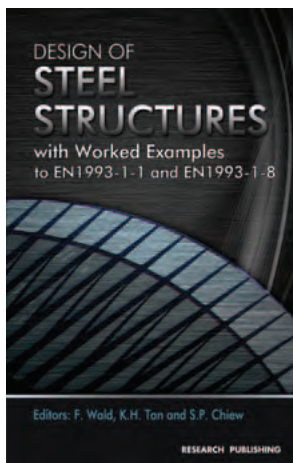


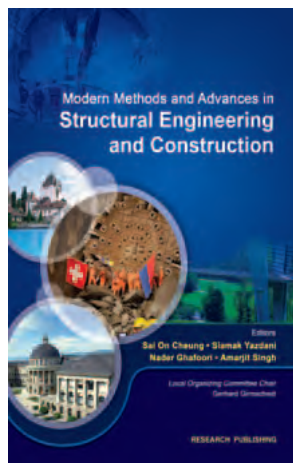
# HIGHLIGHTS



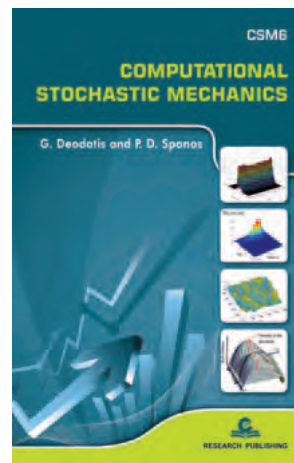
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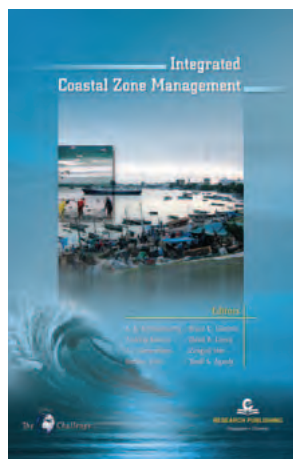
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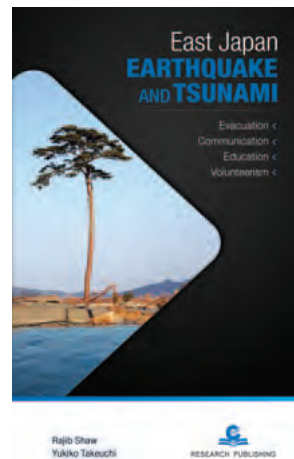
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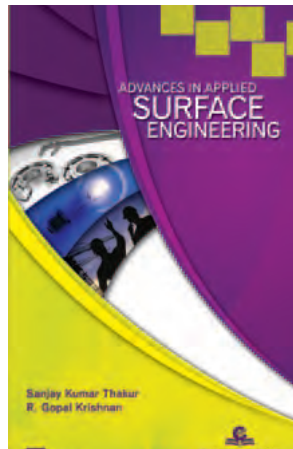
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# Invitation to AUTHORS



**Research Publishing** is an academic and scientific publisher of proceedings, books and journals, headquartered in Singapore. Our authors are very important to us and we nurture our relationship in order to anticipate and respond to their needs. We are continuously on the lookout for authors who are able to share their passion and innovative ideas in publications that will be available forever. With decades of publishing experience, we are confident that your works will benefit from our seamless sales and marketing network.



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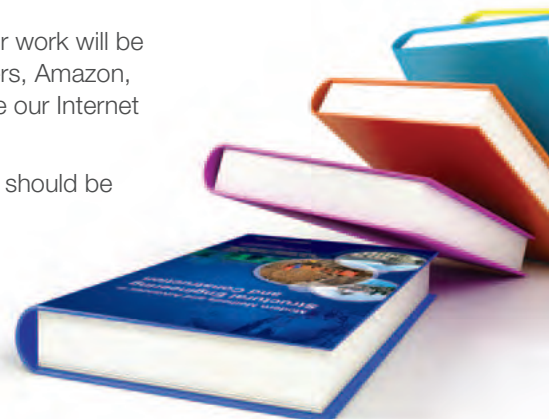
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## ADVANCES IN STEEL CONCRETE COMPOSITE STRUCTURES

Edited by

**J. Y. Richard Liew**, *National University of Singapore, Singapore*



Experts papers by

**J. Y. Richard Liew**,  
*National University of Singapore*  
**Donald W. White**,  
*Georgia Institute of Technology, USA*  
**S. L. Chan**,  
*The Hong Kong Polytechnic University, Hong Kong*  
**Sang Dae Kim**,  
*Korea University, Korea*  
**Mike King**,  
*Structural Leader Singapore Sports Hub, Singapore*  
**Roger Plank**,  
*University of Sheffield, UK*  
**Jean-Marc Franssen**,  
*University of Liège, Belgium*  
**Lin-Hai Han**,  
*Tsinghua University, China*  
**Brian Uy**,  
*University of Western Sydney, Australia*  
**N. G. Yaw Heong**,  
*TTJ Design and Engineering Pte Ltd, Singapore*

Rapid urban development in recent decades has seen cities are now increasingly more populated as witnessed by the rise of megacities across Asia. These trends pose critical challenges to managing infrastructure in a densely build-up urban environment. The constraints of limited land in large cities have forced buildings to be built higher. Planners and architects have faced the challenge of designing taller buildings and long span bridges with the optimum use of steel and concrete materials to achieve speed of construction and early return of investment.

This special book is a collection of papers by international experts in their respective field and have contributed to iconic projects, national and international specifications in the fields of steel and composite structures in America, Australia, China, Europe, Hong Kong, Korea and Singapore.

**Readership:** Civil engineers, scientists, researchers, graduates and post-graduates in engineering. Also, it will be a useful source of reference to structural engineers and professionals.

978-981-07-2613-3 ♦ US\$96 / £ 62 (Hardbound)  
978-981-07-4248-5 ♦ US\$125 / £ 81 (E-book)  
204 pp ♦ 2012 ♦ (143 Color Pictures)

## DESIGN OF STEEL STRUCTURES WITH WORKED EXAMPLES TO EN 1993-1-1 AND EN 1993-1-8

Edited by

**F. Wald**, *Czech Technical University in Prague, Czech Republic*  
**K. H. Tan**, *Nanyang Technological University, Singapore &*  
**S. P. Chiew**, *Nanyang Technological University, Singapore*

The aim of this book is to introduce the European Standards - Eurocodes for structural steel design. The basic principles for design of steel structures according to EN 1993-1-1 General rules and rules for buildings and EN 1993-1-8 Design of joints are summarized. The design procedures and application of freely available tools



are demonstrated through worked examples in this book.

In this book, a few design parameters are determined based on national choices. In this respect, these Nationally Determined Parameters are adopted according to recommended values in standards, which are those values applicable in most European countries. Singapore standards generally adopt the same values as those from the UK. The numbering of chapters in this book follows those in the text of standards EN 1993-1-1 and EN 1993-1-8.

Topics covered include: Structural Design and Standards, Rules for Buildings and Structural Analysis, Connections Design & Worked Examples.

**Readership:** Researchers, engineers and practitioners in the field of structural and civil engineering.

978-981-08-9441-2 ♦ US\$68 / £ 45 (Hardbound)  
978-981-07-4249-2 ♦ US\$88 / £ 59 (E-book)  
196 pp ♦ 2012

## MODERN METHODS AND ADVANCES IN STRUCTURAL ENGINEERING AND CONSTRUCTION

Edited by

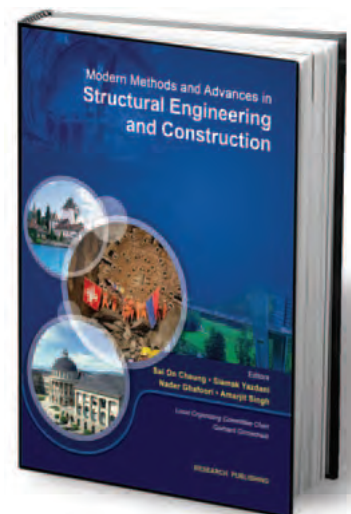
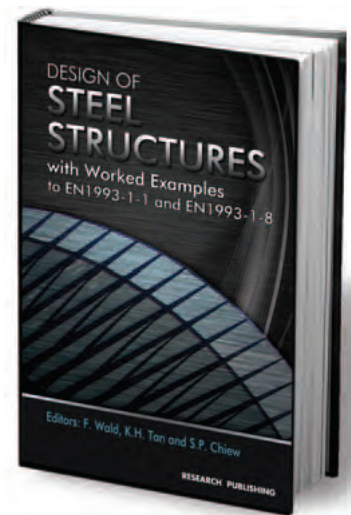
**Sai On Cheung**, *City University of Hong Kong, China*  
**Siamak Yazdani**, *North Dakota State University, USA*  
**Nader Ghafoori**, *University of Nevada, Las Vegas, USA &*  
**Amarjit Singh**, *University of Hawaii at Manoa, USA*

The world is at the threshold of emerging technologies, where new systems in construction, materials, and civil and architectural design are poised to make the world better from a structural and construction perspective. Exciting developments, that are too many to name individually, take place yearly, affecting design considerations and construction practices.

The articles here are a lasting testimony to the excellent research being undertaken around the world. Topics covered in this book, ranging from legal affairs and contracting, to innovations and risk analysis in infrastructure projects, analysis and design of structural systems, materials, architecture, and construction.

**Readership:** Researchers, engineers and practitioners in the field of structural and civil engineering.

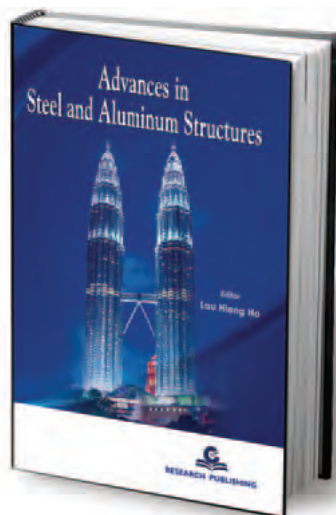
978-981-08-7920-4 ♦ US\$260 / £ 164 (Hardbound)  
978-981-07-4250-8 ♦ US\$338 / £ 213 (E-book)  
1350 pp ♦ 2011



## ADVANCES IN STEEL AND ALUMINIUM STRUCTURES

Edited by

Lau Hieng Ho, Curtin University of Technology, Malaysia



This book contains the eighty nine papers, including six keynote papers, presented at the 7th International Conference on Steel and Aluminium Structures (ICSAS 2011) held on 13–15 July 2011 in Kuching, Sarawak, Malaysia. The conference was organized by Curtin University, Sarawak campus and co-organised with the National University of Malaysia (UKM). The previous six conferences were held in Oxford, UK in 2007; Sydney, Australia in 2003; Epoo, Finland in 1999; Istanbul, Turkey in 1995; Singapore in 1991; and Cardiff, UK in 1987.

This edited book remains the dissemination and discovery of recent advances in steel and aluminium structures for researchers and designers. The six keynote papers cover areas of great interest and encompass the conference

themes. They include contributions on current research in steel design, composite design and stainless steel. The six keynote presenters selected are all international experts in their fields and all have contributed to national and international specifications in their respective fields.

Topics covered include: Analysis and Design of Structural Steel, Stainless Steel and Aluminium, Computational Modelling and Analysis, Light-weight Structures, Connection Behaviour, Composite Structures, Earthquake and Seismic Analysis, Plates and Shell Structures, Cold Formed Steel Structures, Fire Engineering, Architectural Uses, Sustainable Development & Scaffoldings and Racks.

**Readership:** Scientists, researchers and engineers with an interest in steel and aluminium structures.

978-981-08-9247-0 ♦ US\$143 / £ 91 (Hardbound)  
978-981-07-4252-2 ♦ US\$101 / £ 66 (E-proceedings)  
631 pp ♦ 2011

## STEEL & COMPOSITE STRUCTURES

*Proceedings of the 4th International Conference on*

Edited by

Brian Uy, Zhong Tao, Fidelis Mashiri, Xinqun Zhu, Olivia Mirza & Ee Loon Tan, University of Western Sydney, Australia



This book contains 126 papers including nine keynote papers, presented at the 4th International Conference on Steel and Composite Structures (ICSCS'10) held in Sydney, Australia from 21 – 23 July 2010. The conference builds on a successful series which were initiated by Professor Chang-Koon Choi of KAIST and held in Pusan, Korea in 2001 (ICSCS'01), Seoul, Korea in 2004 (ICSCS'04) and Manchester, UK in 2007 (ICSCS'07).

The conference has solicited and gathered scientific and technical research submissions related to all aspects of major conference themes and tracks. All the papers in the book have been peer reviewed by the scientific and technical committee, external reviewers and editorial board depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected on the basis of originality, significance, and clarity for the purpose



of the conference. The nine Keynote Presenters selected are all international experts in their field and all have contributed to national and international specifications in the fields of steel and composite structures for the Australian Standards, American Institute of Steel Construction, British Standards, Chinese Standards, Eurocodes, Hong Kong Buildings Department, Japanese Standards and Singapore Structural Steel Society.

Topics covered include: Steel Structures, Composite Structures, Bridge Structures, Building Structures, Structural Health Monitoring, Uses of FRP and Sustainability Issues.

**Readership:** Scientists, researchers and engineers with an interest in steel and composite structures.



978-981-08-6218-3 ♦ US\$170 / £ 108

(CD-ROM + Extended abstract booklet) (Hardbound)

978-981-07-4253-9 ♦ US\$119 / £ 76 (E-proceedings)

479 pp ♦ 2010

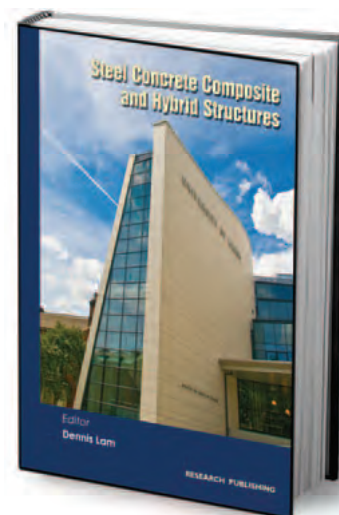
## STEEL CONCRETE COMPOSITE AND HYBRID STRUCTURES

Edited by

Dennis Lam, University of Leeds, UK

Steel Concrete Composite and Hybrid Structures will be an invaluable source of information to researchers and practitioners in the field of steel, composite and hybrid structures. This book contains the most recent research findings from leading researchers in the world on steel, composite and hybrid structures.

Topics covered in this book include: composite beams, composite bridges, composite columns, composite coupled wall, composite slabs, CFRP composite structures, dynamics, earthquake and impact, fire behaviour, hybrid structures, progressive collapse, steel and composite connections, structural analysis, shear connections & thin-walled structures.



