

2017

Catalogue

# CIVIL ENGINEERING



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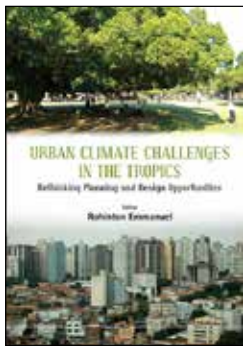
Connecting Great Minds



# Highlights

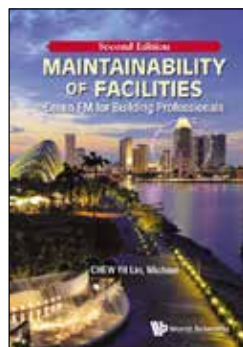
## Civil Engineering Catalogue 2017

page 4



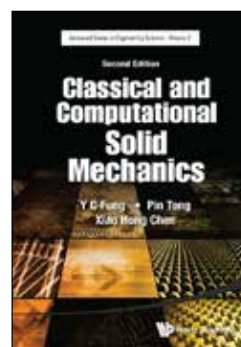
edited by **Rohinton Emmanuel**  
(Glasgow Caledonian University, UK)

page 4



by **Michael Chew Yit-Lin**  
(NUS, Singapore)

page 5



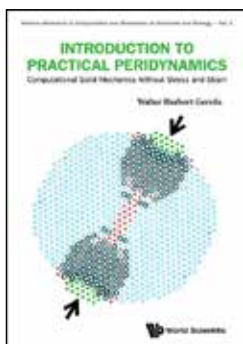
by **Y C Fung** (UC San Diego), **Pin Tong**  
(UC San Diego & Hong Kong University of  
Science and Technology, Hong Kong) &  
**Xiao Hong Chen** (UTC Aerospace Systems, USA)

page 5



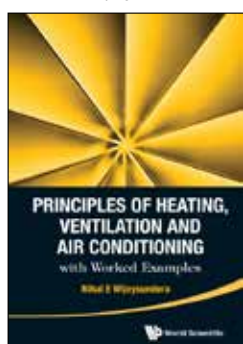
by **Gabi Ben-Dor**, **Anatoly Dubinsky** &  
**Tov Elperin** (University of the Negev, Israel)

page 6



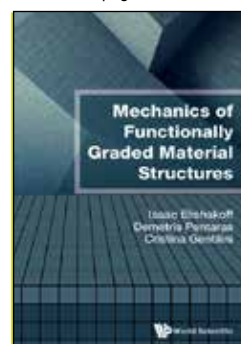
by **Walter Herbert Gerstle**  
(University of New Mexico, USA)

page 6



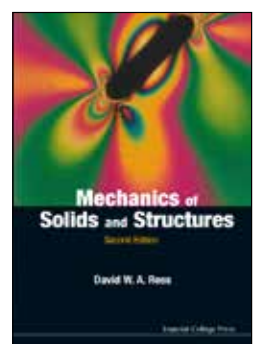
by **Nihal E Wijesundera**

page 6



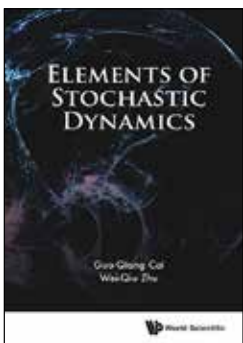
by **Isaac Elishakoff** (Florida Atlantic University,  
USA), **Demetris Pentaras** (Cyprus University  
of Technology, Cyprus) & **Cristina Gentilini**  
(University of Bologna, Italy)

page 6



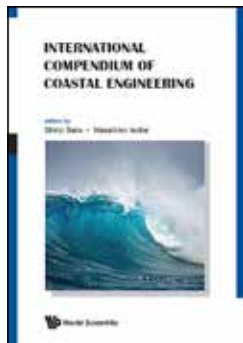
by **David W A Rees**  
(Brunel University, UK)

page 6



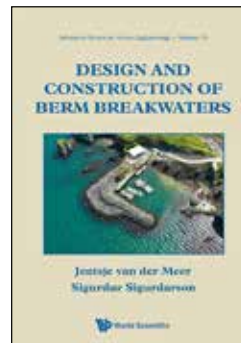
by **Guo-Qiang Cai** (Florida Atlantic  
University, USA) & **Wei-Qiu Zhu**  
(Zhejiang University, China)

page 7



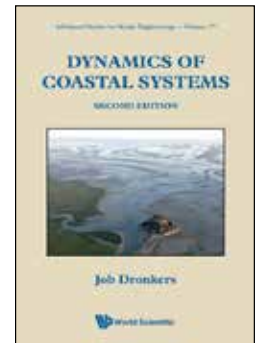
edited by **Shinji Sato** (The University of  
Tokyo, Japan) & **Masahiko Isobe**  
(Kochi University of Technology, Japan)

page 7



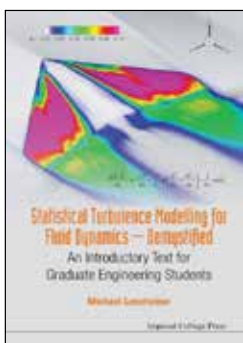
by **Jentsje van der Meer** (Van der Meer  
Consulting BV, The Netherlands & UNESCO-  
IHE, The Netherlands) & **Sigurdur Sigurdarson**  
(IceBreak Consulting Engineers ehf, Iceland)

page 8



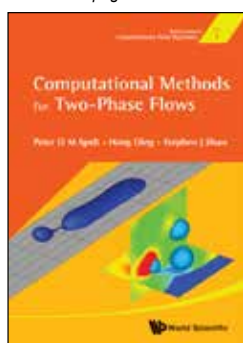
by **Job Dronkers**  
(Netherlands Centre of Coastal Research,  
The Netherlands)

page 10



by **Michael Leschziner**  
(Imperial College London, UK)

page 10



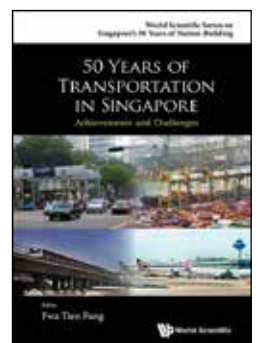
by **Peter D M Spelt**  
(Imperial College London, UK),  
**Stephen J Shaw** (Xi'an Jiaotong —  
University of Liverpool, Suzhou, China)  
& **Hang Ding** (UC Santa Barbara)

page 12



by **Michael G H Bell** (The University  
of Sydney, Australia), **Ioannis Kaparias**  
(Imperial College London, UK) &  
**Bill Mount** (Retired, Royal Borough of  
Kensington and Chelsea, UK)

page 12



edited by **Tien Fang Fwa**  
(NUS, Singapore)



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# C O N T E N T S

# Civil Engineering

Architecture, Building Management and Construction .....	4
Analysis and Applications In Civil Engineering .....	5
Coastal / Ocean Engineering .....	7
Environmental Engineering .....	9
Fluid Dynamics .....	10
Structural Engineering .....	11
Traffic Engineering .....	12
General .....	13
Selected Backlist .....	14
Proceedings .....	14
Title Index .....	15
Author Index .....	15
Order Form .....	18

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## Architecture, Building Management and Construction

### URBAN CLIMATE CHALLENGES IN THE TROPICS

Rethinking Planning and Design Opportunities

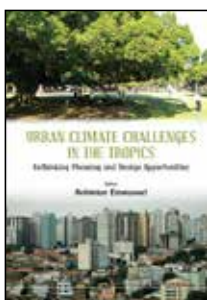
edited by **Rohinton Emmanuel**  
(Glasgow Caledonian University, UK)

#### Key Features:

- Places the urban climate amelioration debate within the wider climate change debate
- Focuses specifically on an important and rapidly urbanizing region (the tropics)
- Provides practical advice to researchers and practitioners dealing with urban sustainability and climate sensitive design in the tropics

**Readership:** Planners, designers, architects and advanced undergraduate and graduate students of architecture or planning and environmental management with a focus on the tropics.

