The relevant experimental results are provided to verify the theoretical analysis based on basic equations of fluid dynamics.

Readership: Undergraduates, graduate students and their supervisors. Researchers and engineers in the field of thermoacoustics, external combustion engines, and regenerative refrigerators.

328pp	**Sep 2021**	
978-1-944659-76-9	**US$98**	**£85**
978-1-944659-77-6(ebook)	**US$147**	**£130**

APPLYING ENGINEERING THERMODYNAMICS

A Case Study Approach



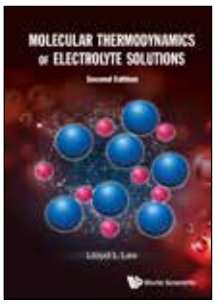
by **Francis A Di Bella** *(Boston University, USA)*

This textbook provides a strong foundation in the basic thermodynamics needed to analyze real-world engineering applications of thermodynamics in the field of energy systems. Written in a format readable to students new to the subject, this book will also help entrepreneurs venturing into the world of energy and power without a background in mechanical engineering.

Readership: Written for students who are new to the subject, it will also be useful for entrepreneurs and Political Constituents who need a good, solid grounding in basic energy systems in order to promote viable and effective policy; Entrepreneurs with little/no knowledge of thermodynamics but with ideas for energy efficient systems.

580pp	**Jun 2021**	
978-981-120-523-1	**US$118**	**£105**
978-981-120-524-8(ebook)	**US$177**	**£155**

MOLECULAR THERMODYNAMICS OF ELECTROLYTE SOLUTIONS



(2nd Edition)

by **Lloyd L Lee** *(California State Polytechnic University, USA)*

This textbook is eminently suitable for undergraduate and graduate students. For practicing engineers without a background in salt solutions, this introductory volume can also be used as a self-study.

Readership: Professionals, academics, researchers, undergraduate and graduate students in chemical engineering, electrochemistry, physical chemistry and biological chemistry.

296pp	**Jan 2021**	
978-981-123-417-0(pbk)	**US$78**	**£70**
978-981-123-299-2	**US$128**	**£115**
978-981-123-300-5(ebook)	**US$192**	**£170**

General

SYNCHRONIZATION IN NATURE AND TECHNOLOGY

Theory and Applications

by **Iliya I Blekhman** *(Laboratory of Vibrational Mechanics, Russia)*

As one of the pioneers working on Synchronization, the author first book "**Synchronization in Nature and Technology**" was published in 1988, by ASME Press. Since its publication, interests in the West in synchronization have growth, resulted in thousand articles published on this topic over the last 30 years. These include articles in general mathematical theory of synchronization and applications in mechanics and engineering, biology, economics and the social sphere.

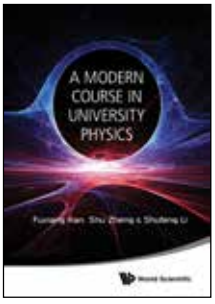
The proposed book plans to update and consolidate the development in the theory and applications of synchronization over the last three decades to relook into the advancement of Synchronization in Nature and Technology, to address the general definition of synchronization, and look into the different aspects of synchronization, including frequency synchronization, vibration, self- synchronization, autobalancing, vibrational retardation of rotation, unbalanced rotor in an oscillatory system, and the issues of self-synchronization and synergetic.

Readership: Graduate students and professional in the topics of synchronization in science and technology.

350pp	**Feb 2023**	
978-981-4719-28-5	**US$138**	**£115**
978-981-4719-29-2(ebook)	**US$207**	**£172**

A MODERN COURSE IN UNIVERSITY PHYSICS

Newtonian Mechanics, Oscillations & Waves, Electromagnetism



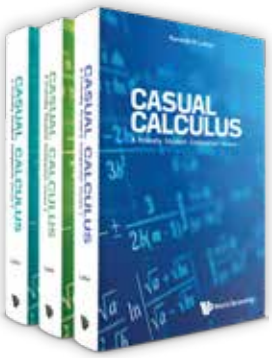
by **Fuxiang Han** *(ShanghaiTech University, China)*

This is a calculus-based textbook on general physics. It contains all the major subjects covered in an intermediate or advanced course on general physics. It aims at the middle to advanced level in general physics. It also embraces the most recent developments in science and technology.

Readership: Undergraduate students in science/engineering field and physics lecturers.