*The papers in this book are cited most often in ISI Web of Science.*

**Readership:** Undergraduates and graduate students, practicing engineers and researchers in structural engineering.

978-981-08-3068-7 ♦ US\$136 / £ 86 (Hardbound)

978-981-07-4254-6 ♦ US\$177 / £ 112 (E-book)

817 pp ♦ 2009



## ADVANCES IN STEEL STRUCTURES [SET OF 3 VOLS]

**Proceedings of the 5th International Conference on KEYNOTE LECTURES & THE SPECIAL SYMPOSIUM ON TUBULAR STRUCTURES**

*Edited by*

**J. Y. Richard Liew & Y. S. Choo,** *National University of Singapore, Singapore*



Steel and tubular structure is increasingly being employed to produce innovative and spectacular architectural designs with complex geometrical profiles. This is made possible with the advancement in design expertise, metallurgy research, fabrication technology and erection technique, and more importantly, the close cooperation and commitment of architects, engineers, suppliers, fabricators and erectors, sharing knowledge and working as a team to ensure successful transformation of an innovative design to a successful completed project of architectural and structural marvel.

This three-volume book constitutes the reviewed papers and aims to register the latest achievements on innovation and advances in steel and composite construction from various parts of the world.

Topics covered include: Seismic and Dynamic, Analysis and Design, Buckling, Steel Joints, Seismic and Wind, Marine and Offshore, Structural Assessment, Structures in Fire, Composite Structures, Steel Structures, Steel and Composite, Composite & Tubular and Composite Members.

*The papers in this book are cited most often in Scopus.*

**Readership:** Researchers, engineers and practitioners in the field of structural and civil engineering.

**978-981-05-9366-7 ♦ US\$280 / £ 176 (Set of 3 Vols.) (Hardbound)**

**978-981-05-9366-7 ♦ US\$196 / £ 123 (E-proceedings)**

**1020 pp ♦ 2008**

## TALL BUILDINGS

**Proceedings of the 7th International Conference on**

*Edited by*

**Francis T. K. AU,** *Department of Civil Engineering, The University of Hong Kong, Hong Kong*

Since the turn of the 21st century, tall buildings with growing heights, increasingly complicated shapes and innovative structural systems have been built worldwide. The comfort, amenity and sustainability of these buildings have been the focus of world attention. Various landmark skyscrapers such as Shanghai World Financial Centre, and Burj Al Arab in Dubai have been completed or are under construction, showcasing boundless ground-breaking concepts in planning, architectural and structural design as well as building services facilities. These also include the application of innovative construction techniques, new materials and novel analytical approaches.

China has now become one of the countries in the world where tall buildings are being developed rapidly. The new CCTV headquarters building with a unique shape has been finished. The 432m Pearl River New City West Tower in Guangzhou is nearing completion. The construction of the proposed 580m Shanghai Centre has



started. The recent Wenchuan earthquake in Sichuan Province has especially highlighted serious cause for concern over the safety of building structures. All of these have made China a focus of world attention.

*The papers in this book are cited most often in ISI Web of Science.*

**Readership:** Built environment academicians, civil engineers, structural engineers, building services engineers, fire engineers, mechanical engineers, architects, environmental scientists, estate surveyors, quantity surveyors, town planners, urban geographers and urban economists.



**978-962-8014-19-4 ♦ US\$170 / £ 107 (Hardbound)**

**978-962-8014-19-4 ♦ US\$119 / £ 75 (E-proceedings)**

**893 pp ♦ 2010**

## RELIABLE ENGINEERING COMPUTING ROBUST DESIGN — COPING WITH HAZARDS, RISK AND UNCERTAINTY

**Proceedings of the 4th International Workshop on**

*Edited by*

**Michael Beer,** *National University of Singapore, Singapore*

**Rafi L. Muhanna,** *Georgia Institute of Technology, USA &*

**Robert L. Mullen,** *University of South Carolina, USA*

Reliable Engineering Computing has emerged as a multi-disciplinary field with this workshop series, which has been established and hosted in Georgia Tech Savannah in 2004, 2006, and 2008. The REC-workshops provide a unique symbiosis of various engineering and associated disciplines with the kernel areas of Engineering, Computer Science, Sciences, and Mathematics. Central issue of the discussions is the reliability of engineering computations. Cross-disciplinary advisements generate synergy and impulses of a new quality for research and development, as well as for innovative applications.

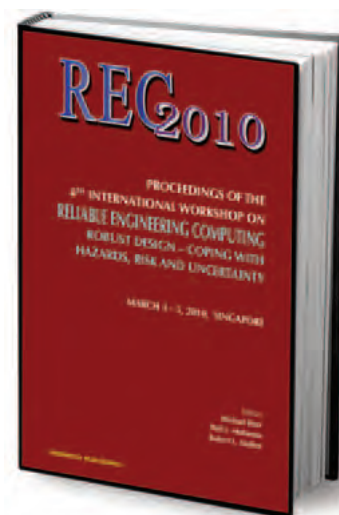
REC2010 is focused on Robust Design in the context of hazards, risk and uncertainty. This issue has attracted increasing attention in the recent past. Societal and industrial interest has grown from both a safety point of view and an economic point of view.

**Readership:** Professionals, academics, researchers and managers of all disciplines with an interest on the reliability of engineering computations.

**978-981-08-5118-7 ♦ US\$160 / £ 104 (Softbound)**

**978-981-08-5118-7 ♦ US\$112 / £ 73 (E-proceedings)**

**808 pp ♦ 2010**



## ADVANCES IN STEEL CONCRETE COMPOSITE AND HYBRID STRUCTURES

*Proceedings of the 10th International Conference on*

*Edited by*

**J. Y. Richard Liew &**

**Siew Chin Lee, National University of Singapore, Singapore**



Rapid urban development in recent decades has seen cities are now increasingly more populated, as witnessed by the rise of megacities across the world. These trends pose critical challenges to managing infrastructure in a densely build-up urban environment. A good balance is sought to improve buildability, quality, and labour productivity and to reduce construction time, material usage and wastage. Steel concrete composite construction, which encourages the use of prefabrication and precast components, coupling with advancement in fabrication and material technology.

Steel concrete composite systems are increasingly being employed to produce innovative and spectacular architectural designs with complex geometrical problems.

This is made possible with the advancement in design expertise, metallurgy research, fabrication technology and construction technique, and more importantly, the close cooperation and commitment of architects, engineers, suppliers, fabricators and erectors, sharing knowledge through building information model and working as a team to ensure successful transformation of an innovative design to a successful completed project of architectural and structural marvel.

This conference has attracted 155 contributions from 28 countries including 9 keynote papers covering a wide spectrum of topics including composite beams; composite bridges; composite columns; composite coupled wall; composite slabs; CFRP composite structures; dynamics, earthquake and impact; fire engineering; hybrid structures; progressive collapse; steel and composite connections; structural analysis; shear connections; thin-walled structures and sustainable design. All the papers were peer reviewed and selected based on their own merits.

**Readership:** Civil engineers, scientists, researchers, graduates and post-graduates in Civil engineering. Also, it will be a useful source of reference to structural engineers and professionals.

**978-981-07-2615-7 (Hardbound) ♦ US\$ 96 / £ 62**

**978-981-07-2616-4 ♦ US\$67 / £ 73 (E-proceedings)**

**1216 pp ♦ 2012**

## COMPUTATIONAL STOCHASTIC MECHANICS (CSM-6)

*Edited by*

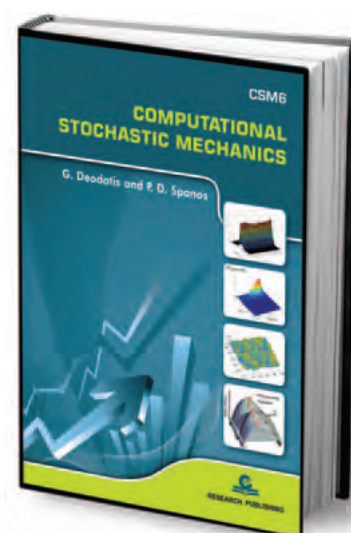
**G. Deodatis, Columbia University, New York, USA &**

**P. D. Spanos, Rice University, Houston Texas, USA**



Seismology, Geotechnical Engineering and Geomechanics, Monte Carlo Simulation Techniques, Multi-Objective Optimization Under Uncertainty, Linear and Nonlinear Stochastic Dynamics, Offshore Engineering, Random Processes and Fields: Theory, Analysis and Simulation; Reliability Analysis, Reliability-Based Optimal Design, Stochastic Differential Equations, Stochastic Finite Element Methods, Structural Health Monitoring, Identification and Control, Wind Engineering.

**Readership:** Scientists, researchers, academicians, practitioners, and students in the field of stochastic mechanics and related engineering and applied science fields.



**978-981-08-7619-7 ♦ US\$98 / £ 63 (Hardbound)**

**978-981-07-4281-2 ♦ US\$127 / £ 82 (E-book)**

**640 pp ♦ 2011**

## SUN, WIND AND ARCHITECTURE PASSIVE AND LOW ENERGY ARCHITECTURE (PLEA 2007)

*Proceedings of the 24th International Conference on*

*Edited by*

**Stephen K. WITTKOPF &**

**TAN Beng Kiang, National University of Singapore, Singapore**

This book comprises the purpose of Design Symposium and Workshops, which are run by practising architects and engineers, as well as 105 paper and 50 poster presentations. Our international keynote speakers have backgrounds in practice, academia and government and will share their expertise in design, legislation and occupant's behaviour.

Climate Responsive and Solar Architecture, Daylight and Ventilation, case studies of Passive and Low Energy Architecture, and Renewable Energies and Energy Efficiency represent the four strongest groups accounting for almost half of all papers. These issues are of international relevance given the global climate change. It is interesting to note that half of the papers came from countries with a GDP lower than Singapore, perhaps indicating that Passive and Low Energy Architecture may not be a rich country issue or entail a high technology approach. It is encouraging to see that it is a concern to countries independent of their GDP/capita or technology savyness.

**Readership:** Architects, civil engineers, environmental scientists, estate surveyors, town planners, researchers and students with an interest in Architectural engineering.



**978-981-05-9400-8 (Softbound) ♦ US\$96 / £ 62**

**978-981-05-9400-8 ♦ US\$67 / £ 43 (E-proceedings)**

**881 pp ♦ 2007**

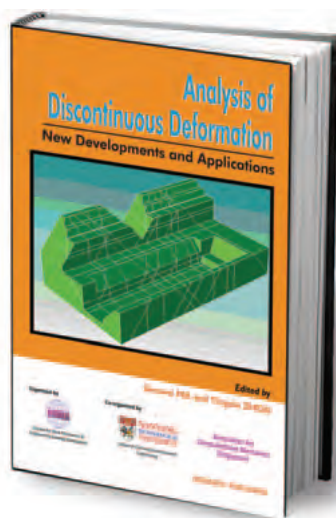




## ANALYSIS OF DISCONTINUOUS DEFORMATION — NEW DEVELOPMENTS AND APPLICATIONS

*Edited by*

**Guowei MA,** *Nanyang Technological University, Singapore &*  
**Yingxin ZHOU,** *Defense Science and Technology Agency, Singapore*



This book contains the 7 keynote papers written by the industry experts, international renowned researchers and specialists and 73 technical papers which reflect the state-of-the-practice on the Analysis of Discontinuous Deformation: New development and Applications. These papers were selected after a rigorous review process. It represents the latest advances in numerical and analytical methods related to rock mechanics and engineering.

Following the tradition of the series, the main schemes of the papers are on the key block theory and its engineering applications, the discontinuous deformation analysis (DDA) method and the numerical manifold method (NMM). However, other relevant topics, for example, the distinct/discrete element

method, the meshless method, the finite element method in rock mechanics and engineering applications are also included.

For rock masses where the discontinuities dominate their behaviour in a rock engineering system such as rock slopes and underground rock caverns, the analysis of discontinuous deformation is of critical importance in the stability analysis and engineering design. It is hoped that this book serves as a useful reference for both researchers and engineers on the new developments and applications of the various available modeling techniques and tools in this increasingly important field of rock mechanics and engineering.

*The papers in this book are cited most often in Scopus.*

**Readership:** Graduate students, academics and researchers in civil engineering and engineering mechanics. This book is also a useful source of reference to structural, civil and geotechnical engineers.

**978-981-08-4455-4** ♦ **US\$210 / £ 132 (Hardbound)**

**978-981-07-4280-5** ♦ **US\$273 / £ 172 (E-book)**

**718 pp** ♦ **2010**

## GROUND IMPROVEMENT TECHNOLOGIES AND CASE HISTORIES

*Edited by*

**C. F. Leung,** *National University of Singapore, Singapore*  
**R. F. Shen,** *National University of Singapore, Singapore &*  
**J. Chu,** *Nanyang Technological University, Singapore*



This book includes the keynote lectures written by international renowned researchers and specialists which reflect the state-of-the-practice on the topics discussed on Ground Improvement Technologies and Case Histories. It is heartening to note that 94 papers from 22 countries are included in this book.

This book covers the wide range of topics including: Recent Development in Ground Improvement Technologies, Case Histories involving Major Infrastructure Projects, Design and Analytical Methods in Ground Improvement, Instrumentation and Monitoring in Ground Improvement, Variability/Quality Control Issues in Ground Improvement, Laboratory and Centrifuge Model

Testing on Ground Improvement Studies and Case Studies on Ground Improvement.

It is hoped that this Proceeding will be a useful source of reference to geotechnical engineers and professionals.

*The papers in this book are cited most often in Scopus.*

**Readership:** Civil engineers, scientists, researchers, graduates and post-graduates in geotechnical engineering. Also, it will be a useful source of reference to geotechnical engineers and professionals.



**978-981-08-3124-0** ♦ **US\$260 / £ 164 (Hardbound)**

**978-981-07-4279-9** ♦ **US\$338 / £ 213 (E-book)**

**828 pp** ♦ **2010**

## GROUND IMPROVEMENT AND GROUND CONTROL: TRANSPORT INFRASTRUCTURE DEVELOPMENT AND NATURAL HAZARDS MITIGATION (VOLUME I & II)



*Proceedings of the International Conference on*

*Edited by*

**Buddhima Indraratna, Cholachat Rujikiatkamjorn &**  
**Jayan Vinod,** *University of Wollongong, Australia*

Ground improvement has been both a science and art, with significant advancements observed since ancient history, with lessons learnt from trial and error applications apart from the know-how gained through cutting-edge research and development.

These Proceedings highlighted by numerous Keynote papers, Heritage lectures, State-of-the-Art reports, invited special guest lectures and theme papers together with a wide array of other written contributions from all continents elucidate a comprehensive coverage of the current State-of-the-Art in Ground Improvement from theory to practice. Over 200 articles have been included in the Proceedings from more than 30 countries bringing together in two volumes the knowledge and experience of world-renowned international researchers, consultants and practitioners and the evolving talents of early career professionals and research students.