<b>360pp</b>	<b>May 2016</b>	
<b>978-1-78326-840-5</b>	<b>US\$154</b>	<b>£111</b>
<b>978-1-78326-841-2(ebook)</b>	<b>US\$200</b>	<b>£144</b>



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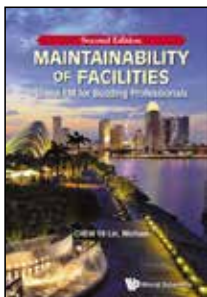
Green FM for Building Professionals  
**2nd Edition**

by **Michael Chew Yit-Lin** (NUS, Singapore)

In this edition, existing chapters have been brought up to date, to include contemporary sustainability concerns, such as: sustainability design, construction and materials, and maintainability of green features.

**Readership:** Practitioners and students in architecture and building management.

<b>600pp</b>	<b>Aug 2016</b>	
<b>978-981-4725-64-4</b>	<b>US\$118</b>	<b>£78</b>
<b>978-981-4725-75-0(pbk)</b>	<b>US\$68</b>	<b>£45</b>



### FORGING A SUSTAINABLE FUTURE FOR ASIAN CITIES

Case Studies on Urban Regeneration

edited by **Chye Kiang Heng** (NUS, Singapore), **Lai Choo Malone-Lee** (NUS, Singapore), **Rita Padawangi** (NUS, Singapore), **Devisari Tunas** (NUS, Singapore) & **Abdul Rahim bin Abdul Hamid** (NUS, Singapore)

*Forging a Sustainable Future for Asian Cities* collects and analyses as many instances of these negative factors and their positive solutions from the vast number of cities at various stages of urban life. This volume contains case studies resulting from meticulous field work and analysis on the trends and concepts in urban regeneration and planning.

**Readership:** Professionals, researchers and practitioners in urban planning industry; advanced undergraduates and postgraduates.

<b>200pp</b>	<b>Jan 2017</b>	
<b>978-981-4713-34-4(pbk)</b>	<b>US\$102</b>	<b>£73</b>
<b>978-981-4713-35-1(ebook)</b>	<b>US\$133</b>	<b>£95</b>

### CONTRACT ADMINISTRATION AND PROCUREMENT IN THE SINGAPORE CONSTRUCTION INDUSTRY

by **Pin Lim** (NUS, Singapore)

This book discusses the roles and relationship of the different parties (e.g. Owner, Architect, Quantity Surveyor), tendering procedures, project delivery methods, payments, variations, final account, and other aspects for the administration of construction contracts in Singapore

**Readership:** Students, Professionals and Practitioners in the Singapore Construction Industry

<b>400pp</b>	<b>Sep 2016</b>	
<b>978-981-4632-28-7</b>	<b>US\$82</b>	<b>£54</b>
<b>978-981-4632-29-4(pbk)</b>	<b>US\$38</b>	<b>£25</b>



### A GUIDE TO PLANNING ECOLOGICAL TOWNSHIPS

Sustainability Performance Indicators and Planning Strategies

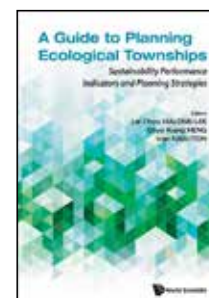
edited by **Lai Choo Malone-Lee** (NUS, Singapore), **Chye Kiang Heng** (NUS, Singapore) & **Ivan Nasution** (NUS, Singapore)

#### Key Features:

- No other comprehensive guidebook on sustainability indicators to support planning and design of ecological townships
- Contains charts and tables of quantitative indicators and qualitative parameters
- Illustrative studies with master planning and concept layouts in full colour

**Readership:** Practising planners, architects, design consultants, developers and policy makers in the fields of urban planning, township design, project administration and sustainability management, as well as academics, researchers and students would find this book useful.

<b>250pp</b>	<b>Oct 2016</b>	
<b>978-981-4733-53-3</b>	<b>US\$82</b>	<b>£59</b>
<b>978-981-4733-54-0(ebook)</b>	<b>US\$107</b>	<b>£77</b>



World Scientific Series on  
Singapore's 50 Years of Nation-Building  
**SINGAPORE'S REAL ESTATE**  
50 Years of Transformation  
edited by **Ngee Huat Seek** (NUS, Singapore),  
**Tien Foo Sing** (NUS, Singapore) &  
**Shi Ming Yu** (NUS, Singapore)

#### Key Features:

- A good reference book for professionals, students, and also investors interested in the evolution and transformation of the real estate market in Singapore
- Important case studies that cover some of the experiences in overseas ventures and some key local development milestones

**Readership:** Undergraduate students of real estate; professionals, policy-makers and practitioners, investors, and academics who are interested in real estate markets, housing policies, financing innovations and cross-border investments in Singapore; and members of the general public interested in learning more about the history of real estate in Singapore over the past 50 years.

<b>290pp</b>	<b>Apr 2016</b>	
<b>978-981-4689-25-0</b>	<b>US\$68</b>	<b>£45</b>
<b>978-981-4689-26-7(pbk)</b>	<b>US\$36</b>	<b>£24</b>
<b>978-981-4689-27-4(ebook)</b>	<b>US\$88</b>	<b>£59</b>



World Scientific Series on  
Singapore's 50 Years of Nation-Building

## 50 YEARS OF URBAN PLANNING IN SINGAPORE

edited by **Chye Kiang Heng** (NUS, Singapore)

**Key Features:**

- An insightful and informative volume spanning 50 years of Singapore's urban planning trajectory, which will engage specialists in related fields and general readers alike
- Comprehensive coverage of urban planning themes that include urban history, urban models and systems, housing, transportation, tourism, economy, culture, heritage, and sustainability to name a few
- A curated anthology that combines the voices of provocative practitioners and academics whose lifelong work on planning and urban issues provides a vibrant range of diverse perspectives



**Readership:** Urban planning, architecture, and urban conservation and heritage practitioners; introductory-level urban studies, public policy, and urban administration students; and members of the general public interested in learning more about the history of urban planning in Singapore over the past 50 years.

<b>350pp</b>	<b>Jul 2016</b>	
<b>978-981-4656-45-0</b>	<b>US\$94</b>	<b>£68</b>
<b>978-981-4656-46-7(pbk)</b>	<b>US\$38</b>	<b>£25</b>
<b>978-981-4656-47-4(ebook)</b>	<b>US\$122</b>	<b>£88</b>

## RECLAIMING BACKLANES

Design Vision for Increasing Building Performance and Reprogramming Common Spaces

edited by **Marcel Bruelisaue** & **Sonja Berthold**  
(Future Cities Laboratory, Singapore ETH-Centre, Singapore)

*Reclaiming Backlanes* presents design visions for future development of shophouse neighbourhoods, reprogramming backlanes into viable and high-quality common spaces, while improving energy efficiency of shophouses by up to 50%. These visions mark the convergence of studies in energy efficiency, pedestrian movement, historic building stock analysis and urban diversity by a multidisciplinary team.

**Readership:** Practitioners and students of architecture, urban design, urban planning and building technology; real estate developers; government agencies; and policy makers.

<b>336pp</b>	<b>Jan 2016</b>	
<b>978-981-4740-86-9</b>	<b>US\$138</b>	<b>£99</b>
<b>978-981-4740-87-6(ebook)</b>	<b>US\$179</b>	<b>£129</b>



Air Pollution Reviews - Vol 5

## URBAN POLLUTION AND CHANGES TO MATERIALS AND BUILDING SURFACES

edited by **Peter Brimblecombe**  
(City University of Hong Kong, Hong Kong)

*Urban Pollution and Changes to Materials and Building Surfaces* examines a range of materials, discussing the ways in which they are likely to be damaged by contemporary urban pollutants, with an emphasis on the effects of air pollution. A chapter on graffiti is also included.

**Readership:** Scientists and policymakers dealing with the effects of urban pollution, as well as undergraduate and graduate students working in this area.