400pp	**Nov 2022**	
978-981-4596-97-8(pbk)	**US$58**	**£48**
978-981-4596-96-1	**US$118**	**£98**

CASUAL CALCULUS: A FRIENDLY STUDENT COMPANION



(In 3 Volumes)
by **Kenneth H Luther**
(Valparaiso University, USA)

Exercises are structured in three sets to force multiple encounters with each topic. Solved examples in the text are accompanied by "You Try It" problems, which are similar to the solved examples; the students use these to see if they're ready to move forward. Then at the end of the section, there are "Practice Problems": more problems similar to the "You Try It" problems, but given all at once. Finally, each section has Challenge Problems — these lean to being equally or a bit more difficult than the others, and they allow students to check on what they've mastered.

Readership: Undergraduate students currently taking or refreshing themselves on Calculus.

1764pp	**Jul 2022**	
978-981-124-264-9(Set)(pbk)	**US$188**	**£165**
978-981-124-263-2(Set)	**US$448**	**£395**
978-981-124-265-6(Set)(ebook)	**US$672**	**£590**

TRIBO-ELECTROSTATICS

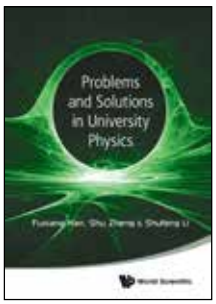
Fundamentals, Challenges and Perspectives
by **Lucian Dascalescu** *(University of Poitiers, France)*, **Mihai Lungu** *(West University of Timisoara, Romania)* & **Thami Zeghloul** *(University of Poitiers, France)*

- No other books in the field of tribo-electrostatics have so comprehensively cover the basic knowledge and recent development on the subject, and should be benefit to graduate students in physical and engineering sciences
- Such a text-book could also be of use to the engineers that need a better understanding of the physics behind the various useful or hazardous aspects of tribo-electrostatics, as well as to those who teach physics at high-school or university college level

Readership: Advanced undergraduate and graduate students in Applied Physics and Engineering, researchers and practitioners in the fields of electrostatic processes and tribology, teachers of general physics at high-school or college level.

200pp	**Dec 2023**	
978-981-123-602-0	**US$88**	**£75**
978-981-123-603-7(ebook)	**US$132**	**£115**

PROBLEMS AND SOLUTIONS IN UNIVERSITY PHYSICS



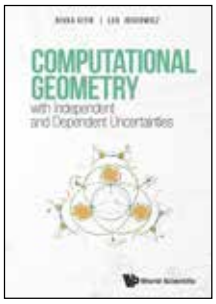
Newtonian Mechanics, Oscillations & Waves, Electromagnetism
by **Fuxiang Han** *(ShanghaiTech University, China)*

- A detailed solution is provided to every problem. For a problem that is not straightforward, the underlying physics principle(s) and idea(s) will be spelled out very clearly
- Useful problem-solving techniques are developed in some problems
- Basic numerical techniques can be learned and practiced in some problems

Readership: Undergraduate students in science/engineering field and physics lecturers.

500pp	**Nov 2022**	
978-981-4602-03-7(pbk)	**US$58**	**£48**

COMPUTATIONAL GEOMETRY WITH INDEPENDENT AND DEPENDENT UNCERTAINTIES



by **Rivka Gitik** *(The Hebrew University of Jerusalem, Israel)* & **Leo Joskowicz** *(The Hebrew University of Jerusalem, Israel)*

This comprehensive compendium describes a parametric model and algorithmic theory to represent geometric entities with dependent uncertainties between them. The theory, named Linear Parametric Geometric Uncertainty Model (LPGUM), is an expressive and computationally efficient framework that allows to systematically study geometric uncertainty and its related algorithms in computer geometry.

Readership: Researchers, professionals, academics, undergraduate and graduate students in robotics and mechanical engineering.

140pp	**Jul 2022**	
978-981-125-383-6	**US$78**	**£60**
978-981-125-384-3(ebook)	**US$117**	**£95**

A PRACTICAL GUIDE TO SCIENTIFIC AND TECHNICAL TRANSLATION

Publishing, Style and Terminology
by **James Brian Alexander Mitchell** *(MERL-Consulting SAS, France)* & **Anca Irina Florescu-Mitchell** *(MERL-Consulting SAS, France)*

"In this entertaining book, authors provide valuable insights and friendly advice on scientific writing and technical translation. Although the book is intended for non-English professionals, some sections may be useful for amateurish native speakers as well." **Theyencheri Narayanan, Senior Scientist, European Synchrotron Radiation Facility, France**

Readership: The book will be highly useful to scientists who are non-native speakers of English and who need to publish in English journals and apply for patents. Topics covered will appeal mostly to engineers, industrial scientists and researchers in the pure sciences. The book would also interest independent technical translators and students of translation.