**Readership:** Civil engineers, scientists, researchers, graduates and post-graduates in geotechnical engineering. Also, it will be a useful source of reference to geotechnical engineers and professionals.



**978-981-07-3561-6 (set of 2 volumes)** ♦ **US\$ 260 / £ 165 (Hardbound)**

**978-981-07-3577-7** ♦ **US\$182 / £ 116 (E-proceedings)**

**1810 pp** ♦ **2012**

**ICT IN GEO-ENGINEERING*****Proceedings of the International Workshop on****Edited by***Y. Miyata**, *National Defense Academy,***T. Okayasu**, *Kyushu University,***H. Furuya**, *Obayashi Co.,***T. Uchimura**, *University of Tokyo, &***J. Otani**, *Kumamoto University, Japan*

Recently, "Ubiquitous" became a common word for human life and Information and Communication Technology which is often called "ICT" is one of indispensable tools. And even in Geo-Engineering, ICT has been widely used such as measurements and quality control for design and construction. Under these circumstances, International Workshop on ICT in Geo-Engineering (ICTGE2012) is held in Kyoto, Japan on 17 and 18 May in 2012 and this workshop is organized by the Japanese Geotechnical Society. The main topics of this workshop are to exchange the ideas on current sensor and networking techniques and to summarize the right application fields of ICT in Geo-Engineering.

It is hoped that this volume will add to the dissemination in recent advances and applications of ICT in Geo-Engineering by researchers and engineers.

Themes to be addressed include: Geo-Information and Sensor Techniques; Network Communication Techniques for Geo-Engineering; Application of ICT to Geo-Engineering.

**Readership:** Scientists, researchers, engineers, academicians and students in the field of Geo-Engineering.

978-981-07-0322-6 ♦ US\$56 / £ 36 (Hardbound)

978-981-07-0322-6 ♦ US\$40 / £ 28 (E-proceedings)

308 pp ♦ 2012

**ADVANCES IN GROUND TECHNOLOGY AND GEO-INFORMATION***Edited by***Kok-Kwang Phoon**, *Siang Huat Goh &***Rui Fu Shen**, *National University of Singapore, Singapore***Hehua Zhu**, *Tongji University, China*

The growth of mega cities has been particularly dramatic across parts of Asia. The need for quality living space coupled with the increasing density of infrastructural development poses unprecedented challenges and opportunities for the geo-industry. Effective application of innovative ground technology including information technology is needed to:

- Propel productivity in the geo-industry;
- Respond to more complex technical challenges in the development of underground space;
- Support increasing social demand for sustainable and responsible development - green technology being one of the recent topical examples.

The main theme in this book is on geo-innovations applicable to all work processes from site investigation, design, construction, monitoring, testing, etc that can promote more creative exploitation of underground space/systems while improving



safety, productivity, economy, and harmony with the natural environment.

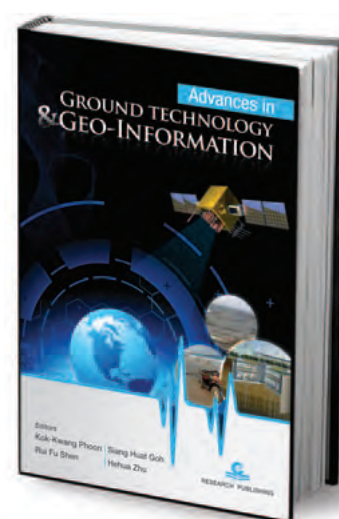
This book contains 58 papers from 17 countries (Australia, Austria, China, Germany, Hong Kong, India, Italy, Japan, Korea, Malaysia, Portugal, Kazakhstan, Singapore, Taiwan, Turkey, United Kingdom, and United States) including 8 keynote papers and 7 invited papers from world renowned experts. It aims to address the recent advances in ground technology and geo-information systems.

**Readership:** Civil engineers, scientists, researchers, graduates and post-graduates in geotechnical engineering. Also, it will be a useful source of reference to geotechnical engineers and professionals.

978-981-07-0188-8 ♦ US\$156 / £ 99 (includes CD-ROM) (Hardbound)

978-981-07-0188-8 ♦ US\$110 / £ 71 (E-proceedings)

614 pp ♦ 2012

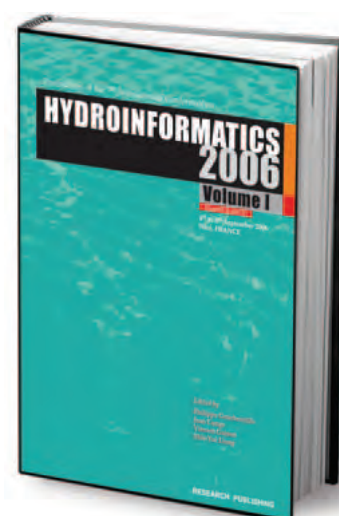
**HYDROINFORMATICS*****Proceedings of the 7th International Conference on****Edited by***Philippe Gourbesville**, *University of Nice – Sophia Antipolis, France,***Jean Cunge**, *EuroAqua European MSc Hydroinformatics Course, France,***Vincent Guinot**, *University of Montpellier 2 – Maison des Sciences de l'Eau, France &***Shie-Yui Liong**, *National University of Singapore*

Hydroinformatics, a cross-disciplinary field of study, combines technological, human sociological and more general environmental interests, including an ethical perspective. It covers the application of information technology in the widest sense to problems of the aquatic environment and of the water resources management. Its aim is to equip professionals, practitioners, engineers, managers and decision makers working in water related arenas, with available information and technology, to make rapid and robust decisions as they address the increasing challenge of ensuring a sustainable water environment and adequate water resources for the generations to come. This field is expanding rapidly, as shown by the significant increase in the number of participants and exciting papers presented over the past six conferences.

**Readership:** Professionals, researchers, practitioners, engineers, managers and decision makers working in water related arenas.

81-903170-1-6 ♦ US\$190 / £ 120 (Set of 4 Vols. CD-ROM only)

3142 pp ♦ 2007





## ADVANCES IN WATER QUALITY & MANAGEMENT

Edited by

Sudhakar M. Rao, Monto Mani &

N. H. Ravindranath, Indian Institute of Science, Bangalore, India



The book will serve as a curriculum material for postgraduate students in environmental science and engineering. It would also be a useful reference for researchers, academics and practicing engineers dealing with the problems of surface and groundwater management.

In the current global scenario, water and sustainable development are intrinsically linked. More so, in a developing country like India, where, without adequate supply and scientific management of water resources, sustained socio-economic development is difficult to achieve.

The expert contributions are presented in four sections: Section 1 deals with Ground and Surface Water Quality; Section 2 deals with Sanitation and Wastewater Treatment; Section 3 deals

with Water Management; and Section 4 provides summary recommendations on Issues, R&D Challenges, Institutional and Societal Gaps in Sustainable and Quality Water. Summary recommendations in section 4 are based on the recommendations of expert papers and deliberations of the pre-workshop and workshop meetings. The chapters provide an in-depth treatment of topical subjects on both water quality and quantity, namely: source and control of geogenic and anthropogenic contamination in groundwater and surface water resources, desalination technologies, climate and water balance, watershed and groundwater management and rainwater harvesting, to name a few.

**Readership:** Researchers, Academics and Practicing engineers. This book will serve as a curriculum material for Undergraduates and Postgraduates in environmental science and engineering. Besides, appealing to the general reader interested in sustainable and quality water, the book would also serve as a source document to agencies supporting research in this field.

978-981-05-9012-3 ♦ US\$58 / £ 38 (Hardbound)

978-981-07-4278-2 ♦ US\$76 / £ 50 (E-book)

342 pp ♦ 2008

## FIRE AND EXPLOSION HAZARDS

*Proceedings of the Sixth International Seminar on*

Edited by

D. Bradley, University of Leeds, UK

G. Makhviladze, University of Central Lancashire, UK &

V. Molkov, University of Ulster, UK



The Sixth International Seminar on Fire and Explosion Hazards was held from 11 to 16 April at University of Leeds. This is a key conference on research in fire and explosion with over 200 research workers in U.K., Europe Continent, Scandinavian countries, USA, Canada, Japan, Korea and South American countries attended. Experts in major universities offering courses and carrying out research in fire and explosion exchanged ideas. Advances in combustion, fire and explosion sciences have a significant impact on the solutions to problems facing fire and explosion safety engineering. The Proceedings contain the six Invited Plenary Lectures, given by renowned international authorities, Lord Newton (Buncefield Investigation), Elaine Oran (US Naval Research Laboratory),



Lou Gritzo (FM Global), Sergei Surzhikov (Institute for Problems in Mechanics), David Purser (Hartford Environmental Research), and Domingos Viegas (Universidade de Coimbra).

Topics covered include: The Buncefield Explosion, Deflagration and DDT, Compartment and Tunnel Fires, Unconfined Fires, Industrial Risk and Sustainability, Sprays and Mists, Hydrogen Dispersions, Flames, Explosions and Fireballs, Optical Diagnostics for Fires, Self-Heating and Fire Retardants, Vented and Dust Explosions, Fire Toxicity, Smouldering, CO and SOOT, Structures and Electrical Installations, Forest Fires, Flammability & Dispersion and Complex Fire Dynamics.

**Readership:** Scientists, Researchers, Safety Engineers, Plants Managers, Professionals and Students with an interest in Fire and Explosion Hazards.

978-981-08-7724-8 ♦ US\$ 260 / £ 164 (Hardbound)

978-981-08-7724-8 ♦ US\$182 / £ 116 (E-proceedings)

1140 pp ♦ 2011

## TECHNOLOGY AND OPERATION OF OFFSHORE SUPPORT VESSELS

*Proceedings of the 4th International Conference on*

Edited by

Arun Kr. Dev and Seref Aksu

The OSV Singapore 2011 marks another milestone reached in the last eight years as a platform for exchange of ideas for innovation and technology development for the OSV community in Singapore and all over the world.

This edited book is concerned with a wide range of vessel types including anchor handling tug/supply vessels, offshore supply vessels, multipurpose support/supply vessels, diving support vessels, multipurpose construction vessels, pipe laying vessels, accommodation barges, crew boats, large crane vessels, etc. It will be of interest to ship designers, shipbuilders, owners & operators, drilling contractors and installation contractors for understanding future needs and challenges, as the search for hydrocarbons moves into deeper waters.

**Readership:** Designers, consultants, shipbuilders, owners, operators, manufacturers, regulators, researchers, academics and students with an interest in OSV design, technology, building and operation.

978-981-08-9730-7 ♦ US\$68 / £ 45 (Hardbound)

978-981-08-9730-7 ♦ US\$48 / £ 33 (E-proceedings)

150 pp ♦ 2011



## PROCEEDINGS OF THE INTERNATIONAL MARITIME-PORT TECHNOLOGY AND DEVELOPMENT CONFERENCE



This volume includes new developments, concepts and practices of researchers and practitioners from the maritime-port industry, research and academic institutes and authorities. Also includes speeches of keynote speakers invited for each of the topics on the latest development, technologies, practices, and trends.

Topics covered include: Port Planning, Design and Constructional Methods, Terminal Operation Concepts, Resource Planning, Forecasting Methods and other Port Management Techniques, Hub Port Development, Port Equipment and Technology, Use of Information Technology and Simulation, Supply Chain Management and SCM Technologies, Floating Platform Storage Offloading (FPSO), Jack-up Oil Rigs and

Very Large Floating Jack-up Oil Rigs and Very Large Floating Structures/Semi-submersibles, Structural Design and Performance, Material, Reliability, Strength and Fatigue, Production Technique of Ships and Marine Structures, Moorings and Risers, Exploiting Stranded Gas, Offshore Renewable Energy, Extended Well Testing / Early Production System for Marginal Fields, Ballast Water Treatment Technologies, Ship Emission, and Discharges, Dredging, Treatment of Dredged Materials, and Reclamation, Oil and Chemical Spills, Remote Sensing and Environmental Monitoring Technologies, Tides, Current, and Waves, Ship Routing and Navigation System, Maritime Communication and Tracking, Ship and Port Security Technologies.

**Readership:** Professionals, naval architects, ship designers, owners, operators, consultants, engineers, surveyors, technical managers, government officials and students in Marine technology.

978-981-05-8949-3 ♦ US\$136 / £ 87 (Hardbound)

978-981-05-8949-3 ♦ US\$96 / £ 63 (E-proceedings)

684 pp ♦ 2007

## MARINE OPERATIONS SPECIALTY SYMPOSIUM (MOSS 2008)



*Edited by*

**Yoo Sang Choo**, *National University of Singapore & David N. Edelson*, *Technip, USA*

This valuable edition covers all offshore operation and installation related issues, which will be of interest to many segments of the offshore. It demonstrates the many noteworthy offshore facilities installed and completed in both shallow and deepwater fields worldwide. This book contains the selected papers after the extensive reviews. The contributing authors are from key oil & gas companies, consultants, contractors, classification societies, universities and research institutes.

"Some reference books are written by those involved in operations and they focus on practical methods and guidelines but do not cover the technology and science behind the approach, conversely other books, mainly of academic origin, focus extensively on the maths and science but have few practical examples showing applications. There is currently no single text book that addresses the range of activities involved in 'Offshore

Operations'. This volume goes a long way in addressing this deficiency and will be a useful companion to offshore/ocean engineering students and as well as for practising engineers and technical staff in the oil and gas sector."

**Dev Ranmuthugala & Art Shrimpton**,  
*Australian Maritime College*

**Readership:** This book is very useful companion to offshore/ocean engineering students, and as well as for practising engineers and technical staff in the oil and gas sector, universities, research institutes, third parties, and offshore industries.



978-981-08-0226-4 ♦ US\$128 / £ 82 (Hardbound)

978-981-07-4277-5 ♦ US\$167 / £ 107 (E-book)

466 pp ♦ 2008

## PROCEEDINGS OF THE 2ND MARINE OPERATIONS SPECIALTY SYMPOSIUM

*Edited by*

**Yoo Sang Choo**, *CORE, National University of Singapore, Singapore*

**David N. Edelson**, *Technip, USA*

**Trevor Mills**, *McDermott International, USA*

This book constitutes the thoroughly refereed proceedings of the Second Marine Operations Specialty Symposium (MOSS 2012), held in Singapore during 6 to 8 August 2012. It covers all aspects offshore operation and installation related issues. These issues will be of interest to many segments of offshore oil & gas and renewables (wind, current, wave, OTEC). The contributing authors are from key oil & gas companies, consultants, contractors, classification societies, universities and research institutes.