<b>332pp</b>	<b>Jan 2016</b>	
<b>978-1-78326-885-6</b>	<b>US\$138</b>	<b>£99</b>
<b>978-1-78326-886-3(ebook)</b>	<b>US\$179</b>	<b>£129</b>



## Analysis and Applications in Civil Engineering

Advanced Series in Engineering Science - Vol 2

## CLASSICAL AND COMPUTATIONAL SOLID MECHANICS 2nd Edition

by **Y C Fung** (UC San Diego), **Pin Tong**  
(UC San Diego & Hong Kong University of  
Science and Technology, Hong Kong) &  
**Xiao Hong Chen** (UTC Aerospace Systems, USA)

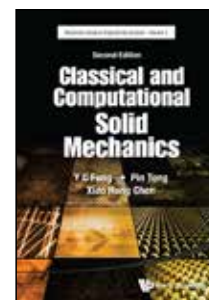
**Review of the First Edition:**

"... this is a good, comprehensive, unified presentation of much of the field of solid mechanics, written by two well-regarded researchers in that field." **Applied Mechanics Reviews**

The second edition provides an update of the recent developments in classical and computational solid mechanics. The structure of the book is also updated to include five new areas: Fundamental Principles of Thermodynamics and Coupled Thermoelastic Constitutive Equations at Large Deformations, Functional Thermodynamics and Thermo-viscoelasticity, Thermodynamics with Internal State Variables and Thermo-Elasto-Viscoplasticity, Electro-Thermo-Viscoelasticity/Viscoplasticity, and Meshless Method. These new topics are added as self-contained sections or chapters. Many books in the market do not cover these topics.

**Readership:** Researchers, academics, graduate and senior undergraduates in biomedical engineering, mechanical engineering, aeronautical and aerospace engineering, civil engineering and applied mechanics.

<b>900pp</b>	<b>Nov 2016</b>	
<b>978-981-4713-64-1</b>	<b>US\$178</b>	<b>£117</b>
<b>978-981-4713-65-8(pbk)</b>	<b>US\$95</b>	<b>£63</b>



## WSPC HANDBOOK OF EXPERIMENTAL RESULTS ON HIGH SPEED PENETRATION INTO METALS, CONCRETE AND SOILS

by **Gabi Ben-Dor**, **Anatoly Dubinsky** &  
**Tov Elperin** (University of the Negev, Israel)

This unique compendium contains a vast systematized data of 14, 000 experiments on high-velocity penetration into metals, concrete, reinforced concrete, and geological media which were published in the open literature (journal papers, reports, conference proceedings) during the last 70 years.

**Readership:** Researchers, academics, and professionals in mechanical engineering, engineering mechanics, experimental physics and civil engineering.

<b>620pp</b>	<b>Aug 2006</b>	
<b>978-981-3109-34-6</b>	<b>US\$198</b>	<b>£131</b>



## INTRODUCTION TO MICROMECHANICS AND NANOMECHANICS 2nd Edition

by **Shaofan Li** (UC Berkeley) & **Gang Wang** (Hong Kong University of  
Science and Technology, China)

In this second edition, some previous chapters are revised, and some new chapters added — crystal plasticity, multiscale crystal defect dynamics, quantum force and stress, micromechanics of metamaterials, and micromorphic theory.

**Readership:** Researchers and educators in academics, and graduate students in engineering mechanics, nanomechanics, nanomaterials and nanostructure and mechanical engineering.

<b>700pp</b>	<b>Sep 2016</b>	
<b>978-981-4436-75-5</b>	<b>US\$114</b>	<b>£75</b>
<b>978-981-4436-76-2(pbk)</b>	<b>US\$64</b>	<b>£42</b>

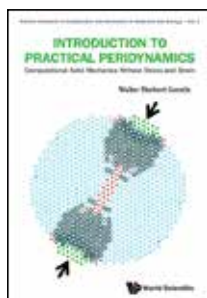


Frontier Research in Computation and Mechanics of Materials and Biology - Vol 1

## INTRODUCTION TO PRACTICAL PERIDYNAMICS

Computational Solid Mechanics Without Stress and Strain

by **Walter Herbert Gerstle**  
(University of New Mexico, USA)



### Key Features:

- Provides the background necessary for students to appreciate the peridynamic approach
- This is the first treatment of peridynamics as a lattice model, rather than as a continuum model
- This book presents the classical papers of Navier and Cauchy for the first time, annotated and in English
- The first book on peridynamics, written as a textbook, appropriate for a graduate-level course, complete with exercises

**Readership:** Academic & professional; graduate students and professionals in the field of Engineering who deal with the computational simulation of solids — in particular those who would like to do so using a state-based peridynamic model that is applied directly to particle lattices.

**428pp** **Sep 2015**  
**978-981-4699-54-9** **US\$85** **£56**

## NONLOCAL CONTINUUM DAMAGE AND PLASTICITY

Theory and Computations

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

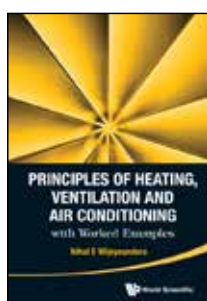
This book discusses the integral and gradient formulations of nonlocality, computational aspects, and comparison of approaches and emphasizes recent developments in the bridging of material length scales.

**Readership:** Researchers in the academic community, national laboratories in materials and solid mechanics, companies in engineering mechanics and materials, and graduate students.

**600pp** **Apr 2017**  
**978-981-281-397-8** **US\$190** **£137**

## PRINCIPLES OF HEATING, VENTILATION AND AIR CONDITIONING WITH WORKED EXAMPLES

by **Nihal E Wijesundera**



A novel feature of the book is the inclusion of about 15 worked examples in each chapter, carefully chosen to highlight the diverse aspects of HVAC design. The solutions for the worked examples clarify the physical principles behind the design method. In addition, there are problems at the end of each chapter for which numerical answers are provided. The book includes a series of MATLAB programs that may be used to solve realistic HVAC design problems, which in general, require extensive and repetitive calculations.

**Readership:** Academics, practicing engineers, professionals, postgraduate and undergraduate students in mechanical engineering, building management, architecture, civil engineering and energy studies.

**716pp** **Jan 2016**  
**978-981-4667-76-0** **US\$190** **£137**  
**978-981-4667-77-7(ebook)** **US\$247** **£178**

## MECHANICS OF FUNCTIONALLY GRADED MATERIAL STRUCTURES

by **Isaac Elishakoff** (Florida Atlantic University, USA), **Demetris Pentaras** (Cyprus University of Technology, Cyprus) & **Cristina Gentilini** (University of Bologna, Italy)



### Key Features:

- This book deals with material grading of structures in (a) thickness, (b) axial and (c) polar directions
- It derives novel closed-form solutions that can serve as benchmarks with which numerical solutions can be compared with
- It contains extensive bibliography in this fascinating topic

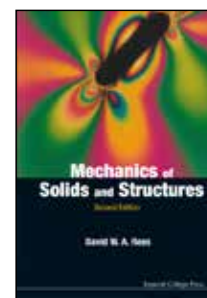
**Readership:** Graduate students, academics, professional and researchers interested in the effects of various grading mechanisms on structural behavior as well as vibration and buckling.

**340pp** **Dec 2015**  
**978-981-4656-58-0** **US\$150** **£108**  
**978-981-4656-59-7(ebook)** **US\$195** **£140**

## MECHANICS OF SOLIDS AND STRUCTURES

2nd Edition

by **David W A Rees** (Brunel University, UK)



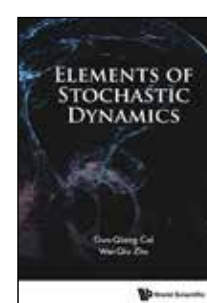
The fifteen chapters of this book are arranged in a logical progression. The text begins with the more fundamental material on stress and strain transformations with elasticity theory for plane and axially symmetric bodies, followed by a full treatment of the theories of bending and torsion. Coverage of moment distribution, shear flow, struts and energy methods precede a chapter on finite elements.