188pp	**Feb 2022**	
978-981-124-314-1(pbk)	**US$28**	**£25**
978-981-124-155-0	**US$58**	**£50**
978-981-124-156-7(ebook)	**US$87**	**£75**

World Scientific Series on Nonlinear Science Series B - Vol 19

RECENT TRENDS IN CHAOTIC, NONLINEAR AND COMPLEX DYNAMICS

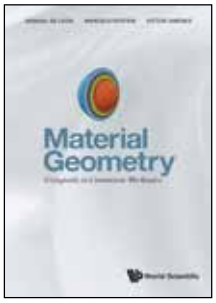
edited by **Jan Awrejcewicz** *(Lodz University of Technology, Poland)*, **Rajasekar Shanmuganathan** *(Bharathidasan University, India)* & **Minvydas Ragulskis** *(Kaunas University of Technology, Lithuania)*

In recent years, enormous progress has been made on nonlinear dynamics particularly on chaos and complex phenomena. This unique volume presents the advances made in theory, analysis, numerical simulation and experimental realization, promising novel practical applications on various topics of current interest on chaos and related fields of nonlinear dynamics.

Readership: Graduate students and researchers in nonlinear dynamics, applied physics and mathematics.

560pp	**Aug 2021**	
978-981-122-189-7	**US$158**	**£140**
978-981-122-190-3(ebook)	**US$237**	**£210**

MATERIAL GEOMETRY



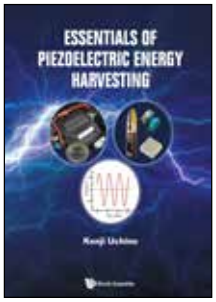
Groupoids in Continuum Mechanics
by **Manuel de León** *(Consejo Superior de Investigaciones Científicas, Spain)*, **Marcelo Epstein** *(University of Calgary, Canada)* & **Víctor Jiménez** *(Universidad de Alcalá (UAH), Spain)*

This monograph is the first in which the theory of groupoids and algebroids is applied to the study of the properties of uniformity and homogeneity of continuous media. It is a further step in the application of differential geometry to the mechanics of continua, initiated years ago with the introduction of the theory of *G*-structures, in which the group *G* denotes the group of material symmetries, to study smoothly uniform materials.

Readership: Graduate and postgraduate students interested in Continuum Mechanics, Mathematical Physics and Differential Geometry. Researchers in Elasticity, Applied Mathematics and Differential Geometry. And those taking a master or doctorate course that seeks the interaction between mathematics and mechanical engineering.

228pp	**May 2021**	
978-981-123-254-1	**US$88**	**£75**
978-981-123-255-8(ebook)	**US$132**	**£115**

ESSENTIALS OF PIEZOELECTRIC ENERGY HARVESTING



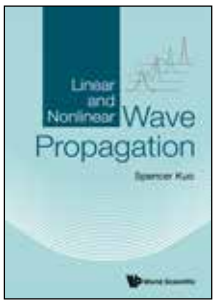
by **Kenji Uchino** *(The Pennsylvania State University, USA)*

Authored by a pioneer of piezoelectric actuators and piezoelectric energy harvesting, this unique compendium provides a solid theoretical background of piezoelectrics, practical material selection, device design optimization, and energy harvesting electric circuits. Included in each chapter are a list of chapter essentials, check points, example problems and solutions, and practice problems.

Readership: This textbook is suitable for university professors, industrial executive officers who are in charge of research direction/strategy in developing piezoelectric energy harvesting systems, graduate students, and industry senior engineers who work practically with piezoelectric energy harvesting systems.