Topics covered include: Standard on Marine Operations, Offshore Construction Vessels, Dynamic Positioning, Challenges of Ultra-large & Ultra-deep Systems, Lifting Operations, Float-over Operations, Side-by-Side Operations, Installation of Jackets and Foundation, Installation of Subsea Equipment, Anchor Handling Operations and Pipelines.

**Readership:** This book is very useful companion to offshore/ocean engineering students, and as well as for practising engineers and technical staff in the oil and gas sector, universities, research institutes, third parties, and offshore industries.



978-981-07-3023-9 ♦ US\$ 128 / £ 82 (Hardbound)

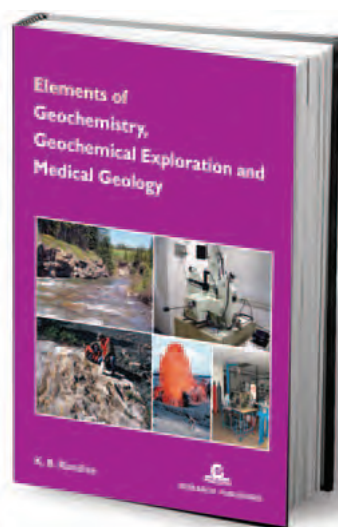
978-981-07-3023-9 ♦ US\$90 / £ 57 (E-proceedings)

378 pp ♦ 2012



## ELEMENTS OF GEOCHEMISTRY GEOCHEMICAL EXPLORATION & MEDICAL GEOLOGY

K. R. Randive, R.T.M. Nagpur University, India



Geochemistry is a prime branch of geo-sciences, which relates to variety of sub-disciplines including mineralogy, petrology and petrogenesis, tectonics, exploration and economic geology. Geochemistry is an important tool for exploration of hidden ore deposits and understanding geo-scientific causes for health related hazards.

This book is a welcome addition to the available literature for the students and research scholars of Geology. It is divided into three separate parts, first one is **Geochemistry** comprising of 11 chapters, second one is **Geochemical Exploration** comprising of 12 chapters and third one is **Medical Geology** which is comprised of 4 chapters.

Since this book is intended for the graduate and post graduate students of geology, it is written in simple English

that can be easily followed by an average student. It will be a comprehensive collection of principles of Geochemistry, Geochemical Exploration techniques and Fundamental concepts of Medical Geology. It will be first textbook covering medical geology under distinct chapter scheme. The discipline of medical geology is newly emerging and propagated by the International Union of Geological Sciences (IUGS). Some of the original concepts of author are being given in this book.

"Author has taken lot of efforts to synthesize the information on geochemistry. Language of the book is simple and can be followed easily by the students especially in the non-English speaking countries. We are sure that the book will find immediate popularity among the students and research scholars of geology."

— Prof. N.M. Sushchevskaya, Professor of Geology,  
Vernadsky Institute of Geochemistry, Moscow, Russia

— Dr. Boris Belyatsky, Leading researcher,  
VNIIOkeangeologia, St.Petersburg, Russia

**Readership:** Graduate and Post Graduate Students, Academicians and Researchers in the field of Geology and Geochemistry.

978-981-07-1675-2 ♦ US\$96 / £ 62 (Hardbound)

978-981-07-4247-8 ♦ US\$125 / £ 81 (E-book)

978-981-07-4246-1 ♦ Rs. 1600 (pbk) (for India & Developing Countries)  
466 pp ♦ 2013

## EARTH RESOURCES AND ENVIRONMENT

Edited by

R. Venkatachalapathy, Periyar University, India



This edited volume contains contributions from the scientists and experts from various branches of Geological Sciences, which is the outcome of the National Seminar on Earth Resources, Environment and Earth Sciences for Society (Earth-2009) and 12th National Convention of South Asian Association of Economic Geologists held at Salem between 5-7 February 2009, during the International Year of Planet Earth (IYPE: 2007-2009) program initiated jointly by the International Union of Geological Sciences (IUGS) and the United Nations Educational

Scientific and Cultural Organization (UNESCO).

The Chapters in this book covers the topics on Energy Resources, Mineral Resources, Water Resources, Paleo-climate, Tectonic Studies and Geohazards, Geologic Problems Solving with Microfossils, Environmental Studies, Remote Sensing and GIS Applications. Each of these chapters in this book highlights the research work of the authors and explains the outcome of their studies. Thus this book contains chapters dealing with various and vital aspects of earth resources and environment from various authors.

**Readership:** Graduate and Post Graduate Students, Academicians and Researchers in the field of Geology.



978-981-086942-7 ♦ US\$78 / £ 51 (Softbound)

978-981-07-4276-8 ♦ US\$102 / £ 66 (E-book)

482pp ♦ 2013

## COMMUNITIES AND COASTAL ZONE MANAGEMENT

Edited by

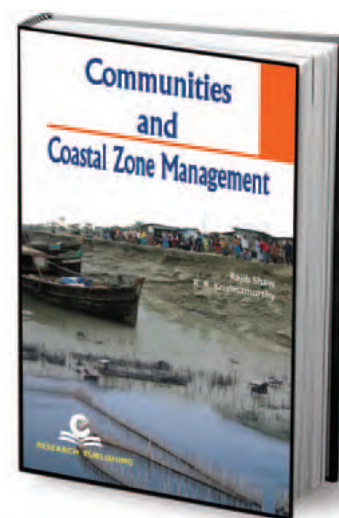
Rajib Shaw, Kyoto University, Japan &  
Ramamamy R. Krishnamurthy, University of Madras, India



This book brings several important findings of the collaborative research by Kyoto University and University of Madras addressing some of the urgent research issues in the coastal zone management, with emphasis to community participation and risk communication. The relationship between human and environment is most pronounced in areas of human dependence on access to natural resources. Environmental resources are a critical part of the livelihoods of many people. Disaster management has its direct connotation to human environment. In the coastal areas, the disaster issues are very much related to the environmental degradation. The Indian Ocean Tsunami of 2004 has caused unprecedented damages to the local communities, destroying their lives and livelihoods. This disaster event affect the poor people the most by affecting their lives, properties and livelihoods, and also affect the natural and built environment.

Topics covered include: Coastal zone management issues and community practices, community based coastal management, coastal conservation, resource management and disaster risk reduction experiences.

**Readership:** Practitioners, policy makers, researchers, goastguard, naval officers and students in coastal zone management and disaster risk reduction.



978-981-08-2141-8 ♦ US\$78 / £ 51 (Hardbound)

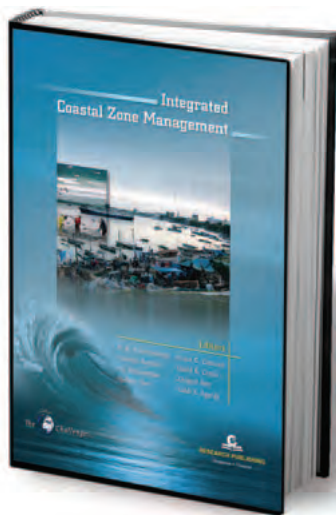
978-981-07-4275-1 ♦ US\$102 / £ 66 (E-book)

356 pp ♦ 2010

## INTEGRATED COASTAL ZONE MANAGEMENT (ICZM)

Edited by

**R. R. Krishnamurthy**, *University of Madras, Chennai, India*  
**Bruce C. Glavovic**, *Massey University, New Zealand*  
**Andreas Kannen**, *GKSS Research Centre, Germany*  
**David R. Green**, *University of Aberdeen, UK*  
**A. L. Ramanathan**, *Jawaharlal Nehru University, New Delhi, India*  
**Zengcui Han**, *Zhejiang Institute of Hydraulics and Estuary, Hangzhou, P.R. China*  
**Stefano Tinti**, *University of Bologna, Italy* &  
**Tundi Agardy**, *Sound Seas, USA*



This book presents diverse case studies from around the World, including many Asian countries, Africa, North and South America, Europe, the Middle East, Island Nations, and elsewhere. The book's 39 chapters are organized according to seven interrelated themes including global to local scales of ICZM, human dimensions and social, physical and biological aspects, and key closely linked topics ranging from biodiversity conservation to hazards and risk management, the impact of climate change, and the application of remote sensing and geospatial technologies.

Topics covered include: ICZM – Global to Local Scales; Human Dimensions in ICZM; Coastal Erosion, Protection, and Development; Special

Areas and Species in the Coastal Zone; Natural Hazards and Disasters in the Coastal Zone; Climate Change Impacts and ICZM; Tools for Data Gathering and Analysis in ICZM

**Readership:** The book will be of major interest to all those interested in building more effective coastal management systems and institutions, including coastal managers, scientists, planners, academics, teachers, young researchers, and graduate students.

978-981-05-8948-6 ♦ US\$158 / £ 100 (Hardbound)

978-981-07-4274-4 ♦ US\$206 / £ 131 (E-book)

800 pp (96 Color Figures) ♦ 2008

## FROM DISASTER AND CLIMATE RISK TO URBAN RESILIENCE: APPROACHING THROUGH COMMUNITY BASED ENVIRONMENTAL IMPROVEMENT

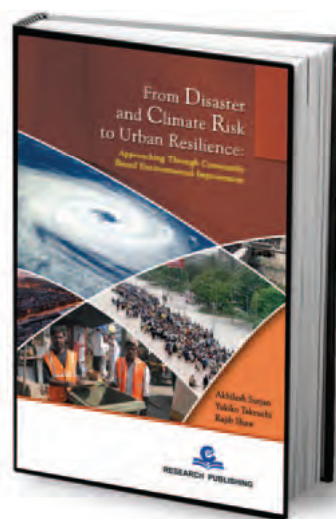


**Akhilesh Surjan, Yukiko Takeuchi & Rajib Shaw**

Urban issues are becoming increasingly important than ever before. There is a direct relation to population pressure, gradual migration from rural areas, and large scale infrastructure development. Thus, there is increasing concentration of assets in the urban areas. This population and asset concentration is also exposing the urban areas to increasing pressure from the natural hazards, especially climate related hazards like typhoons, flood, flood induced landslides etc. Recognizing the fact that urban disaster and climate related risks need utmost attention from those who are at risk (i.e. the community), this book aims to facilitate risk reduction process in a sustainable manner with the help of urban environmental improvement at neighborhood level in coastal cities of India. This book reveals that, to enhance the disaster resilience of the cities and communities, environmental risk management is the most crucial entry point.

This book is based on first-hand field experience and data collection through questionnaire survey, interview and personal observations. Based on the findings of the research, the book suggests innovative approach of urban environmental management, leading to disaster resilience. This is a modest attempt to bring the environment and disaster risk reduction field closer to each other, and to address this huge problem.

**Readership:** Climatologists, social scientists, researchers, policymakers and students with an interest in Disaster risk reduction and Environmental Improvement.



978-981-08-7726-2 ♦ US\$78 / £ 51 (Hardbound)

978-981-07-4273-7 ♦ US\$102 / £ 66 (E-book)

292 pp ♦ 2011

## ADAPTIVE AND SUSTAINABLE POST-TSUNAMI HUMAN RESETTLEMENT



**Miwa Abe, Yukiko Takeuchi & Rajib Shaw**

Post disaster recovery is an important issue, which is often ignored. For a large scale disaster, the humanitarian needs often dominate over other needs like environmental social or economic issues. Many of the decisions are taken hastily, and without proper survey and consultation. Time is also a critical issue, where the speedy recovery and quality of recovery process often clashes. Post disaster relocation is not a desirable option, but due to unavoidable circumstances (like enhancement of new regulation like coastal buffer zone, or destruction of infrastructure and/or ecosystem), it sometimes become inevitable to make the relocation decision. Although this is a hard decision, when taken, the key point is how to implement a sustainable and adaptive resettlement/relocation program. This is the key topic of this book. Citing the examples from the 2004 Indian Ocean Tsunami, the book provides in-depth analysis with specific examples on how to ensure sustainable and adaptive resettlement. Human resettlement is specifically emphasized to highlight the people and community oriented approaches and needs.

This book is a modest attempt to bring the environment and disaster risk reduction field closer to each other, and to address this huge problem. We will be happy if the professionals, practitioners and researchers of the related field find it suitable and useful. It is hoped that this book will generate new ideas for future research.

**Readership:** Scientists, researchers, policymakers and students with an interest in Environment and Disaster risk reduction.



978-981-08-7725-5 ♦ US\$68 / £ 45 (Hardbound)

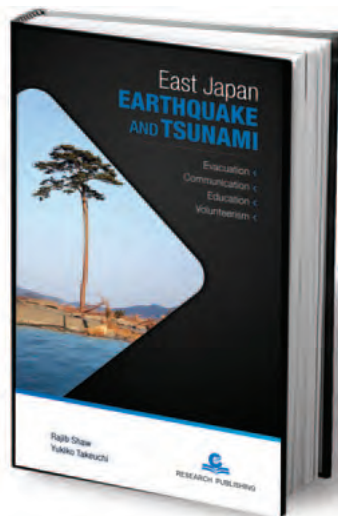
978-981-07-4272-0 ♦ US\$89 / £ 58 (E-book)

220 pp ♦ 2011



**EAST JAPAN EARTHQUAKE AND TSUNAMI****Evacuation, Communication, Education  
and Volunteerism**

Edited by

**Rahib Shaw &****Yukiko Takeuchi, Kyoto University, Japan**

The East Japan Earthquake and Tsunami is the one of the most devastated disasters, Japan has experienced after the World War II. Due to its scale, diversity and nature, the recovery lessons will be quite extensive and dynamic. The earthquake has damaged significantly the educational facilities in all three hardest hit prefectures: Iwate, Miyagi and Fukushima. There are different issues related to post disaster recovery. Evacuation behavior, communication, education and volunteer roles are some of the key elements which need to be focused, and the lessons learned can be utilized not only to the recovery of Tohoku region, but for other parts to Japan and the world. The book aims to draw the key lessons on the above four issues, especially from the view point of community participation.

**Readership:** Researchers, students and academicians in the field of disaster risk reduction and recovery process, and related practitioners and policy makers.

978-981-07-0186-4 ♦ US\$56 / £ 38 (Hardbound)

978-981-07-0187-1 ♦ US\$73 / £ 48 (E-book)

288 pp (17 color figures) ♦ 2012

**INTEGRATED RIVER BASIN MANAGEMENT  
FOR EFFECTIVE FLOOD RISK REDUCTION**

**Tran Van Giai Phong, United Nations International Strategy  
for Disaster Reduction, Bangkok &  
Rajib Shaw, Kyoto University, Japan**



This invaluable book describes innovative findings of integrated river basin management with specific emphasis on flood risk reduction. This book also presents the method and application of the participatory GIS and remote sensing for disaster risk assessment, which is one of the pioneering approaches in the field of flood risk and river basin management. An integrated model for flood risk reduction developed in this book can be applicable to other regions with similar context.