**Readership:** Undergraduate and graduate students of mechanical, aeronautical, civil, materials and design engineering.

**840pp** **Aug 2016**  
**978-1-78326-395-0** **US\$155** **£102**  
**978-1-78326-396-7(pbk)** **US\$88** **£58**

## ELEMENTS OF STOCHASTIC DYNAMICS

by **Guo-Qiang Cai** (Florida Atlantic University, USA) & **Weiqiu Zhu** (Zhejiang University, China)



The book describes the basic concepts and theories of random variables and stochastic processes in detail; provides various solution procedures for systems subjected to stochastic excitations; introduces stochastic stability and bifurcation; and explores failures of stochastic systems. The book also incorporates some latest research results in modeling stochastic processes; in reducing the system degrees of freedom; and in solving nonlinear problems. The book also provides numerical simulation procedures of widely-used random variables and stochastic processes.

**Readership:** Students & Professionals; graduate students in various areas involving stochastic uncertainties and researchers who want to explore stochastic dynamics in their fields.

**450pp** **Jul 2016**  
**978-981-4723-32-9** **US\$118** **£85**  
**978-981-4723-33-6(ebook)** **US\$153** **£111**

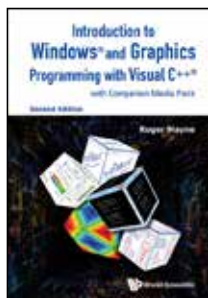
## INTRODUCTION TO WINDOWS® AND GRAPHICS PROGRAMMING WITH VISUAL C++® 2nd Edition

(with Companion Media Pack)  
by **Roger Mayne** (University at Buffalo, State University of New York, USA)

This second edition brings the original book up to date reflecting the evolution of Visual C++ and the Windows environment since the first edition. All example projects, figures and text in the book have been revised and coverage of touch screen developments has been added. Two new chapters on touch screen programming are based on programming strategies developed throughout the book. New examples demonstrate touch screen operations and consider programming for a tablet environment.

**Readership:** Technical people interested in developing computer programs for the Microsoft Windows environment, practicing engineers, scientists, engineering students, and others who would like to understand Visual C++; programming and use its inherent graphic capabilities.

480pp	Aug 2015	
978-981-4641-86-9	US\$88	£58
978-981-4699-40-2(pbk)	US\$48	£32



Advanced Series on Ocean Engineering - Vol 40

## DESIGN AND CONSTRUCTION OF BERM BREAKWATERS

by **Jentsje van der Meer** (Van der Meer Consulting BV, The Netherlands & UNESCO-IHE, The Netherlands) & **Sigurdur Sigurdarson** (IceBreak Consulting Engineers ehf, Iceland)

The authors combine over 40 years of collective experience working with breakwaters to put forward a design framework in *Design and Construction of Berm Breakwaters*; covering the science and design practices of berm breakwater structures. The original design consisted of mass armoured berms that reshaped into statically stable S-shaped slopes. The design was adopted in Iceland and eventually led to a development with more stable structures by using available rock sizes, large rock, and more rock gradings than just "small rock (core)" and "large rock (berm)". This more stable and only partly reshaping structure is called the Icelandic-type berm breakwater.

**Readership:** Professionals: designers, owners and contractors; Graduate students and researchers in coastal engineering.

300pp	Sep 2016	
978-981-4749-60-2	US\$118	£85
978-981-4749-61-9(ebook)	US\$153	£111



## DIFFERENTIAL EQUATIONS AS MODELS IN SCIENCE AND ENGINEERING

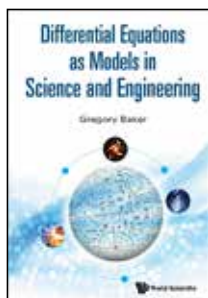
by **Gregory Baker** (The Ohio State University, USA)

### Key Features:

- This textbook is unique in its approach to present mathematics within the context of science and engineering. It shows students why mathematics is powerful
- It emphasizes mathematical understanding as the important approach to the construction of solutions

**Readership:** Undergraduates in science and engineering studying differential equations.

392pp	Sep 2016	
978-981-4656-96-2	US\$95	£63
978-981-4656-97-9(pbk)	US\$48	£32



## COASTAL MANAGEMENT IN THE FACE OF CLIMATE CHANGE

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

The following chapters comprehensively cover practical aspects of beach monitoring, estimating the nearshore wave conditions, quantifying the littoral drift environment, predicting changes in beach configuration, integrating the various components into a coherent management framework. Several examples of applications of the methods are given to illustrate the advantages and limitations of the different techniques, together with a case study from the south coast of the UK.

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

200pp	May 2017	
978-1-84816-583-0	US\$106	£76
978-1-84816-584-7(e-book)	US\$138	£99

## Coastal / Ocean Engineering

## INTERNATIONAL COMPENDIUM OF COASTAL ENGINEERING

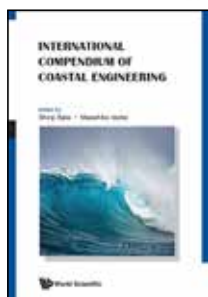
edited by **Shinji Sato** (The University of Tokyo, Japan) & **Masahiko Isobe** (Kochi University of Technology, Japan)

### Key Features:

- This book focuses on important topics in coastal region
- This book covers topics from theories of waves and sand transport to coastal engineering practice such as beach protection
- This book provides advanced knowledge in coastal engineering

**Readership:** Undergraduates and graduate students in coastal engineering or environmental science, researchers and professionals.

532pp	Jun 2015	
978-981-4449-42-7	US\$150	£99
978-981-4449-43-4(ebook)	US\$195	£129



Advanced Series on Ocean Engineering

## DYNAMICS OF FLOATING OFFSHORE STRUCTURES

by **Subrata K Chakrabarti** (Offshore Structure Analysis, Inc., USA)

This book will provide a complete coverage on the dynamics of floating offshore structures. Topics like random waves, wind and current, etc. will be developed from the fundamental principles and their applications to offshore structures will be discussed. The design aspect of the offshore structure, both for short-term and long-term response and structural fatigue, are important elements of the dynamic response and will be further elaborated upon in the text.

**Readership:** Senior undergraduate, graduates and researchers in offshore and ocean engineering.

600pp	Jun 2017	
978-981-4280-55-6	US\$95	£63
978-981-4280-56-3(pbk)	US\$55	£36

Advanced Series on Ocean Engineering

## **DYNAMICS OF COASTAL SYSTEMS**

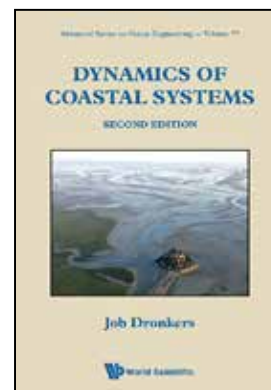
**2nd Edition**

by **Job Dronkers** (*Netherlands Centre of Coastal Research, The Netherlands*)

The book provides a comprehensive and up-to-date overview of the physical processes which, according to the present state of knowledge, determine the evolution of coastal systems and their response to human interventions. The basic theoretical ideas are explained in text and figures and also in formulas for the more mathematically inclined reader. Theories are illustrated with examples from estuaries, coastal lagoons, beaches and tidal flat systems from all over the world. The rules and simple models can be used directly without relying on complex computations; much attention is given to the strengths and weaknesses of the underlying theories and their limits of applicability.

**Readership:** Researchers, academics, professionals, undergraduate and graduate students in ocean/coastal engineering, oceanography and geology.