340pp	**Apr 2021**	
978-981-123-463-7	**US$98**	**£85**
978-981-123-464-4(ebook)	**US$147**	**£130**

LINEAR AND NONLINEAR WAVE PROPAGATION



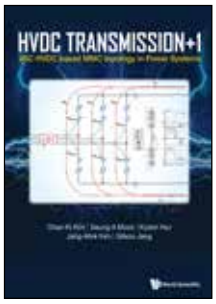
by **Spencer Kuo** *(New York University, USA)*

This interdisciplinary textbook is essential reading for anyone in above mentioned disciplines. It was prepared to provide students with an understanding of waves and methods of solving wave propagation problems. The presentation is self-contained and should be read without difficulty by those who have adequate preparation in classic mechanics. The selection of topics and the focus given to each provide essential materials for a lecturer to cover the bases in a linear/nonlinear wave course.

Readership: Students and professionals in linear waves and nonlinear waves courses.

208pp	**Apr 2021**	
978-981-123-163-6	**US$88**	**£75**
978-981-123-164-3(ebook)	**US$132**	**£115**

HVDC TRANSMISSION +1



VSC HVDC Based MMC Topology in Power Systems
by **Chan-Ki Kim** *(Korea Electric Power Research Institute, South Korea)*, **Seung-Il Moon** *(Seoul University, South Korea)*, **Kyeon Hur** *(Yonsei University, South Korea)*, **Jang-Mok Kim** *(Pusan University, South Korea)* & **Gilsoo Jang** *(Korea University, South Korea)*

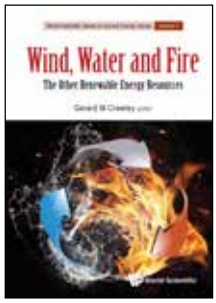
This book is a result of collaboration between industry and academia. It provides theoretical insights into the design and control of MMC technology and investigates practical aspects of the project planning, design, manufacture, implementation, and commissioning of MMC-HVDC and multi-terminal HVDC transmission technologies; filling the knowledge gap between the technology specialists and VSC-HVDC project developers and key personnel involved in those projects.

Readership: For graduate students and professionals dealing with HVDC.

496pp	**Apr 2021**	
978-981-121-229-1	**US$148**	**£130**
978-981-121-358-8(ebook)	**US$222**	**£195**

World Scientific Series in Current Energy Issues - Vol 7

WIND, WATER AND FIRE



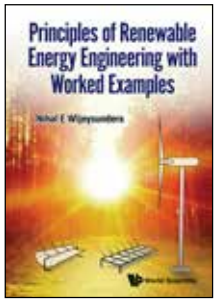
The Other Renewable Energy Resources
edited by **Gerard M Crawley**
(Marcus Enterprises LLC, USA)

- This book deals with a number of renewable energy resources including one of the most abundant namely Wind Energy. This is a field that is changing rapidly especially as wind turbines become larger and move offshore
- The book also provides an important update on generating electrical energy from hydroelectric dams particularly in developing countries. Other "water" sources described include developments using the energy from waves and tides, including the flow in rivers

Readership: Scientists, engineers and policy makers who need to know about or who deal with economic, policy and technical issues in the field of energy. Students and lay persons interested in learning about these specific energy areas, especially these renewable energy sources, should also find this book valuable and informative.

296pp	**Apr 2021**	
978-981-122-591-8	**US$108**	**£95**
978-981-122-592-5(ebook)	**US$162**	**£145**

PRINCIPLES OF RENEWABLE ENERGY ENGINEERING WITH WORKED EXAMPLES



by **Nihal E Wijeysundera**

In this volume, engineering principles of renewable energy are presented as extensions of the various subjects covered in regular engineering courses. Topics include solar thermal and solar PV power, wind power, energy storage, tidal power, wave power, and ocean thermal energy, and hydroelectric, geothermal and biomass systems.

Readership: Professionals, academics, researchers, undergraduate and graduate students in mechanical engineering, chemical engineering, civil engineering and energy studies.

500pp	**Aug 2022**	
978-981-125-114-6	**US$168**	**£150**
978-981-125-115-3(ebook)	**US$252**	**£220**

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INTERNATIONAL JOURNAL OF NEURAL SYSTEMS (IJNS)

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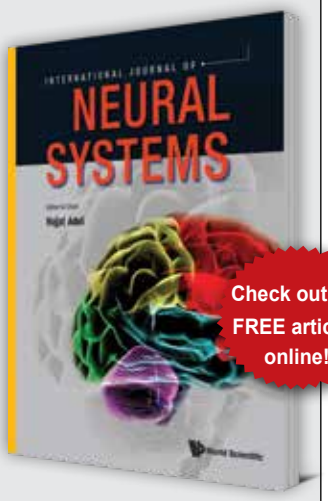
***IMPACT FACTOR: 6.325**

Editor-in-Chief: Hojjat Adeli *(The Ohio State University, USA)*



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The International Journal of Neural Systems is a bimonthly peer-reviewed journal which covers information processing in natural and artificial neural systems. The journal presents a fresh, undogmatic attitude towards this multi-disciplinary field, aiming to be a forum for novel ideas and improved understanding of collective and cooperative phenomena in systems with computational capabilities.