This highly original research in this book tackles the issue of how people at community level deal with severely increased disaster impacts, and how the larger macro political economy encounters this dilemma

phenomenon, and the options for amelioration within the context of developing countries. There are three main topics in the book: (i) examine the disaster and environment linkages at local context, (ii) analyze the common perceptions and scientific evidences of those linkages; and (iii) assess the impact of the disaster on environment and socio-economy and recommend the solutions to sustainably reduce the adverse disaster impacts.

**Readership:** Researchers, Undergraduate and Postgraduate students in both developed and developing countries, Practitioners, Policy makers, particularly in the fields of natural resource management and disaster risk reduction, NGOs, Professionals, Practitioners and the Local governments.

978-981-08-2427-3 ♦ US\$48 / £ 32 (Hardbound)

978-981-07-4270-6 ♦ US\$63 / £ 42 (E-book)

314 pp ♦ 2010

**SYNERGETIC SOLUTIONS FOR  
SUSTAINABLE DEVELOPMENT:  
PRESCRIPTION FOR PROSPERITY**

Edited by

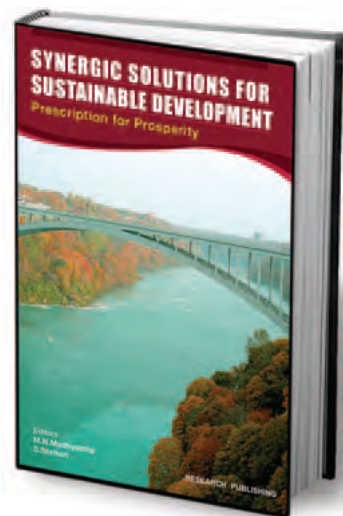
**M. N. Madhyastha, Mangalore University, Mangalore  
National Institute of Technology, Karnataka &**

**S. Shrihari, National Institute of Technology, Karnataka**

This book provides a good initiation to the student into the S&T in sustainable development. By bringing together such a large number of problems within a single area, e.g. that of water, it seems clear that synergy is possible. The nature of the problems tackled and content in the papers are also varied, ranging from providing a canvas of kaleidoscopic solutions, to problem description, multiple approaches to resource management, etc. Postgraduate students in technical varieties attempting to carry out research projects in sustainable technologies or sustainable development will greatly benefit from reading this book as it provides a wide repertoire from where they can seek simulation.

Topics covered include: Energy and Environmental Management, Environmental Impacts of Natural Disasters and Human Activities, Urbanization, Solid Waste Management, Mining, Water and Wastewater Treatment, and Reuse, Forest, Ecology and Wildlife, and Natural Resources, Pollution from Radioactive Substances and Radiation Biology, Environmental Ethics and Environment Education, and Biotechnology Lectures

**Readership:** Researchers, Postgraduates and Undergraduates in Environmental Engineering, Waste Management, Environmental Management and Planning, and Environmental Technology and Pollution.



81-903170-0-8 ♦ US\$32 / £ 22 (Softbound)

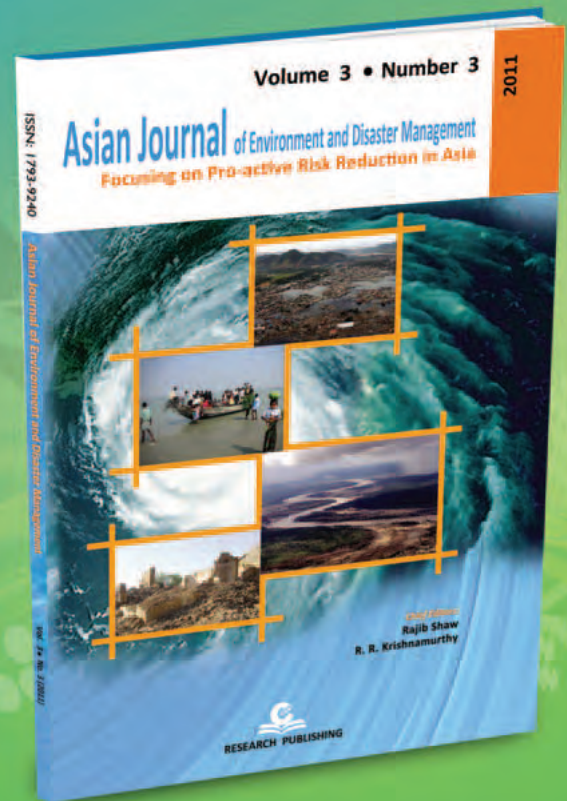
978-981-07-4304-8 ♦ US\$42 / £ 29 (E-book)

318 pp ♦ 2006

# AJEDM

## Asian Journal of Environment and Disaster Management

### Free Access to Inaugural Year



**ISSN:** 1793-9240 (Print)

**ISSN:** 1793-9259 (Online)

**Chief Editors**

**Rajib Shaw**, Kyoto University, Japan

**Ramasamy R. Krishnamurthy**, University of Madras, India

**Managing Editor**

**R. R. Krishnamurthy**, University of Madras, India

**In-house Editor**

**Ra. Sankaran**, Research Publishing, Singapore

### Aims & Scope

This is the first journal focusing on the environment and disaster related issues in the Asian region. Asia, being the center of urban growth in the last few decades, has also created severe environmental problems, and is prone to different types of natural disasters. This journal provides a forum to communicate research findings, not only through academic research, but also incorporating field based action research.

**Goal:** Theory of environment and disaster management is complex, and it becomes even challenging when it is linked to field practice. There often observed a gap between the theory and practice in the field of environment and disaster management. The goal of this journal is to establish academic linkages of field practices with specific emphasis on environment and disaster management in the Asian context.

### Topics covered include:

- Disaster risk reduction
- Environmental practices
- Community based environment and disaster management
- Climate change adaptation
- Urban risk
- Policy framework of environment and disaster management
- Disaster-development-environment inter linkage
- Human security
- Environment disaster education, risk communication
- Project management in environment & disaster risk reduction
- Post disaster recovery issues
- Coastal zone management

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ARTICLE** ▶

If you are interested in contributing to the Journal, please contact us at: **journals@rpsonline.com.sg**.

More Information on the article submissions can be found at:  
**[http://rpsonline.com.sg/journals/101-ajedm/ajedm\\_guide.html](http://rpsonline.com.sg/journals/101-ajedm/ajedm_guide.html)**

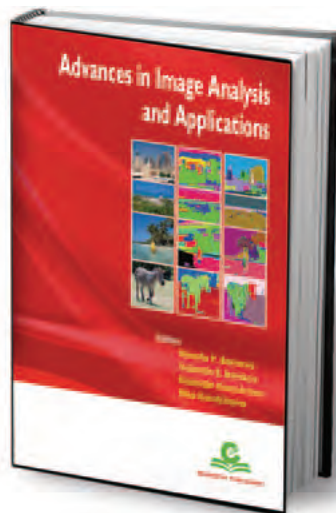




## ADVANCES IN IMAGE ANALYSIS AND APPLICATIONS

*Edited by*

**Reneta P. Barneva**, *State University of New York at Fredonia, USA*  
**Valentin E. Brimkov**, *State University of New York at Buffalo, USA*  
**Kostadin Koroutchev**, *Universidad Autónoma de Madrid, Spain &*  
**Elka Korutcheva**, *Universidad Nacional de Educación a Distancia, Spain*



This book comprises the papers of the Special Track on Applications of the 14th International Workshop on Combinatorial Image Analysis (IWCIA 2011) held in Madrid, Spain, May 23-25, 2011.

After a rigorous review process including three double-blind reviews per paper by members of the program committee, 12 papers were accepted for oral presentation at the Special Track and for inclusion in this volume. The most important selection criterion for acceptance or rejection of a paper was the overall score received. Other criteria included: relevance to the workshop topics, correctness, originality, mathematical depth, clarity, and presentation quality. We believe that as a result, only high quality papers have been accepted for presentation at IWCIA 2011 and for publication in the present volume.

The scientific program of the Workshop included presentations of contributed papers, as well as keynote talks by four distinguished researchers: Jake Aggarwal, Valentin Brimkov, Concettina Guerra, and Sebastián Cerdán.

**Readership:** Researchers and engineers with an interest in computer vision, image processing and computer graphics.

978-981-08-7923-5 ♦ US\$68 / £ 45  
 978-981-07-4269-0 ♦ US\$89 / £ 58 (E-book)  
 146 pp ♦ 2011

## OBJECT MODELING, ALGORITHMS AND APPLICATIONS

*Edited by*

**Reneta P. Barneva**, *State University of New York at Fredonia, USA*  
**Valentin E. Brimkov**, *State University of New York at Buffalo, USA*  
**Renato M. Natal Jorge**, *University of Porto, Portugal &*  
**João Manuel R. S. Tavares**, *University of Porto, Portugal*

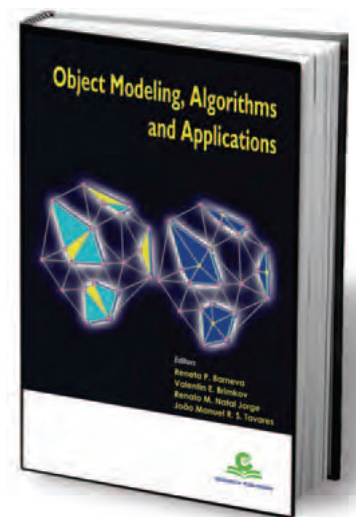


This book brings latest findings, ideas, developments, and applications in the area of computational modeling of objects represented in images. In particular, the book aims to attract scientists who use various approaches – such as finite element method, optimization methods, modal analysis, stochastic methods, principal components analysis, independent components analysis, distribution models, geometrical modeling, digital geometry, grammars, fuzzy logic, and others.

Papers Included in this Book: Two Metrology Applications in Medical Imaging, Non-Linear Least Square Optimization of Intracellular Action Potential Model Using a Series of Modified Gamma Distribution Functions, Using Turning Functions to Refine Shapes, Paired Transform Method of Image Reconstruction from Projections, Evaluation of New Character Segmentation Approach for Offline Cursive Handwriting Recognition in the State of Art, The

Generalized Orientation Field Transform, RGB Image Resizing Using Discrete Wavelet Transform Based on Bayer's Theory, and Applications of Visual Data Processing to Chemistry Research.

**Readership:** Researchers, engineers, programmers in computer vision, image processing and computer graphics.



978-981-08-5465-2 ♦ US\$58 / £ 38  
 978-981-07-4268-3 ♦ US\$76 / £ 50 (E-book)  
 141 pp ♦ 2010

## PROGRESS IN COMBINATORIAL IMAGE ANALYSIS

*Edited by*

**Petra Wiederhold**, *CINVESTAV-IPN (Centro de Investigación y de Estudios Avanzados), Mexico &*  
**Reneta P. Barneva**, *State University of New York at Fredonia, USA*



Image analysis is a scientific discipline which provides theoretical foundations and methods for solving problems appearing in a range of areas as diverse as biology, medicine, physics, astronomy, geography, chemistry, robotics, and industrial manufacturing. It deals with algorithms and methods aimed at extracting meaningful information from images; obtaining quantitative measurements such as lengths, areas, and thicknesses; and deriving object elements such as contours, skeletons, and holes.

The reviewing and program committee consisted of 86 scientists from 29 countries, and five continents. The selection of papers was very rigorous: each paper was sent to at least four members of the program committee for a double-blind review. The volume starts with the survey paper entitled "Current Challenges in Vision-Based Driver Assistance" by the invited speaker Reinhard Klette from the University of Auckland, New Zealand. The fifteen contributed papers included in this volume are separated into the following three sections: Discrete, Digital and Computational Geometry and their Applications to Image Analysis; Topological and Combinatorial Models, and Grammars for Image Representation and Analysis; Segmentation, Processing, and Reconstruction of Digital Images.

**Readership:** Researchers, engineers, programmers in computer vision, image processing and computer graphics.

978-981-08-3870-6 ♦ US\$58 / £ 38  
 978-981-07-4267-6 ♦ US\$76 / £ 50 (E-book)  
 247 pp ♦ 2010



## IMAGE ANALYSIS — FROM THEORY TO APPLICATIONS

Edited by

Reneta P. Barneva, *State University of New York (SUNY), Fredonia, USA &*  
Valentin E. Brimkov, *State University of New York (SUNY), Buffalo State College, USA*

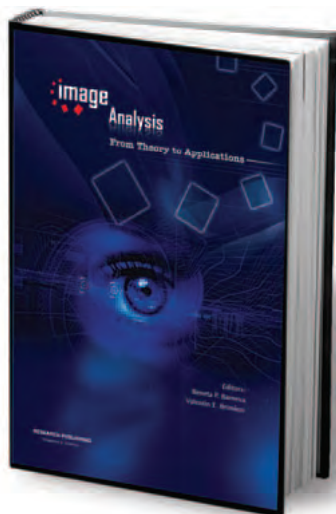


Image analysis is a scientific discipline providing theoretical foundations and methods for solving problems that appear in various areas of human practice, as diverse as medicine, robotics, defense, and security. The review process of the chapters in this volume was quite rigorous, as each chapter underwent three to four double-blind reviews. The selection criteria included: relevance to the topics, correctness, originality, clarity, presentation quality, and overall score received. As a result, high-quality chapters are included in this volume.

Topics covered include: Object Detection, Motion Detection, Medical Applications, From Theory to Applications.

**Readership:** Researchers, engineers, programmers in computer vision, image processing and computer graphics.

978-981-08-0228-8 ♦ US\$38 / £ 26 (Softbound)  
978-981-07-4266-9 ♦ US\$50 / £ 34 (E-book)  
253 pp ♦ 2008

## COMPUTER APPLICATIONS (6 VOLUMES)

*Proceedings of International Conference on*

Editor-in-chief

K. Kokula Krishna Hari



This set of six volume book will be of interest to all concerned with Computer Applications in Database, Networks, Telecom and Management. The networking has been experiencing a drastic development these days; networking is a segment which can't be operated specially without the impact of Computer. The second is the telecom industry, where each and every nodal and cluster operations are managed using the computers. The third is the management, without management it's difficult to run a computer application and is vice versa. All main tracks of the conference have been published as six edited books. These books constitutes the eviewed papers and remain the dissemination and discovery of recent developments on computer applications from various parts of the world.

**Readership:** Academicians, professionals, researchers, lecturers, and students in Computer Science and Engineering, and Information Technology.