<b>600pp</b>	<b>Jan 2017</b>	
<b>978-981-4725-13-2</b>	<b>US\$186</b>	<b>£134</b>
<b>978-981-4725-15-6(ebook)</b>	<b>US\$242</b>	<b>£174</b>



## **Journal**

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### **COASTAL ENGINEERING JOURNAL (CEJ)**

<http://www.worldscientific.com/cej>

#### **Editor-in-Chief**

**Yasunori Watanabe** (*Hokkaido University, Japan*)

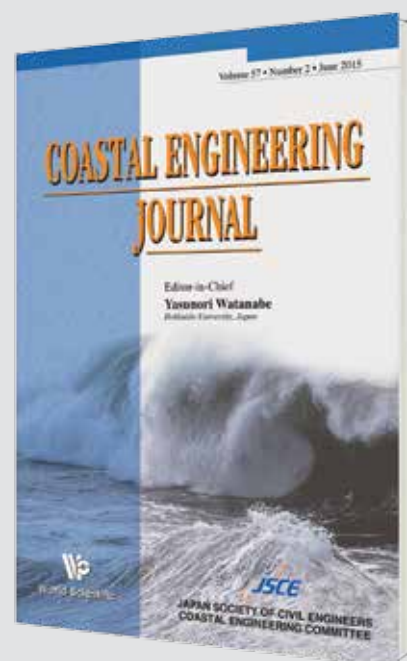
#### **Associate Editor-in-Chief**

**Shunichi Koshimura** (*Tohoku University, Japan*)

#### **About CEJ: Aims and Scope**

*Coastal Engineering Journal* is a peer-reviewed medium for the publication of research achievements and engineering practices in the fields of coastal, harbor and offshore engineering. The CEJ editors welcome original papers and comprehensive reviews on waves and currents, sediment motion and morphodynamics, as well as on structures and facilities. Reports on conceptual developments and predictive methods of environmental processes are also published. Topics also include hard and soft technologies related to coastal zone development, shore protection, and prevention or mitigation of coastal disasters. The journal is intended to cover not only fundamental studies on analytical models, numerical computation and laboratory experiments, but also results of field measurements and case studies of real projects.

**Abstracting/Indexing:** Cambridge Scientific Index | Compendex | CSA Aquatic Sciences and Fisheries Abstracts (ASFA) | CSA Health and Safety Abstracts | CSA Oceanic Abstracts | CSA Selected Water Resources Abstracts | Current Contents®/Engineering, Computing and Technology | Ebsco Discovery Service | Environment Abstracts | ExLibris Primo Central | Google Scholar | ISI Alerting Services | OCLC WorldCat® | Proquest Summon | SciSearch® (also known as Science Citation Index-Expanded) | Scopus



#### **Coastal Engineering Journal (CEJ) Citation Award**

CEJ Citation Award to recognize an influential work that provided significant scientific and engineering impacts to interdisciplinary fields, which will be annually determined in total number of citations on all journal papers over the past five years.

The committee has approved that 2014 CEJ Citation Award goes to:

**2014 — Nationwide Post Event Survey and Analysis of the 2011 Tohoku Earthquake Tsunami**

Nobuhito Mori, Tomoyuki Takahashi and 2011 Tohoku Earthquake Tsunami Joint Survey Group

Coast. Eng. J., **54** 1250001 (2012)



## Environmental Engineering

### ENVIRONMENTAL GEOTECHNOLOGY

Meeting Challenges Through Need-based Instrumentation

by **D N Singh** (*Indian Institute of Technology, Bombay, India*)

**Environmental Geotechnology** revisits existing concepts of geotechnical engineering in detail, and brings them up to date with new knowledge and current affairs so as to enable the field of Environmental Geotechnology to better address and serve today's needs. It points out the role and importance of the parameters and mechanisms that govern the interaction of contaminants with geomaterials (soil and rock mass), and also discusses their degradation in the long-run, and the consequences that follow.

**Readership:** Undergraduate and graduate students, research scholars, and professionals working in the field of Environmental Geotechnical Engineering.

<b>325pp</b>	<b>Feb 2018</b>	
<b>978-981-4583-00-8</b>	<b>US\$142</b>	<b>£102</b>
<b>978-981-4579-98-8(ebook)</b>	<b>US\$185</b>	<b>£133</b>

## Journals

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

<http://www.worldscientific.com/ijrqse>

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

#### About IJRQSE: Aims and Scope

*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 quarterly, March, June, September and December. 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.

Submission topics include but are not limited to the following: Reliability, quality assurance and engineering, software, algorithms, design and manufacturing, fuzzy logic, reliability growth and prediction, safety engineering, software testing and reliability, modeling and control issues, concurrent engineering, optimization of system reliability, performance analysis of systems, quality planning and measurements, risk assessment and analysis, fault-tolerant computing, and critical systems design.

**Abstracting/Indexing:** Chemical Abstracts | Compendex | CSA Aquatic Sciences and Fisheries Abstracts (ASFA) | CSA Health and Safety Abstracts | CSA Risk Abstracts | CSA Selected Water Resources Abstracts | Ebsco Discovery Service | ExLibris Primo Central | Google Scholar | OCLC WorldCat® | Proquest Summon | Scopus



### JOURNAL OF EARTHQUAKE AND TSUNAMI (JET)

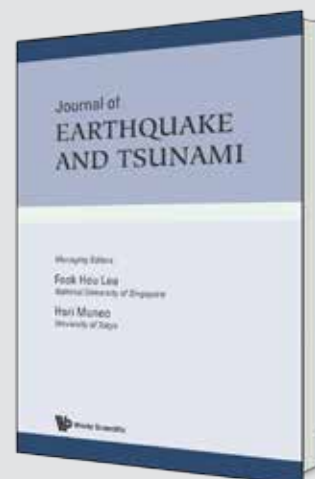
<http://www.worldscientific.com/jet>

**Managing Editors: Fook Hou Lee** (*National University of Singapore*) & **Hori Muneo** (*University of Tokyo, Japan*)

#### About JET: Aims and Scope

*Journal of Earthquake and Tsunami* provides a common forum for scientists and engineers working in the areas of earthquakes and tsunamis to communicate and interact with one another and thereby enhance the opportunities for such cross-fertilization of ideas. The Journal publishes original papers pertaining to state-of-the-art research and development in Geological and Seismological Setting; Ground Motion, Site and Building Response; Tsunami Generation, Propagation, Damage and Mitigation, as well as Education and Risk Management following an earthquake or a tsunami.

**Abstracting/Indexing:** CNKI | Ebsco Discovery Service | ExLibris Primo Central | Google Scholar | Journal Citation Reports/Science Edition | Science Citation Index Expanded (also known as SciSearch(r)) | Scopus



## Fluid Dynamics

### STATISTICAL TURBULENCE MODELLING FOR FLUID DYNAMICS — DEMYSTIFIED

An Introductory Text for Graduate Engineering Students

by **Michael Leschziner** (Imperial College London, UK)

*"Overall, the book is a well-conceived and a welcome addition to the turbulence-modelling library."*

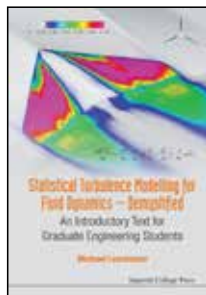
**The Aeronautical Journal**

#### Key Features:

- Emphasis on physical and phenomenological interpretation
- Broad range of models covered
- Strong emphasis on understanding the concepts and the rationale behind assumptions
- Avoidance of mathematical complexity that does not serve the objective of conveying understanding and insight

**Readership:** Researchers and post-graduate students in the field of fluid dynamics.

424pp	Oct 2015	
978-1-78326-660-9	US\$124	£82
978-1-78326-661-6(pbk)	US\$58	£38
978-1-78326-662-3(ebook)	US\$161	£107



### Advances in Computational Fluid Dynamics – Vol. 1 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** (UC Santa Barbara)

This book is self-contained, and aims to elucidate and analyze the strong relations between the various numerical methods, beyond merely giving detailed summary of the various methods. A unique enhanced feature of the book is that the sample codes that come with the book provide further benefits and ease of use to readers to implement the various numerical methods.



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

350pp	May 2017	
978-981-4280-97-6	US\$138	£99

# International Journal of Applied Mechanics

<http://www.worldscientific.com/ijam>

2015 Impact Factor:  
**1.468**

#### Aims and Scope

In addition to cover the classical branches of applied mechanics, namely solid mechanics, fluid mechanics, thermodynamics, and material science, the journal encourages contributions from the 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.