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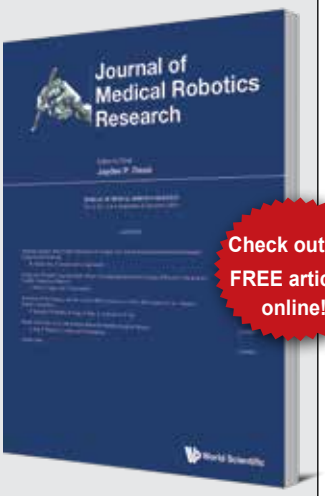
JOURNAL OF MEDICAL ROBOTICS RESEARCH (JMRR)

https://www.worldscientific.com/jmrr

Indexed in Scopus | Indexed in Embase

Editor-in-Chief: Jaydev P. Desai *(Georgia Tech., USA)*



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Medical robotics has been progressively revolutionizing treatment for at least the past two decades. The *Journal of Medical Robotics Research (JMRR)* invites fundamental contributions to all areas of medical robotics including clinical evaluation studies. The journal is primarily aimed towards bringing the scientific and technological developments as well as clinical evaluation studies in the area of medical robotics to a wider robotics and clinical audience.

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- Robot-assisted Surgery • Image-guided Interventions • Rehabilitation Robotics • Assistive Robotics • Surgical simulation • Image-guided Diagnosis and Therapy • Nano-scale and micro-scale Interventions • Telesurgery
- Haptics for Medical Robotics • Smart instrumented tools for surgery • Surgical Navigation • Surgical Workflow
- Wearable Rehabilitation Systems

Abstracting/Indexing: Baidu | CNKI Scholar | CnpLINKer | CrossRef | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | Embase | ExLibris Primo Central | Google Scholar | J-Gate | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | Proquest Computer & Information Systems Abstracts | ProQuest Computer & Information Systems Abstracts | ProQuest Nursing & Allied Health Database | ProQuest Technology Collection (Advanced Technologies Database with Aerospace) | Scopus | The Summon® Service .

INTERNATIONAL JOURNAL OF MODELING, SIMULATION, AND SCIENTIFIC COMPUTING (IJMSSC)

https://www.worldscientific.com/ijmssc

Editors-in-Chief: Lin Zhang *(Beihang University (BUAA), China)*
& **Agostino Bruzzone** *(Genoa University, Italy)*

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This is a quarterly journal which deals with the fields of system modeling, simulation and scientific computing. The scope of the journal covers, but is not limited to:

- Modeling theory and methodology for complex systems, system simulation theory and methodology
- Complex applications of high level simulation languages, Multi-parameter Optimization in simulation
- Verification, validation and accreditation of theory and technology
- Finite element methods, finite difference methods, Approximation theory
- Distributed/High-Performance/Pervasive/Grid/Cloud Computing, Bioinformatics/Data-Mining, High Performance simulation technology
- Computational electromagnetics, electrodynamics, fluid dynamics, computational heat, mass, and momentum transfer
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INTERNATIONAL JOURNAL OF COMPUTATIONAL METHODS (IJCM)

https://www.worldscientific.com/ijcm

***IMPACT FACTOR: 1.734**

Chief Editor: G R Liu *(University of Cincinnati, USA)*

The purpose of this journal is to provide a unique forum for the fast publication and rapid dissemination of original research results and innovative ideas on the state-of-the-art on computational methods. The methods should be innovative and of high scholarly, academic and practical value.

The journal is devoted to all aspects of modern computational methods and the articles can involve theory, algorithm, programming, coding, numerical simulation and/or novel application of computational techniques to problems in engineering, science, and other disciplines related to computations. The journal places a great emphasis on creativity, novelty and innovation of computational methods. It aims to become the major platform that archives the history of the technical development of new generations of computational methods.