### Computer Applications I:

978-981-08-7618-0 ♦ US\$120 / £ 77 (Hardbound) ♦ 382 pp ♦ 2011  
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978-981-08-7302-8 ♦ US\$90 / £ 58 (Hardbound) ♦ 182 pp ♦ 2011  
978-981-08-7302-8 ♦ US\$63 / £ 42 (E-proceedings)

## CARBON NANOTUBE BASED NANOCOMPOSITES: RECENT DEVELOPMENT

Edited by

Kamal K. Kar, *Indian Institute of Technology Kanpur, India &*  
Alma Hodzic, *The University of Sheffield, UK*

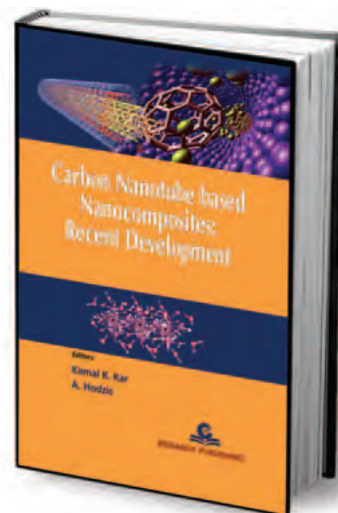
This is an edited book for graduate students and researchers from various fields of science and technology, who wish to learn about carbon nanotube based Nanocomposites. This book discusses large variety of carbon nanomaterials i.e., carbon nanotube, carbon nanofiber, carbon nanocoil, carbon nanohorn, amorphous carbon, graphite carbon, porous carbon, etc and various processing techniques involved in synthesizing CNTs. The background on purification of CNTs, growth mechanism of CNTs, properties of CNTs, various characterization techniques, and their potential uses have also been discussed.

Since the discovery of carbon nanotubes about two decades ago by Sumino Iijima, the scientific community involved in various aspects of research related to synthesis, purification, structure, properties and applications has observed a steady progress of the science and technology, as is typical for any new and novel material.

The authors hope that readers from any field of science and technology can read this book without any special background requirements.

**Readership:** Graduate and Post-graduate students and researchers from various fields of science and technology.

978-981-08-3712-9 ♦ US\$98 / £ 63 (Hardbound)  
978-981-07-4265-2 ♦ US\$128 / £ 83 (E-book)  
444 pp ♦ 2011





## CARBON NANOTUBES: SYNTHESIS, CHARACTERIZATION AND APPLICATIONS

Kamal K. Kar



This is an introductory book for graduate students and researchers from various fields of science and technology, who wish to learn about carbon nanotubes. This book discusses large variety of carbon nanomaterials i.e., carbon nanotube, carbon nanohorn, amorphous carbon, graphite carbon, etc. and various processing techniques involved in synthesizing CNTs. The background on purification of CNTs, growth mechanism of CNTs, properties of CNTs, various characterization techniques, and their potential uses have also been discussed. In addition, the variety of CNT based nanocomposites, have also been included in this book.

The author hopes that readers from any field of science and technology can read this book without any special background requirements.

**Readership:** Graduate and Post-graduate students and researchers from various fields of science and technology.

978-981-08-6397-5 ♦ US\$26 / £ 19 (Hardbound)

978-981-07-4265-2 ♦ US\$34 / £ 24 (E-book)

140 pp ♦ 2011



## MULTI-MATERIAL MICRO MANUFACTURE Proceedings of the 8th International Conference on

Edited by

Heinz Kück, HSG-IMAT and Stuttgart University, Germany

Holger Reinecke, IMTEK, University Freiburg & HSG-IMIT, Germany &

Stefan Dimov, Birmingham University, UK

This volume is a compilation of 6 keynote lectures and 67 papers representing the scientific and technical advances in various aspects of advanced micro technologies with respect to a wide range of materials, and the development of new production platforms for micro systems-based products.

The contributions from leading authors from universities, independent research and corporate organizations provide an invaluable overview of this rapidly moving subject and an insight into key research and development areas.

**Readership:** Engineers, scientists, professionals and academics in the field of nanotechnology and micro manufacture.



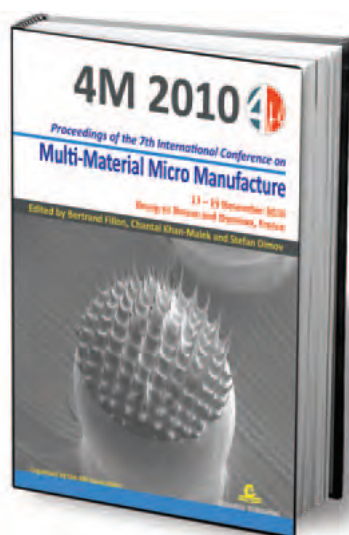
## MULTI-MATERIAL MICRO MANUFACTURE Proceedings of the 7th International Conference on

Edited by

Bertrand Fillon, CEA, France

Chantal Khan-Malek, CNRS, France &

Stefan Dimov, Cardiff University, UK



This volume is a compilation of 6 keynote lectures and 62 papers representing the scientific and technical advances in various aspects of advanced micro technologies with respect to a wide range of materials, and the development of new production platforms.

The contributions from leading authors from universities, independent research and corporate organizations provide an invaluable overview of this rapidly moving subject and an insight into key research and development areas. This comprehensive collection of indexed and peer-reviewed articles is also contained on a CD with search functionality.

**Readership:** Engineers, scientists, professionals and academics in the field of nanotechnology and micro manufacture.

978-981-08-6555-9 ♦ US\$120 / £ 77 (Hardbound)

978-981-08-6555-9 ♦ US\$84 / £ 55 (E-proceedings)

336 pp ♦ 2011

## MULTI-MATERIAL MICRO MANUFACTURE Proceedings of the 9th International Conference on

Edited by

Humbert Noll, FOTEC and University of Applied Sciences Wiener Neustadt, Austria

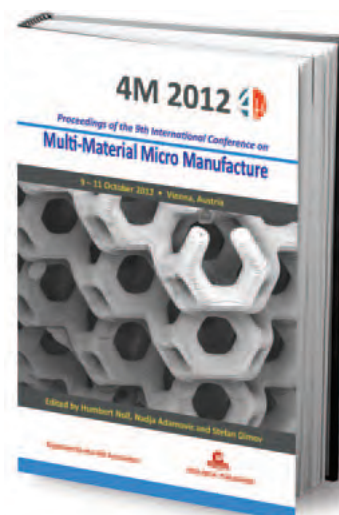
Nadja Adamovic, TU Wien, Austria &

Stefan Dimov, Birmingham University, UK

This volume is a compilation of 6 keynote lectures and 61 papers representing the scientific and technical advances in various aspects of advanced micro technologies with respect to a wide range of materials, and the development of new production platforms for micro systems-based products.

Themes addressed include: Components: Fabrication & Assembly, Process Modelling & Simulation, Process Characterisation Including Process Chains, Metrology: Inspection & Characterisation, Novel Materials: Characterisation & Processing, Systems: Novel Product & Systems Design and MultiLayer.

**Readership:** Engineers, scientists, professionals and academics in the field of nanotechnology and micro manufacture.



978-981-07-3353-7 (Hardbound) ♦ US\$180 / £ 114

978-981-07-3354-4 ♦ US\$126 / £ 81 (E-proceedings)

342 pp ♦ 2012

## ENGINEERING MATERIALS IN MECHANICAL DESIGN — PRINCIPLES OF SELECTION WITH Q & A

Sujeet K. Sinha, *National University of Singapore, Singapore*



"Engineering Materials in Mechanical Design — Principles of Selection with Q&A" has been written for engineering students who would like to get a grasp of the important engineering material selection principles and criteria. This book would be very useful for the students of Mechanical, Materials or Aerospace engineering who have to constantly deal with different engineering materials in the design or failure analysis. This book gives a broader picture of the engineering materials as they relate to mechanical design. This is followed by very in-depth question and answer that covers all aspects of materials for mechanical engineering. The Q&A would be very useful to those who are trying to get deeper understanding of each topic studied in this subject.

This book would be very suitable to senior undergraduate and postgraduate students who are studying any topic in mechanical engineering design or those who just want to know about engineering materials. This can be a companion book for industry professionals who are engaged in mechanical designs or engineering failure analyses.

This book is different from existing books in this area as this provides very broader picture of material specific to mechanical design issues. The Q&A is very innovative idea as these questions were asked by students and hence my detailed answers would provide very deep learning experience for students.

**To the teachers:** As this book has been written primarily for classroom teaching of engineering materials course, I believe that the book will be very useful if you are teaching a similar course at the university level.

**Readership:** Graduate and Postgraduate students, Researchers and Industry Professionals in Engineering.

978-981-08-2314-6 ♦ US\$46 / £ 31 (Softbound)

978-981-07-4264-5 ♦ US\$60 / £ 40 (E-book)

282 pp ♦ 2010

## PROCESSING AND FABRICATION OF ADVANCED MATERIALS XVI (PFAM XVI)

Editor

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Sanjay K. Thakur, *Electronics and Safety, Delphi Automotive Systems, Singapore*

This inter-disciplinary publication provides together the state-of-the-art developments on all aspects related to the processing and fabrication of advanced materials spanning the entire spectrum of metallic, intermetallics, ceramics, ceramic-matrix composites, metal-matrix composites, intermetallic-matrix composites, advanced polymers, polymer-matrix composites, semiconductor materials and surface and high-temperature coatings.



PFAM XVI contains collection of papers from practicing engineers, technologists, researcher scientists and academicians from ten countries. 57 accepted papers are included in this bound volume and cover a spectrum of topics that represent the truly diverse nature of the field.

Topics covered includes Advanced Processing Methods, Advanced Composites, Advanced Metallic Materials, Energy Storage Materials, Functional Materials, and Simulation Studies and Surface Coatings.

**Readership:** Researchers, engineers, graduate students, academics and professionals in engineering and materials science.



978-981-05-9650-7 ♦ US\$138 / £ 88 (Hardbound)

978-981-05-9650-7 ♦ US\$97 / £ 63 (E-proceedings)

706 pp ♦ 2007

## ADVANCES IN APPLIED SURFACE ENGINEERING

Edited by

Sanjay Kumar Thakur, *Rolls-Royce Singapore Pte. Ltd., Singapore &*

R. Gopal Krishnan, *National University Singapore, Singapore*

This book is a collection of papers provided by researcher scientists, practicing engineers, technologists, academicians and students from 25 countries. Total 81 papers, to include both invited and contributed, that were reviewed and accepted for oral presentation at the three days conference were divided into 20 sessions. 44 of the papers accepted and received in time are included in this bound volume. More than 100 participants from academia, industry and government benefited from the research findings, observations and inferences from the papers presented during the symposium.

This volume covers a spectrum of topics that represent the truly diverse nature of the field of surface science and engineering, including Plating technologies, Nano and emerging technologies and Surface engineering, characterization and testing.

As editors of this bound volume we are confident that graduate students in Materials Science and Engineering, Metallurgical Engineering and Mechanical Engineering, Practicing Engineers, and Scientists will discover a wealth of knowledge in applied surface engineering arena.

**Readership:** Graduates, Researchers and Engineers in surface engineering, material surfaces, corrosion and wear mitigation, surface processes, coating technology, and surface engineering applications.

978-981-08-7922-8 ♦ US\$58 / £ 39 (Hardbound)

978-981-07-4263-8 ♦ US\$76 / £ 50 (E-book)

394 pp ♦ 2011



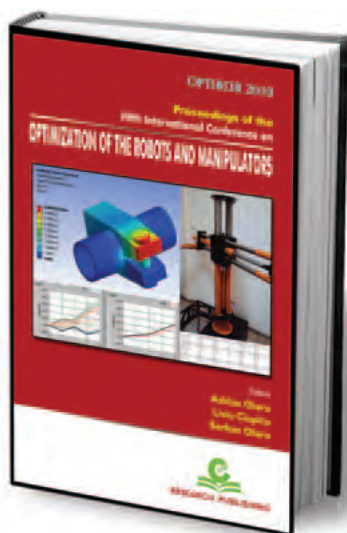


## OPTIMIZATION OF THE ROBOTS AND MANIPULATORS

*Proceedings of the Fifth International Conference on*

*Edited by*

**Adrian Olaru,** *Senior Member of IASCIT Singapore,*  
**Liviu Ciupitu,** *Member of the ARoTMM and SRoR &*  
**Serban Olaru,** *Member of the SRoR, RomSYS Mechatronics Systems*



The fifth edition of Robotics International Conference OPTIROB 2010 is the constant preoccupation of the Robotics team from POLITEHNICA University of Bucharest, Machine and Manufacturing Systems Department under the tutelage of the Romanian Academy of Technical Sciences, Mechanical Branch, in order to find new methods, communication ways and technologic transfer between specialists of the world, for exchanging and presenting last research results and discussing the latest development in the most important field of automation manufacturing systems, robotics. Has been reviewed and approved over than 57 papers from 78 with subject of the robots, manipulators, automation manufacturing systems, mechatronics and intelligent systems. The optimization

ways was the constructional and structural points of view, trajectory generating, command and control, programming languages, neural network and shape recognition form, management in Robotics and civil and military applications.

Topics covered include: Computer design in Robotics, Analyze and optimal synthesis, Optimization of dynamics and vibrations, Optimization of driving systems, Mechatronics systems, Optimization of controllers and programming languages, Shape recognition, Guidance systems and Neural networks, Machining, Mobile, Walking and Parallel robots, Management of Automation and Intelligent systems, and Civil and military application of Intelligent systems.

**Readership:** Researchers, Academicians, Professionals and Students in the field of Mechatronics.

978-981-08-5840-7 ♦ US\$130 / £ 83 (Softbound)

978-981-08-5840-7 ♦ US\$91 / £ 58 (E-proceedings)

367 pp ♦ 2010

## A Festschrift in Honour of Professor Suhas P. Sukhatme

*Edited by*

**U. N. Gaitonde and Sushanta K. Mitra,** *Indian Institute of Technology, Mumbai, India &*  
**Satish G. Kandlikar,** *Rochester Institute of Technology, USA*



Professor Suhas P. Sukhatme has been at the forefront of research and education in the area of heat transfer for over four decades. His devotion to his students and passion for enhancing research efforts have been the hallmark of his visionary leadership. He completed his professional career as the Director of IIT Bombay from 1995 to 2000, and as the Chairman of Atomic Energy Regulatory Board from 2000 to 2005.

This book contains Contributed papers from his students, colleagues, and friends, in recognition of his stellar career

Topics covered include: Energy Transport, Air-Conditioning Systems, Proton Exchange Membrane (PEM) Fuel Cells, Natural Circulation Based Primary Heat, Nuclear Power Plants, Heat Exchangers, High Pressure AFBC Boiler, Low-Pressure Piezoelectric Fans, Waste Heat Recovery, Constricted Flow Diameter, Digital Holography System, Uniform Heat Generation, Inkjet Printer Printhead, Dielectric Fluids, Heat Transfer and Flow Characteristics.