**Abstracting/Indexing:** Compendex | Current Contents® /Engineering Computing and Technology | Ebsco Discovery Service | ExLibris Primo Central | Google Scholar | INSPEC | Journal Citation Reports/Science Edition | OCLC WorldCat® | Proquest Summon | Science Citation Index Expanded (also known as SciSearch®) | Scopus



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**Xiaoyu LUO** (University of Glasgow, UK)

#### About the Editor-in-Chief

**Dr. Zishun Liu** is a SANQING Professor at Int. Center for Applied Mechanics (ICAM) in Xi'an Jiaotong University. He also holds Adjunct Professorships at National University of Singapore and Institute of High Performance Computing, Singapore. His research interests are in the areas of Computational Solid Mechanics & Biomechanics, Mechanics of Soft Materials, Nanomechanics, Vibro-Acoustic. He has authored and co-authored more than 100 scientific articles. Dr.



Liu is an Editor-In-Chief of Int. Journal of Applied Mechanics (IJAM) and Editor-In-Chief of Int. Journal of Computational Materials Science and Engineering (IJCMSE). He also serves on a few editorial boards, including Int. Journal of Computational Method; Guest editor of Computational Materials Science; Chinese Journal of Applied Mechanics; Multidisciplinary Modeling in Materials and Structures. Dr. Liu is the President of Singapore Association of Computational Mechanics and Chairman of organizing committee of 5th Asian Pacific Congress on Computational Mechanics 2013 (APCOM2013).

**Structural Engineering****UNCERTAINTY  
QUANTIFICATION IN  
COMPUTATIONAL SCIENCE**

Theory and Application in Fluids and Structural Mechanics

edited by **Sunetra Sarkar** (*Indian Institute of Technology Madras, India*) & **Jeroen A S Witteveen** (*Center for Mathematics and Computer Science (CWI), The Netherlands*)

This timely compendium overviews in detail the current state of the art of the field, including advances in structural engineering, along with the recent focus on fluids and coupled systems. Such a strong compilation of these vibrant research areas will certainly be an inspirational reference material for the scientific community.

**Readership:** Researchers, academics, professionals and graduate students in mechanical engineering, engineering mechanics, aerospace engineering, civil engineering & ocean engineering.

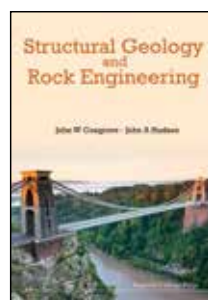
<b>200pp</b>	<b>Nov 2016</b>	
<b>978-981-4730-57-0</b>	<b>US\$118</b>	<b>£85</b>
<b>978-981-4730-58-7(ebook)</b>	<b>US\$153</b>	<b>£111</b>

**STRUCTURAL INTEGRITY CONSIDERATIONS  
IN ENGINEERING DESIGN**Introduction to Structural Integrity and Basic Fatigue Design (**Volume I**)by **David W Hoepfner** (*University of Utah, USA*)**Key Features:**

- Discusses the systems-oriented, holistic approach to structural integrity-based design, which has not been written about in any known book to this date, but is being employed in various industries and is gaining more applications daily
- Significantly improves on the knowledge base available to engineers and scientists throughout the world, as common engineering education does not deal adequately with the subjects covered in this book

**Readership:** Upper-class undergraduate and graduate students, academics, and industry professionals in the field of structural integrity, and general management of reliability and quality.

<b>500pp</b>	<b>Nov 2016</b>	
<b>978-1-86094-950-0</b>	<b>US\$162</b>	<b>£117</b>
<b>978-1-86094-951-7(e-book)</b>	<b>US\$211</b>	<b>£152</b>

**STRUCTURAL GEOLOGY  
AND ROCK ENGINEERING**by **John W Cosgrove** & **John A Hudson**  
(*Imperial College London, UK*)

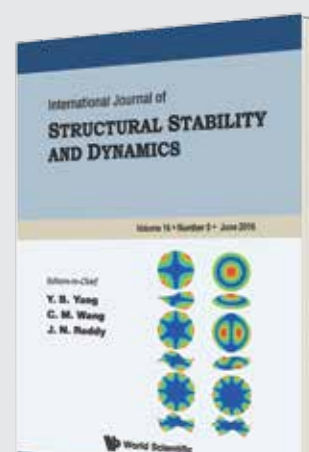
With focus on rock engineering projects, *Structural Geology and Rock Engineering* uses case studies and an integrated engineering approach to provide an understanding of projects constructed on or in rock masses. Based on Professors Cosgrove and Hudson's university teaching at Imperial College London, as well as relevant short course presentations, it explains the processes required for engineering modelling, design and construction.

**Readership:** Teachers, researchers and engineers interested in the study and practice of rock-based projects in engineering.

<b>350pp</b>	<b>Aug 2016</b>	
<b>978-1-78326-956-3</b>	<b>US\$125</b>	<b>£83</b>
<b>978-1-78326-957-0(pbk)</b>	<b>US\$70</b>	<b>£46</b>

**Journal**

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**INTERNATIONAL JOURNAL OF  
STRUCTURAL STABILITY AND  
DYNAMICS (IJSSD)**<http://www.worldscientific.com/ijssd>**Editors-in-Chief****Y B Yang** (*Chongqing University, China*)**C M Wang** (*National University of Singapore*)**J N Reddy** (*Texas A&M University, College Station, TX, USA*)

Congratulations to **Prof. JN Reddy**,  
one of the Editors-in-Chief of IJSSD,  
for being awarded the Prager Medal

**About IJSSD: Aims and Scope**

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.

**Abstracting/Indexing:** CNKI | Compendex | CSA Health and Safety Abstracts | Current Contents®/Engineering, Computing, and Technology | Ebsco Discovery Service | ExLibris Primo Central | Google Scholar | INSPEC | ISI Alerting Services | Mathematical Reviews | OCLC WorldCat | Proquest Summon | Science Citation Index Expanded | Scopus

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## Traffic Engineering

### URBAN TRAFFIC ENGINEERING AND STREETSCAPE DESIGN

by **Michael G H Bell** (*The University of Sydney, Australia*),  
**Ioannis Kaparias** (*Imperial College London, UK*) & **Bill Mount**  
(*Retired, Royal Borough of Kensington and Chelsea, UK*)

This book presents a new approach to urban traffic engineering in an integrated, coherent and accessible way. The material on methods and practice is complemented by recent case studies to illustrate the challenges that confront urban traffic engineering schemes in practice. Although the history and traditions of urban traffic engineering differ greatly between countries, there is an emerging international consensus which this book tries to capture.



**Readership:** Researchers, academics, undergraduate students and post-graduate students in civil engineering and urban design.

**300pp** **Oct 2016**  
**978-1-84816-897-8** **US\$69** **£46**

World Scientific Series on Singapore's 50 Years of Nation-Building

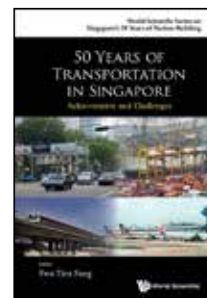
### 50 YEARS OF TRANSPORTATION IN SINGAPORE

Achievements and Challenges  
edited by **Tien Fang Fwa** (*NUS, Singapore*)

This book examines in detail the important milestones and background developments that have led to the highly advanced state of transportation systems in the land, sea and air transport of Singapore today. Each chapter is written by professionals who are themselves part of the success stories presented. The chapter authors are specially invited to provide a professional account of the topics of their expertise. The authors have been able to draw on extensive amounts of published and unpublished documents and reports to present a comprehensive picture for the subject of interest in each chapter. As a whole, the book offers a holistic and informative professional reference book on the major happenings and achievements of Singapore in the transportation sector.