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UNMANNED SYSTEMS (US)

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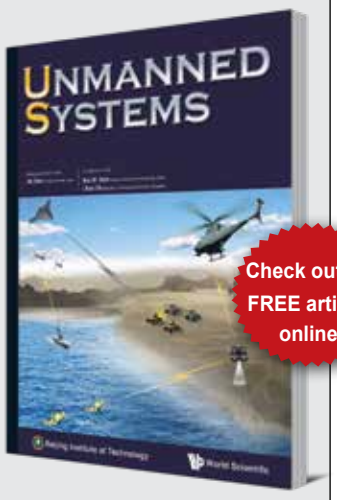

Managing Editor-in-Chief: Jie Chen *(Tongji University, China)*

Co-Editors-in-Chief: Ben M. Chen *(Chinese University of Hong Kong, China)* & **Lihua Xie** *(Nanyang Technological University, Singapore)*

Unmanned Systems (US) aims to cover all subjects related to the development of automatic machine systems, which include advanced technologies in unmanned hardware platforms (aerial, ground, underwater and unconventional platforms), unmanned software systems, energy systems, modeling and control, communications systems, computer vision systems, sensing and information processing, navigation and path planning, computing, information fusion, multi-agent systems, mission management, machine intelligence, artificial intelligence, and innovative application case studies.

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INTERNATIONAL JOURNAL OF AIR-CONDITIONING AND REFRIGERATION (IJACR)

https://www.worldscientific.com/ijacr

Editor-in-Chief: Yong Tae Kang *(Korea University, Korea)*

As the only international journal in the field of air-conditioning and refrigeration in Asia, IJACR reports researches on the equipments for controlling indoor environment and cooling/refrigeration. It includes broad range of applications and underlying theories including fluid dynamics, thermodynamics, heat transfer, and nano/bio-related technologies. In addition, it covers future energy technologies, such as fuel cell, wind turbine, solar cell/heat, geothermal energy and etc.

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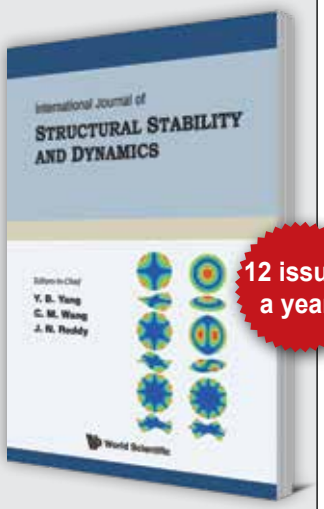
INTERNATIONAL JOURNAL OF STRUCTURAL STABILITY AND DYNAMICS (IJSSD)

https://www.worldscientific.com/ijssd ***IMPACT FACTOR: 2.957**



Editors-in-Chief: Y B Yang *(Chongqing University, China),* **C M Wang** *(The University of Queensland, Australia)* & **J N Reddy** *(Texas A&M University, USA)*

The aim of this journal is to provide a unique forum for the publication and rapid dissemination of original research on stability and dynamics of structures. Papers that deal with conventional land-based structures, aerospace structures, marine structures, as well as biostructures and micro- and nano-structures are considered. Papers devoted to all aspects of structural stability and dynamics (both transient and vibration response), ranging from mathematical formulations, novel methods of solutions, to experimental investigations and practical applications in civil, mechanical, aerospace, marine, bio- and nano-engineering will be published.

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JOURNAL OF MULTISCALE MODELLING (JMM)

https://www.worldscientific.com/jmm

Editor-in-Chief: M H Aliabadi *(Imperial College London, UK)*

Multiscale Modelling is a relatively new research field which has in a short time had a significant impact on many scientific and engineering disciplines including material science, fluid dynamics, chemistry, and biology. In these areas problems are often multiphysics and have important features at multiple scales, particularly multiple spatial scales.

Multiscale Modelling is an international peer-reviewed journal that presents forefront fundamental works in the above field of research. It features timely scientific reports of advances in modelling and computation, theoretical breakthroughs and also contains interesting review articles about emerging issues. Multiscale Modelling provides a common platform for exchange of views and presentation of original papers (theoretical, computational and experimental) with a general emphasis on

Multiscale issues in this rapidly developing field. Papers reporting advancement of the theory and applications of single scale problems (i.e. Nano, Micro, etc.) which pave the way for multiscale implementation are also appropriate for the journal.