**Readership:** Researchers, Academicians, Professionals and Students in the field of Mechanical Engineering.



978-981-05-9611-8 ♦ US\$25 / £ 18 (Hardbound)

165 pp ♦ 2008

## INNOVATIVE MATERIALS FOR PROCESSES IN ENERGY SYSTEMS FOR FUEL CELLS, HEAT PUMPS AND SORPTION SYSTEMS



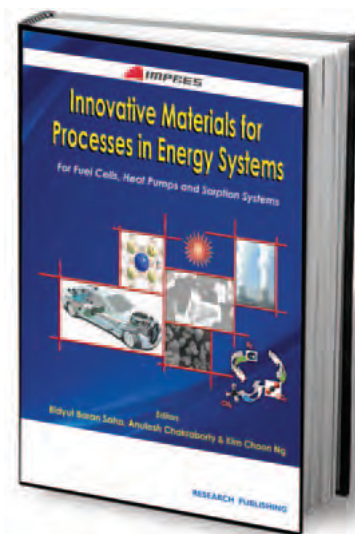
*Edited by*

**Bidyut Baran Saha,** *Kyushu University, Japan*  
**Anutosh Chakraborty,** *Nanyang Technological University, Singapore &*  
**Kim Choon Ng,** *National University of Singapore*

This edited book is concerned with the applications of novel materials in the field of energy systems with special focus on the gas-solid reaction processes in various energy conversion systems. Materials for fuel cells, heat pumps, sorption systems and other energy conversion and storage devices will be discussed. Common concerns include material reactivity, heat and mass transfer characteristics, durability, stability under high-temperature and severe conditions and cost.

Topics covered include Composite Materials: Adsorbents, Sorption Heat Pumps, Hydrogen Production, Storage and Carrier Systems, Fuel Cells, Desiccant and Energy Systems, Heat and Mass Transfer, Chemical Heat Pumps, Composite and Porous Materials, Absorption Systems, Others: PCM and Drying Technology

**Readership:** Scientists, Researchers, Practitioners and Students in Chemical Engineering and Energy Engineering.



978-981-08-7614-2 ♦ US\$143 / £ 91 (Hardbound)

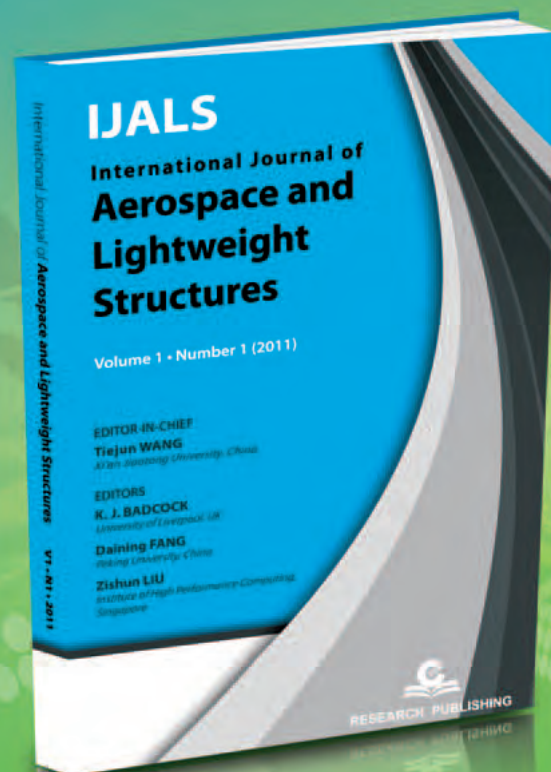
978-981-08-7614-2 ♦ US\$101 / £ 66 (E-proceedings)

471pp ♦ 2010

# IJALS

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Free Access to  
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## Topics covered include:

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81-903170-7-5 (CD-ROM)	Fluid Mechanics in Industry and Environment	US\$56 / £ 37	2006

Thanks a lot for this great job! All participants are very satisfied with the proceedings and have highlighted the high quality and optical appearance in their comments. For me, in addition to the above, it was very important that you could provide such a short production time. All the handling and correspondence was, in addition, very easy and fruitful. I will definitely consider your help again, and suggest your services to my friends.

— Prof. Michael BEER, University of Liverpool, UK

Very prompt, flexible, and reliable! Great service!!

— Prof. Dr. Christof TEUSCHER, Portland State University

I worked with RPS on both books and journals. I would like to point out RPS's work on three points: fast and efficient publishing, timely responses to queries, and good coverage of market. I am very much satisfied with the flexible and academic friendly approach RPS management has taken, which helps in develop quality products. I am looking forward to working more with RPS, and encourage our colleagues in the field of environment and disaster risk reduction field to develop quality products with RPS. With my sincere appreciation.

— Prof. Rajib SHAW,  
Kyoto University, Japan and Editor-in-Chief,  
Asian Journal of Environment and Disaster Management (AJEDM)

## DESIGNING SUSTAINABLE PRODUCTS, SERVICES AND MANUFACTURING SYSTEMS

*Edited by*

**Amaresh Chakrabarti**, *Indian Institute of Science, Bangalore, India*  
**Sudarsan Rachuri and Prabir Sarkar**, *National Institute of Standards and Technology, USA &*  
**Srinivas Kota**, *Indian Institute of Science, Bangalore, India*



Designing sustainable products, services, and manufacturing systems presents an anthology of papers from experts from India and USA, along with a summary of focused discussions and suggestions in several areas of critical importance within the broad topic of sustainability in the development of products, services and manufacturing systems.

The papers in this book enhance the awareness of research, education and practice of sustainability, and to catalyze formation of networks among institutions and organizations in India and the USA.

The papers in this book enhance the awareness of research, education and practice of sustainability, and to catalyze formation of networks among institutions and organizations in India and the USA.

The key topic covered in this book includes: Designing sustainable products, services, and manufacturing systems; Preparing engineers, designers and managers for the 21st century; Developing policies, standards and industry best practices for sustainable systems; and Showcasing sustainable technology

**Readership:** Engineers, scientists, architects, industrial designers, design managers and other researchers and professionals with an interest in design and product development.

978-981-08-5466-9 ♦ US\$96 / £ 62 (Hardbound)

978-981-07-4260-7 ♦ US\$198 / £ 126 (E-book)

382pp ♦ 2011

## RESEARCH INTO DESIGN: SUPPORTING SUSTAINABLE PRODUCT DEVELOPMENT

*Edited by*

**Amaresh Chakrabarti**, *Indian Institute of Science, Bangalore, India*



Design is ubiquitous; it pervades all spheres of life, and has been around ever since life has been purposefully changing the world around it. Research in design and the emergence of a research community in this area has been relatively new, its development influenced by the multiple facets of design (human, artefact, process, organisation, and the micro- and macro economy by which design is shaped) and the associated diversification of the community into those focusing on various aspects of these individual facets, or various applications. Design is complex, balancing the needs from multiple stakeholders, and requiring a multitude of areas of knowledge to be utilized, from resources spread across space and time.

Understanding the knowledge while reading this book are, diverse areas of design practice, teaching and research, to: share cutting edge research about design among the stakeholders; aid the ongoing process of developing a collective vision through emerging research challenges and questions; and provide a

platform for interaction, collaboration and development of the community in order for it to take up the challenges to realise the vision.

In this edited book, the contributions from leading authors from universities, independent research and corporate organizations provide an invaluable overview of this rapidly moving subject and an insight into key research and development areas.

**Readership:** Engineers, scientists, architects, industrial designers, design managers and other researchers and professionals working in design and product development.



978-981-08-7721-7 ♦ US\$260 / £ 164 (Hardbound)

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## RESEARCH INTO DESIGN: SUPPORTING MULTIPLE FACETS OF PRODUCT DEVELOPMENT

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**Amaresh Chakrabarti**, *Indian Institute of Science, Bangalore, India*



This edited book introduces a new explanatory cross-layer model designed to understand all aspects of "Research into Design". Design is ubiquitous; it pervades almost all spheres of life, and has been around as long as life has taken up the task of purposefully changing the world around it. Research in design and the emergence of a research community in this area has been relatively new, its development influenced by the multiple facets of design (human, artefact, process, organisation, and the micro- and macro economy by which design is shaped) and the associated diversification of the community into those focusing on various aspects of these individual facets, or various applications.

The book cover all three major areas of products and processes: functionality, form and human factors. The spectrum of topics range from those focusing on early stages such as creativity, synthesis and innovation, through those that are primarily considered in certain stages of the product life cycle, such as safety, reliability, cost, production, and environment, to those that are relevant across the whole product life cycle, such as collaboration and communication, design management, knowledge management, knowledge representation and mining, and product life cycle management.

**Readership:** Engineers, scientists, architects, industrial designers, design managers and other researchers and professionals working in design and product development.

978-981-08-2277-4 ♦ US\$136 / £ 86 (Hardbound)

978-981-07-4262-1 ♦ US\$177 / £ 113 (E-book)

634 pp ♦ 2009

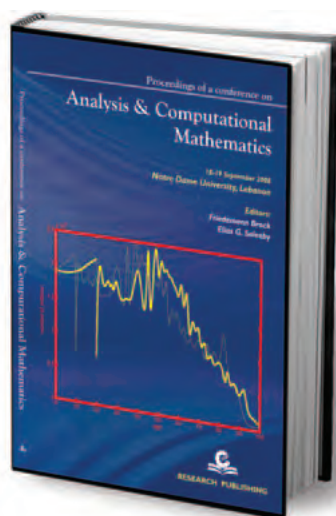


## ANALYSIS & COMPUTATIONAL MATHEMATICS

*Proceedings of the International Conference*

*Edited by*

**Friedemann Brock,** *American University of Beirut &*  
**Elias G. Saleeby,** *Notre Dame University, Lebanon*



This book contains the papers presented in the first conference on mathematics and statistics organized by the faculty of natural and applied science at Notre Dame University.

Although most mathematicians and statisticians tend to specialize in certain areas, it is essential and useful for researchers to be exposed to ideas and techniques used in other areas. The applications of mathematics brings in further insights and reveal needs that are often very important to the natural development of theories. This point of view should accompany the assessment of the modest contributions that the articles of this compilation makes as a whole or to any particular area of specialization covered.

This book contains a wide range of topics in Analysis, Computational

Mathematics and Statistics. The intent was to appeal and to cater for the interests of a rather small community of mathematicians in Lebanon and to other mathematicians that would be interested from neighboring and European countries.

The articles in this proceedings are classified under the following general topics: inequalities, game theory and economics, population models, numerical solutions, special functions and transformation groups.

**Readership:** Undergraduate and graduate students in applied mathematics, engineering and scientific computing, computer scientists, algorithm developers, mathematical modelers, researchers.

978-981-08-3731-0 ♦ US\$48 / £ 32 (Softbound)  
978-981-08-3731-0 ♦ US\$34 / £ 24 (E-proceedings)  
132 pp ♦ 2009

## BIO-INTERFACING DEVICES

**S. M. Namal Arosha Senanayak**  
*Monash University Sunway Campus, Malaysia*



The book addresses state-of-the-art bio-interfacing devices, bio-instrumentation and virtual technologies in order to develop prototypes of real time systems for movement analysis. It incorporates varieties of wired and wireless sensors and different vision technologies; video and optical as fundamental elements for movement analysis. We will gear to the integration of Data Acquisition (DAQ) modules to construct bio-interfacing devices together with virtual technologies as measurement tools. Interactive Graphical User Interfacing (IGUI) programming will be chosen to extract preprocessed data and signals in order to reconstruct movement models.

**Key Advantages:** Unlike other movement analysis books, reader finds the integration of bio-electronic devices, bio-instrumentation and virtual technologies based on wired, wireless sensors and vision systems in near real time systems. Further, each chapter contains prototype building of specific products which are already tested in real world applications. Therefore, author also provides some challenging real world problems for the reader to do as most of the

proposed problems have been proven with national athletes at sports biomechanics centre of National Sports Institute.

**Topics Covered:** Bio-Interfacing Devices Concepts, Sensor Integration for Movement Analysis, Vision Integration for Movement Analysis, Virtual Technologies for Data Acquisition and Integration, Regeneration of Human Motion.

**Readership:** This book is an essential guide for graduate students, researchers and Practitioners in the field of Biomechanics.



978-981-08-2315-3 ♦ US\$76 / £ 50 (Hardbound)  
978-981-07-4313-0 ♦ US\$48 / £ 33 (pbk)  
978-981-07-4259-1 ♦ US\$99 / £ 64 (E-book)  
454 pp ♦ 2013

## PROCEEDINGS OF THE FIRST INTERNATIONAL SYMPOSIUM ON BIOENGINEERING

*Edited by*

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*Nanyang Technological University, Singapore*  
**M. Y. Lee, J. P. Chen, C. S. Lai, J. D. Lee, & S. L. Wu,**  
*Chang Gung University, Taiwan*

“Emerging Technologies in Biomedical Engineering” contains papers presented at the First International Symposium on Bioengineering (ISOB 2011) held at the NTU, Singapore.

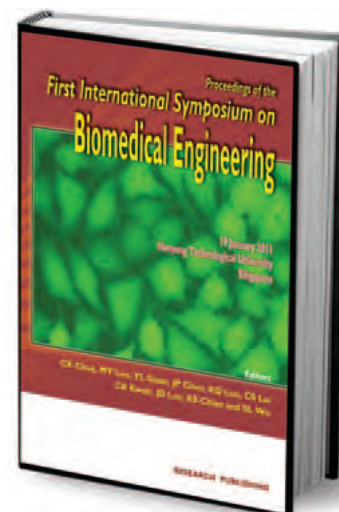
The First International Symposium on Bioengineering is designed to be a major forum for the scientific exchange of multi-disciplinary and inter-organizational aspects of biomedical engineering and related areas, making a significant contribution for further development of these fields. It will also provide a platform for collaboration and joint research amongst the delegation.

ISOB 2011 has 4 parallel tracks: Bioelectronics, Biosensors and Biophotonics, Functional Imaging, Telecare and Assistive Devices/Rehab Engineering, Tissue Engineering and Rapid Prototyping Based Scaffold Production/Manufacturing.

*The papers in this book are cited most often in ISI Web of Science.*

**Readership:** Bioengineering undergraduates and students from other engineering and biomedical disciplines, postdoctoral fellows, research scientists, faculty and scientists in industry, government and other institutions.