**Readership:** Academics, researcher and graduate students interested in the transportation in Singapore.

**576pp** **July 2016**  
**978-981-4651-59-2** **US\$94** **£68**  
**978-981-4667-45-6(pbk)** **US\$38** **£25**  
**978-981-4651-60-8(ebook)** **US\$122** **£88**



## Journals

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### JOURNAL OF COMPUTATIONAL ACOUSTICS (JCA)

<http://www.worldscientific.com/jca>

#### About JCA: Aims and Scope

The aim of this journal is to provide an international forum for the dissemination of the state-of-the-art information in the field of 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 prospecting 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:** CNKI | CompuMath Citation Index® | CSA Aquatic Sciences and Fisheries Abstracts (ASFA) | CSA Meteorological & Geostrophysical Abstracts | CSA Oceanic Abstracts | CSA Selected Water Resources Abstracts | Current Contents®/Engineering, Computing, and Technology | Ebsco Discovery Service | ExLibris Primo Central | Google Scholar | INSPEC | ISI Alerting Services | Mathematical Reviews | OCLC WorldCat® | Proquest Summon | Science Citation Index® | Science Citation Index Expanded (also known as SciSearch®) | Scopus | Zentralblatt MATH

### JOURNAL OF MULTISCALE MODELLING (JMM)

<http://www.worldscientific.com/jmm>

#### Editor-in-Chief:

**M H Aliabadi** (*Imperial College London*)

#### About JMM: Aims and Scope

*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.

Research areas of interest include for example multiscale modelling and computation in: composite and polymer materials, crystalline microstructures, nanomaterials, opto electronics for the development of materials with particular optical, magnetic and electrical properties, flow through porous media, dendritic solidification, turbulent transport in high Reynolds number flows, spray combustion, large-scale molecular dynamic simulation, environmental applications such as separation of gas, toxicological properties, environmental impact, chemistry and biological systems.

**Abstracting/Indexing:** Abstracting/Indexing: Astrophysics Data System (ADS) Abstract Service | CNKI | Chemical Abstracts Service | Compendex | Ebsco Discovery Service | ExLibris Primo Central | Google Scholar | INSPEC | OCLC WorldCat® | Proquest Summon | Scopus





## General

### THE GRANT WRITER'S HANDBOOK

How to Write a Research Proposal and Succeed

by **Gerard M Crawley** (University of South Carolina, USA) & **Eoin O'Sullivan** (University of Cambridge, UK)

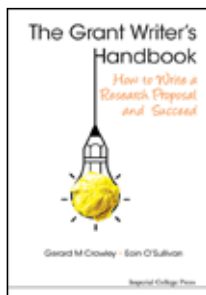
*"This book is very useful not only for young scientists but also established or experienced scientists; also for funding agency staff, science politicians, university officers, even reviewers ... his may be a bible for fund writing. It is really a marvelous book."*

**Professor Yukihiro Osaki**, Kwansei Gakuin University, Japan & winner of the 2014 Bomem-Michelson Award

*"The book is truly unique; perfect for a novice researcher who has to find his way through a maze to finally achieve funding for his laboratory, and perfect for the experienced researcher who gets involved in a large collaboration."* **Professor Charles Glashauser**, Rutgers University

**Readership:** Graduate students and researchers looking to obtain and manage research grants.

252pp	Dec 2015	
978-1-78326-759-0	US\$58	£38
978-1-78326-414-8(pbk)	US\$28	£18
978-1-78326-760-6(ebook)	US\$75	£49



World Scientific Series on Singapore's 50 Years of Nation-Building

### 50 YEARS OF ENGINEERING IN SINGAPORE

edited by **Tao Soon Cham**  
(Emeritus President, NTU, Singapore)

This compendium covers air and sea hub; manufacturing in the areas of electronics, precision engineering, chemical and pharmaceutical/bio-medical engineering; housing/cities/infrastructure and land use (reclamation and underground); transportation (ERP system, MRT and LRT, roads and buses system); water management and engineering; energy (supply and maintenance); and telecommunications, ICT and software.

**Readership:** Researchers, professionals, academics, and laymen interested in all aspects of engineering.

400pp	Sep 2016	
978-981-4632-28-7	US\$82	£54
978-981-4632-29-4(pbk)	US\$38	£25
978-981-4632-30-0(ebook)	US\$107	£70



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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)

#### Key Features:

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

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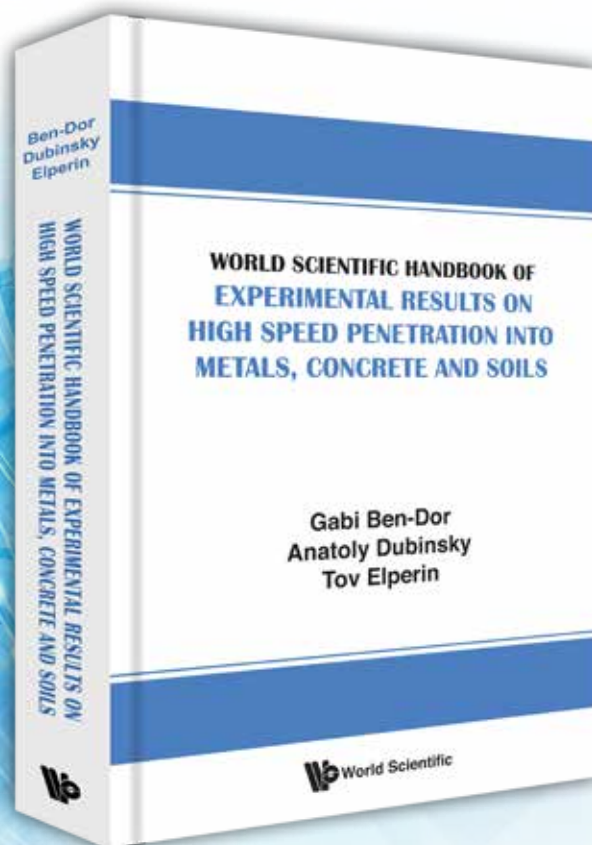
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Title	Page	Title	Page
□ 50 YEARS OF ENGINEERING IN SINGAPORE .....	13	□ INTRODUCTION TO WINDOWS AND GRAPHICS PROGRAMMING WITH VISUAL C++ (WITH COMPANION MEDIA PACK) (SECOND EDITION) .....	7
□ 50 YEARS OF TRANSPORTATION IN SINGAPORE: ACHIEVEMENTS AND CHALLENGES .....	12	□ MAINTAINABILITY OF FACILITIES (SECOND EDITION): GREEN FM FOR BUILDING PROFESSIONALS .....	4
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ARCHITECTURAL EDUCATION IN 21ST CENTURY ASIA: HOW TO LEARN		□ MECHANICS OF SOLIDS AND STRUCTURES (2ND EDITION) .....	6
□ ARCHITECTURE .....	4	□ NONLOCAL CONTINUUM DAMAGE AND PLASTICITY: THEORY AND COMPUTATIONS .....	6
□ CLASSICAL AND COMPUTATIONAL SOLID MECHANICS (2ND EDITION) .....	5	□ PRINCIPLES OF HEATING, VENTILATION AND AIR CONDITIONING WITH WORKED EXAMPLES .....	6
□ COASTAL MANAGEMENT IN THE FACE OF CLIMATE CHANGE .....	7	□ RECLAIMING BACKLANES: DESIGN VISION FOR INCREASING BUILDING PERFORMANCE AND REPROGRAMMING COMMON SPACES .....	5
□ COMPUTATIONAL METHODS FOR TWO-PHASE FLOWS .....	10	□ SINGAPORE'S REAL ESTATE: 50 YEARS OF TRANSFORMATION .....	4
□ CONTRACT ADMINISTRATION AND PROCUREMENT IN THE SINGAPORE CONSTRUCTION INDUSTRY .....	4	□ STATISTICAL TURBULENCE MODELLING FOR FLUID DYNAMICS - DEMYSTIFIED: AN INTRODUCTORY TEXT FOR GRADUATE ENGINEERING STUDENTS .....	10
□ DESIGN AND CONSTRUCTION OF BERM BREAKWATERS .....	7	□ STRUCTURAL GEOLOGY AND ROCK ENGINEERING .....	11
□ DESIGN FOR SIX SIGMA FOR ENGINEERS .....	13	□ STRUCTURAL INTEGRITY CONSIDERATIONS IN ENGINEERING DESIGN: INTRODUCTION TO STRUCTURAL INTEGRITY AND BASIC FATIGUE DESIGN - VOLUME I .....	11
□ DIFFERENTIAL EQUATIONS AS MODELS IN SCIENCE AND ENGINEERING .....	7	□ UNCERTAINTY QUANTIFICATION IN COMPUTATIONAL SCIENCE: THEORY AND APPLICATION IN FLUIDS AND STRUCTURAL MECHANICS .....	11
□ DYNAMICS OF COASTAL SYSTEMS (SECOND EDITION) .....	8	□ UNDERSTANDING CLIMATE CHANGE RISKS: APPROACHES FOR NATIONAL, REGIONAL AND SECTORAL ASSESSMENTS .....	9
□ DYNAMICS OF FLOATING OFFSHORE STRUCTURES .....	7	□ URBAN CLIMATE CHALLENGES IN THE TROPICS: RETHINKING PLANNING AND DESIGN OPPORTUNITIES .....	4
□ ELEMENTS OF STOCHASTIC DYNAMICS .....	6	□ URBAN POLLUTION AND CHANGES TO MATERIALS AND BUILDING SURFACES .....	5
□ ENVIRONMENTAL GEOTECHNOLOGY: MEETING CHALLENGES THROUGH NEED-BASED INSTRUMENTATION .....	9	□ URBAN TRAFFIC ENGINEERING AND STREETScape DESIGN .....	12
□ FORGING A SUSTAINABLE FUTURE FOR ASIAN CITIES: CASE STUDIES ON URBAN REGENERATION .....	4	□ WSPC HANDBOOK OF EXPERIMENTAL RESULTS IN IMPACT MECHANICS, THE: EXPERIMENTAL DATA OF HIGH SPEED PENETRATION INTO METALS, CONCRETE AND SOILS .....	5
□ GRANT WRITER'S HANDBOOK, THE: HOW TO WRITE A RESEARCH PROPOSAL AND SUCCEED .....	13		
□ GUIDE TO PLANNING ECOLOGICAL TOWNSHIPS, A: SUSTAINABILITY PERFORMANCE INDICATORS AND PLANNING STRATEGIES .....	4		
□ INTERNATIONAL COMPENDIUM OF COASTAL ENGINEERING .....	7		
□ INTRODUCTION TO MICROMECHANICS AND NANOMECHANICS (2ND EDITION) .....	5		
□ INTRODUCTION TO PRACTICAL PERIDYNAMICS: COMPUTATIONAL SOLID MECHANICS WITHOUT STRESS AND STRAIN .....	6		