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INTERNATIONAL JOURNAL OF APPLIED MECHANICS (IJAM)

https://www.worldscientific.com/ijam ***IMPACT FACTOR: 3.951**

Editors-in-Chief: Zishun LIU *(Xi'an Jiaotong University, China)* & **Tiejun WANG** *(Xi'an Jiaotong University, China)*

The journal has as its objective the publication and wide electronic dissemination of innovative and consequential research in applied mechanics. IJAM welcomes high-quality original research papers in all aspects of applied mechanics from contributors throughout the world. The journal aims to promote the international exchange of new knowledge and recent development information in all aspects of applied mechanics. In addition to covering the classical branches of applied mechanics, namely solid mechanics, fluid mechanics, thermodynamics, and material science, the journal also encourages contributions from newly emerging areas such as biomechanics, electromechanics, the mechanical behavior of advanced materials, nanomechanics, and many other inter-disciplinary research areas in which the concepts of applied mechanics are extensively applied and developed.

It explores analytical, computational and experimental progresses in all the above mentioned areas. Types of papers accepted include: • Review articles on special topics of general interest • Original research papers • Notes and communications • Book reviews • Other special topics of general interest in this area.

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INTERNATIONAL JOURNAL OF RELIABILITY, QUALITY AND SAFETY ENGINEERING (IJRQSE)

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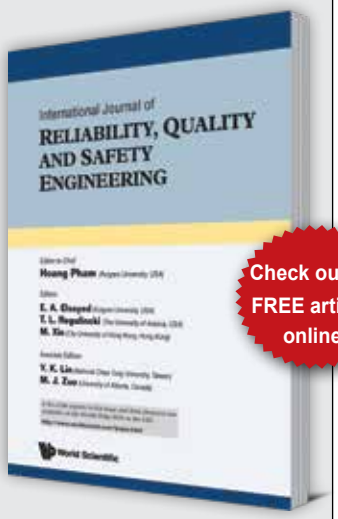

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Editor-in-Chief: Hoang Pham *(Rutgers University, USA)*

IJRQSE is a refereed journal focusing on both the theoretical and practical aspects of reliability, quality, and safety in engineering. The journal is intended to cover a broad spectrum of issues in manufacturing, computing, software, aerospace, control, nuclear systems, power systems, communication systems, and electronics. Papers are sought in the theoretical domain as well as in such practical fields as industry and laboratory research. The journal is published six issues per year. It is intended to bridge the gap between the theoretical experts and practitioners in the academic, scientific, government, and business communities. Review articles and case studies are also welcome in addition to innovative works in all key areas of the journal.

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BIOMEDICAL ENGINEERING: APPLICATIONS, BASIS AND COMMUNICATIONS (BME)

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Editor-in-Honor: Wang, Cheng-Yi *(National Taiwan University Hospital, Taiwan)*

Editor-in-Chief: Lu, Tung-Wu *(National Taiwan University, Taiwan)*

This international, interdisciplinary journal aiming at publishing up-to-date contributions on original clinical and basic research in the biomedical engineering. Research of biomedical engineering has grown tremendously in the past few decades. Meanwhile, several outstanding journals in the field have emerged, with different emphases and objectives. We hope this journal will serve as a new forum for both scientists and clinicians to share their ideas and the results of their studies.

Biomedical Engineering: Applications, Basis and Communications explores all facets of biomedical engineering, with emphasis on both the clinical and scientific aspects of the study. It covers the fields of bioelectronics, biomaterials, biomechanics, bioinformatics, nano-biological sciences and clinical engineering.

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JOURNAL OF ADVANCED MANUFACTURING SYSTEMS (JAMS)

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Editor-in-Chief: Dr V K Jain (Prof Retired) *(Indian Institute of Technology Kanpur, India)*

Journal of Advanced Manufacturing Systems publishes original papers pertaining to the state-of-the-art research and development, product development, process planning, resource planning, applications and tools in the areas related to advanced manufacturing including advanced manufacturing technologies.

The journal addresses: Manufacturing Systems, Collaborative Design, Collaborative Decision Making, Product Simulation, In-Process Modeling, Resource Planning, Resource Simulation, Tooling Design, Planning and Scheduling, Virtual Reality Technologies and Applications, CAD/CAE/CAM Systems, Networking and Distribution, Supply Chain Management, Advanced Manufacturing Technologies.