## Author Index

Author	Page	Author	Page	Author	Page	Author	Page
<b>A</b>		<b>E</b>		Li Shaofan .....	5	Seek Ngee Huat .....	4
Abu Al-rub Rashid K .....	6	Elishakoff Isaac E .....	6	Li Xiaoping .....	4	Shaw Stephen J .....	10
<b>B</b>		Elperin Tov .....	5	Lim Pin .....	4	Sheh Michael .....	13
Baker Gregory Richard .....	7	Emmanuel Rohinton .....	4	<b>M</b>		Shimizu Yoshinori .....	13
Bell Michael G H .....	12	<b>F</b>		Malone-lee Lai Choo .....	4	Sigurdarson Sigurdur .....	7
Ben-dor Gabi .....	5	Fung Yuen-cheng .....	5	Malone-lee Lai Choo .....	4	Sing Tien Foo .....	4
Berthold Sonja .....	5	Fwa Tien Fang .....	12	May Ivy Lee .....	13	Singh Devendra Narain .....	9
Bin Abdul Hamid Abdul Rahim ..	4	<b>G</b>		Mayne Roger W .....	7	Spelt Peter D M .....	10
Brimblecombe Peter .....	5	Gentilini Cristina .....	6	Mount Bill .....	12	<b>T</b>	
Bruehlisauer Marcel .....	5	Gerstle Walter Herbert .....	6	<b>N</b>		Tay Kheng Soon .....	4
Burge Benjamin D .....	13	<b>H</b>		Naguran Mallika .....	4	Tong Pin .....	5
<b>C</b>		Heng Chye Kiang .....	4, 5	Nasution Ivan .....	4	Topken Annick .....	13
Cai Guo-qiang .....	6	Hoepfner David W .....	11	<b>O</b>		Tunas Devisari .....	4
Chakrabarti Subrata Kumar .....	7	Hu Matthew .....	13	O'sullivan Eoin .....	13	<b>V</b>	
Chakrabarti Sumita .....	7	Hudson John A .....	11	<b>P</b>		Van Der Meer Jentsje .....	7
Cham Tao Soon .....	13	<b>I</b>		Padawangi Rita .....	4	W	
Chen Xiaohong .....	5	Isobe Masahiko .....	7	Pentaras Demetris .....	6	Wang Gang .....	5
Chew Yit Lin Michael .....	4	<b>J</b>		Pundir Manju Baisoya .....	4	Wijeyesundera Nihal E .....	6
Cosgrove John W .....	11	Jiang Jiancheng .....	13	<b>R</b>		Witteveen Jeroen A S .....	11
Crawley Gerard M .....	13	<b>K</b>		Rees David W A .....	6	<b>Y</b>	
<b>D</b>		Kaparias Ioannis .....	12	Reeve Dominic .....	7	Yang Kai .....	13
Ding Hang .....	10	Kayupov Malik .....	13	Rihm Sven .....	13	Yu Shi Ming .....	4
Dronkers Job .....	8	<b>L</b>		<b>S</b>		<b>Z</b>	
Dubinsky Anatoly .....	5	Leschziner Michael .....	10	Sarkar Sunetra .....	11	Zhu Weiqiu .....	6
				Sato Shinji .....	7		



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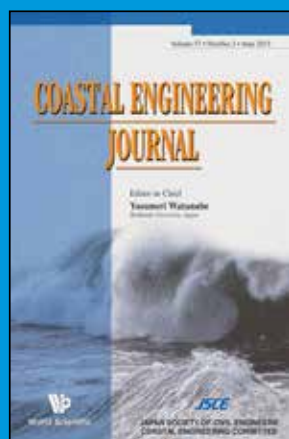
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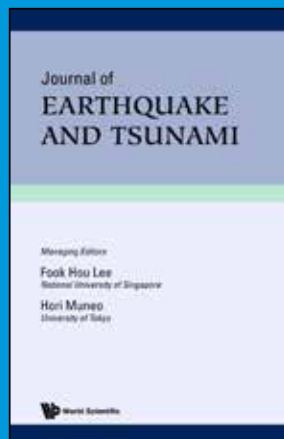
page 8



page 9



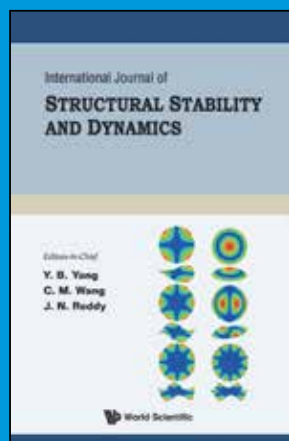
page 9



page 10



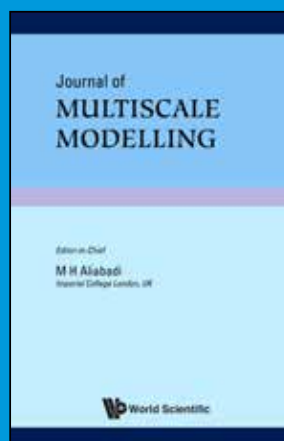
page 11



page 12



page 12



page 13



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