Abstracting/Indexing: Academic OneFile | Baidu | Business Source Complete | Civil Engineering Abstracts | CNKI | CnpLINKer | Compendex | CrossRef | Ebsco Discovery Service | EBSCO Electronic Journal Service (EJS) | Emerging Sources Citation Index (ESCI) | Engineering Source (Ebsco) | ExLibris Primo Central | Geobase | Google Scholar | INSPEC | J-Gate | Naver | National Science and Technology Libraries (NSTL) | OCLC WorldCat® | ProQuest Technology Collection (Material Science & Engineering Database) | Scopus | The Summon® Service.

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GUIDANCE, NAVIGATION AND CONTROL (GNC)

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Editors-in-Chief: Haibin Duan & **Yingxun Wang** *(Beihang University, China)*

Guidance, Navigation and Control (GNC) will report on advances in the understanding and utilization of guidance, navigation and control theories, technologies and systems. The journal serves as a platform for academic exchange by experts, scholars and researchers in these fields. The following subjects are of particular interest to the journal:

- Modeling, analysis and design of dynamics, control and guidance systems
- Stability, optimization, electronics, avionics, and information processing related to various vehicle systems (marine, ground, aeronautical, and astronautical systems)
- Theoretical and empirical research in guidance, navigation and control technologies
- Application of guidance, navigation and control technologies to real-world problems

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JOURNAL OF THEORETICAL AND COMPUTATIONAL ACOUSTICS (JTCA)

(Formerly known as Journal of Computational Acoustics)

https://www.worldscientific.com/jtca

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Managing Editor: Sean F. Wu *(Wayne State University, USA)*

Co-Editors-in-Chief: Steffen Marburg *(Technical University of Munich, Germany)*

Sean F. Wu *(Wayne State University, USA)*

The aims of this journal are to provide an international forum for disseminating state-of-the-art information in the fields of Theoretical and Computational Acoustics. Topics covered by this journal include research and tutorial contributions in OCEAN ACOUSTICS (a subject of active research in relation with sonar detection and the design of noiseless ships), SEISMO-ACOUSTICS (of concern to earthquake science and engineering, and also to those doing underground prospection like searching for petroleum), AEROACOUSTICS (which includes the analysis of noise created by aircraft), COMPUTATIONAL METHODS, and SUPERCOMPUTING. In addition to the traditional issues and problems in computational methods, the journal also considers theoretical research acoustics papers which lead to large-scale scientific computations.

Abstracting/Indexing: Academic OneFile | Academic Search Complete/ Elite/ Premier | Baidu | CNKI Scholar | CnpLINKer | CompuMath Citation Index® | CrossRef | CSA Aquatic Sciences and Fisheries Abstracts (ASFA) | CSA Meteorological & Geoastrophysical Abstracts | CSA Oceanic Abstracts | CSA Selected Water Resources Abstracts | Current Contents® Engineering, Computing and Technology | Ebsco Computer & Applied Science Complete | Ebsco Discovery Service | Ebsco Electronic Journal Service (EJS) | Ebsco Engineering Source | Ebsco Science & Technology Collection | ExLibris Primo Central | Google Scholar | ISI Alerting Services | J-Gate | Journal Citation Reports/Science Edition | Mathematical Reviews®(MR) | Naver | NSTL - National Science and Technology Libraries | OCLC WorldCat® | Proquest Computer & Information Systems Abstracts | ProQuest SciTech Premium Collection | Science Citation Index® | Science Citation Index Expanded | Scopus | The Summon® Service | Zentralblatt MATH.

INTERNATIONAL JOURNAL OF OCEAN AND COASTAL ENGINEERING (IJOCE)

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Advisors: Chiang C. Mei *(MIT, USA)* & **Philip L.-F. Liu** *(National University of Singapore and Cornell University, USA)*

Editors-in-Chief: Lev Shemer *(Tel Aviv University, Israel)* & **Xiping Yu** *(Tsinghua Univ., China)*

Managing Editors: Chao An *(Shanghai Jiao Tong University, China)*, **Xin Chen** *(China Agricultural Univ.)*, **Fang He** *(Zhejiang University, China)* & **Fushun Liu** *(China Ocean Univ.)*

The scope of this journal encompasses experimental, computational, and theoretical aspects of ocean and coastal engineering, as well as closely-related subjects and meaningful applications, whose composition will evolve continuously to respond to emerging new areas and directions in modern science, engineering and technology.

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