978-981-08-7615-9 ♦ US\$120 / £ 76 (Hardbound)  
978-981-08-7615-9 ♦ US\$84 / £ 55 (E-proceedings)  
381 pp ♦ 2011



## CREATIVITY AN ASIAN-EURO-AFRO PERSPECTIVE

Edited by

Ai-Girl Tan, *Nanyang Technological University, Singapore*



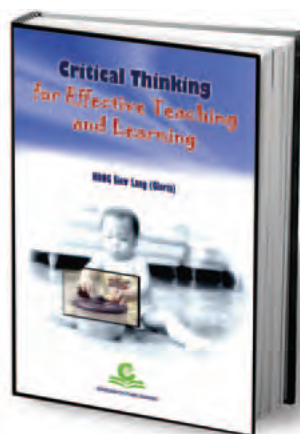
**Creativity:** An Asian-Euro-Afro Perspective covers topics related to creativity research, development, theories and practices contributed by researchers and graduate students in Asia, Europe, and Africa. It serves as a reading and reference for academics, experts, scientists, and psychologists, and educators to engage in "exploring" their own cultural richness as a means to promote creativity within and across cultures.

**Readership:** Academics, researchers, graduates majoring in education and psychology, creativity institutions/centers and general public.

978-981-08-5467-6 ♦ US\$56 / £ 37  
978-981-07-4258-4 ♦ US\$73 / £ 48 (E-book)  
226 pp ♦ 2011

## CRITICAL THINKING FOR EFFECTIVE TEACHING AND LEARNING

Kong Siew Lang (Dr. Gloria)



This wonderful book gives us an in-depth look at a dynamic and interactive history of ideas and accomplishments by those who, over the past 75 or so years, have grappled with the question of how we can teach our students so that they develop the requisite thinking skills and thinking habits that bring out the potential we all have to think as carefully and well as our best thinkers. This is the only book that brings it all together — a masterful piece of scholarship — that will be appreciated by anyone interested in this fundamental issue who doesn't want only a tour-bus look at a few highlights on the surface of what has become a dynamic and important 21st Century quest.

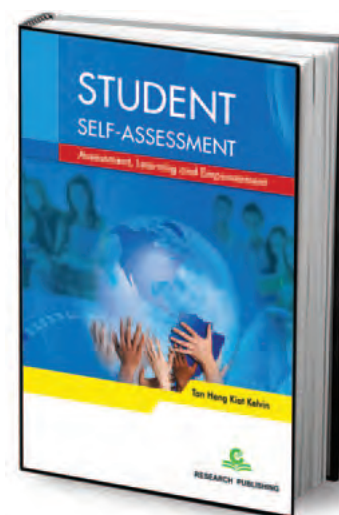
**Prof. Dr Robert Swartz,**  
*Director, The National Center for Teaching Thinking, USA.*

**Readership:** Graduates majoring in education and psychology; graduates and researchers with academic/research interests in thinking skills, critical thinking skills, and various issues pertaining to the development of such cognitive processes and General public .

978-981-08-4892-7 ♦ US\$48 / £ 32 (Softbound)  
978-981-07-4256-0 ♦ US\$63 / £ 42 (E-book)  
240 pp ♦ 2010

## STUDENT SELF-ASSESSMENT: ASSESSMENT, LEARNING AND EMPOWERMENT

Tan Heng Kiat Kelvin



Student self-assessment as a practice and as a goal in higher education is generally emphasised for academics. This book researches specifically what academics emphasise in their experiences of student self-assessment. The investigation focused on the different ways academics described their understanding and practice of self-assessment. These academics' ways of experiencing student self-assessment are subsequently discussed in terms of assessment, learning and power.

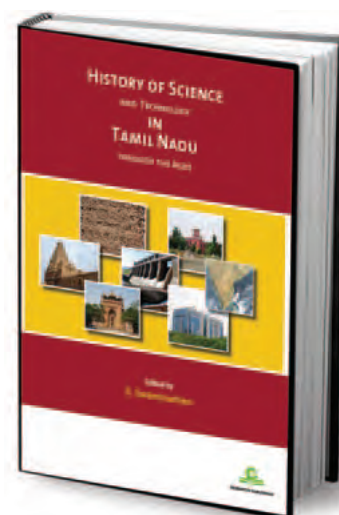
**Readership:** Professionals, policy-makers, internet security consultants, academics, researchers and information technology managers.

978-981-08-9442-9 ♦ US\$38 / £ 26 (Softbound)  
978-981-07-4257-7 ♦ US\$50 / £ 34 (E-book)  
170 pp ♦ 2012

## HISTORY OF SCIENCE AND TECHNOLOGY IN TAMIL NADU THROUGH THE AGES

Edited by

S. Swaminathan, *Periyar Univesity, India*



The present editing work of Dr. S. Swaminathan History of Science and Technology in Tamil Nadu through the Ages, attempts to fulfill the existing gap from prehistory to contemporary history of science and technology in Tamil Nadu. Scholars have been chosen to think globally act locally above and beyond their good job reveals the following themes are elucidated the epistemology of the Tamils.

Knowledge versus ignorance transformed as wisdom of experience by the aborigines of ancient homosapiens it is discussed from archaeological, epigraphic-sources of identify with anthropological linguistics. Power of tradition explored in traditional knowledge system of the Tamils. Change versus tradition traced with colonial initiatives to modern science and nationalist quest for alternatives in the form of Swadeshi industry in Tamil Nadu exposes change of power – necessity. Glimpses of Twenty First Century historically documented the developments of science and technology and the changeover from brain drain to Information Revolution in Tamil Nadu.

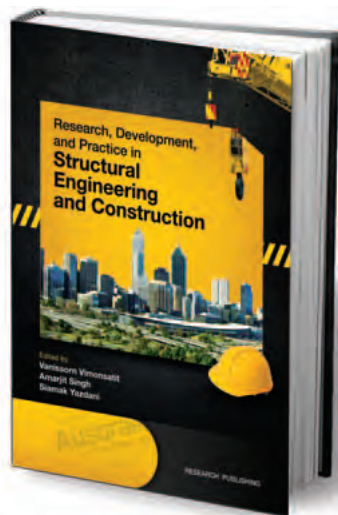
978-981-07-1409-3 ♦ US\$ 48 / £ 32 (Softbound)  
978-981-07-4227-0 ♦ US\$62 / £ 41 (E-book)  
456 pp ♦ 2013



## RESEARCH, DEVELOPMENT, AND PRACTICE IN STRUCTURAL ENGINEERING AND CONSTRUCTION

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With the current advanced stage of technology and globalisation, keeping abreast with worldwide research, development, and practice is necessary for progress. In addition, there is an increasing demand for career migration regionally and internationally. It is therefore imperative to have a platform for researchers and practitioners to learn from one another at an international level to exchange ideas and network.

This book presents 184 peer-reviewed articles from 38 countries by 372 researchers and practitioners worldwide. The articles represent some of the latest trends and developments in structural engineering and construction. The topics included in this book are in the broad area of air and water, architecture and architectural engineering, coastal engineering, construction, construction safety, cost control, disaster management,

energy, facilities and asset management, geotechnical and foundation engineering, housing, infrastructure, law and dispute resolution, materials, policies for national development, procurement, productivity, project management, quality, risk analysis, structures, education, and sustainability.

The book is informative with recent developments and new trends among academics and industrial practitioners, which will inspire the structural engineering and construction community.

**Readership:** Researchers, engineers and practitioners in the field of structural and civil engineering.

978-981-07-3677-4 ♦ US\$260 / £ 164 (Hardbound)  
 978-981-07-4318-5 ♦ US\$338 / £ 213 (E-book)  
 1174 pp ♦ 2013



## ADVANCES IN UNDERGROUND SPACE DEVELOPMENT

*Edited by*

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**Raymond Sterling**, *USA*



Worldwide, the use of underground space has been increasingly recognized as part of the solution to creating sustainable urban development, and in many countries has been elevated to a strategic level for long-term economic development. Underground space offers many possibilities for simultaneously improving urban infrastructure and urban livability. At the same time, the creation of underground space faces many special challenges – both from a human design perspective and in terms of technical and cost challenges. Equally important is the need to move from the creation of underground facilities as a haphazard, first-come first served network of structures to a well-planned use of underground space that can serve the needs of urban areas for future generations as well as our own.

This book contains over 160 peer-review papers and cover a very diverse and wide-ranging spectrum of topics dealing with underground space use and development. They are grouped according to the following topic areas: planning and design, architecture, fire and life safety, underground Infrastructure and applications, sustainability and resilience, geo-engineering and rock mechanics, tunneling and excavation, and underground engineering. It will serve as a useful reference for planners, engineers, researchers, and policy makers involved in the planning, creation, and use of underground space.

**Readership:** Researchers, engineers and practitioners with interest in Underground Space Development.

978-981-07-3756-6 ♦ US\$260 / £ 164 (Hardbound)  
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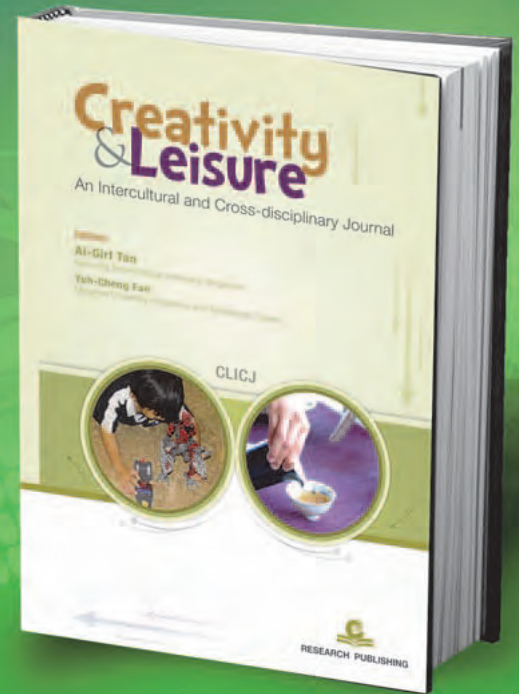
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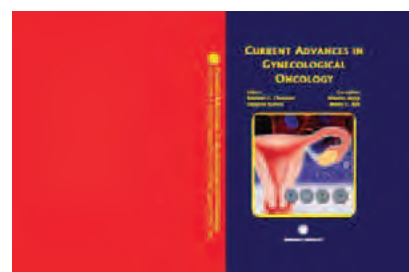
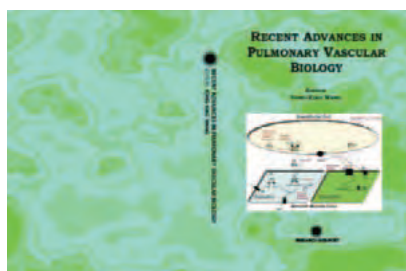


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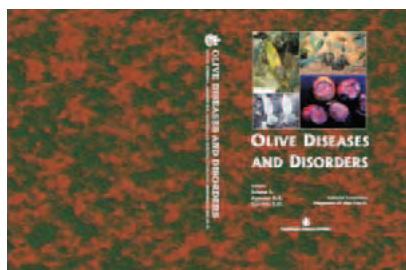


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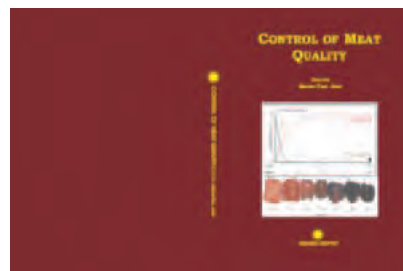
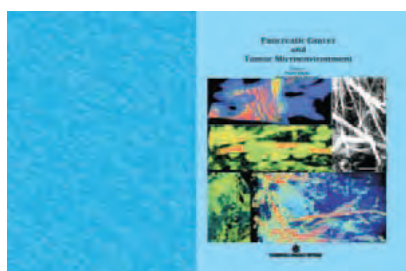


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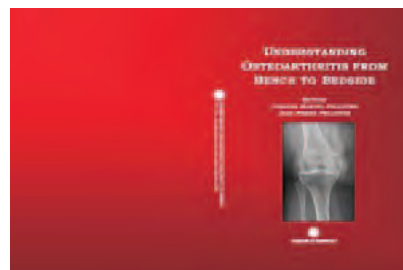
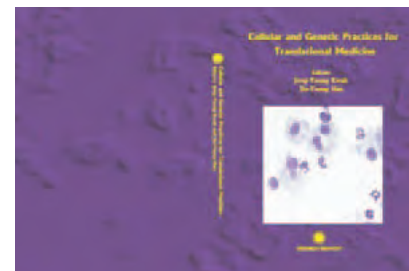


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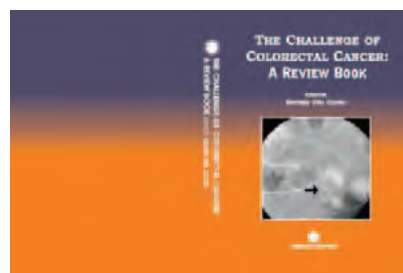


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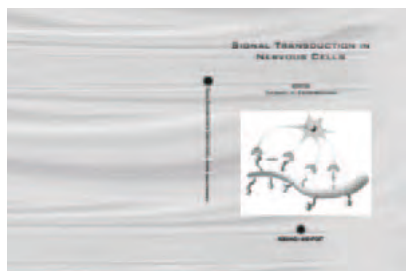
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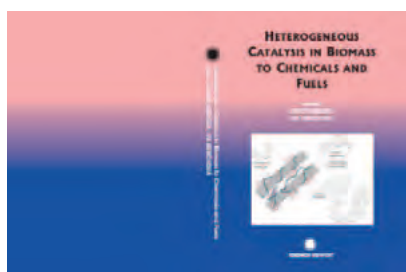
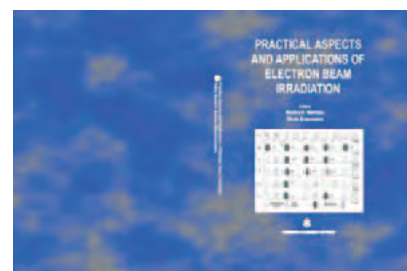
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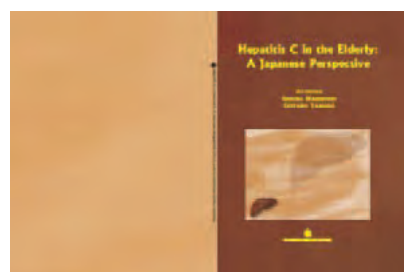
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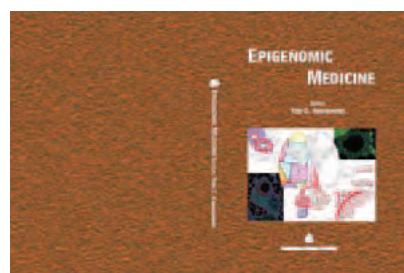
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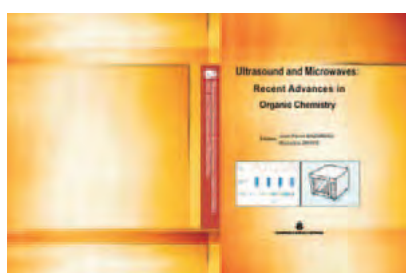


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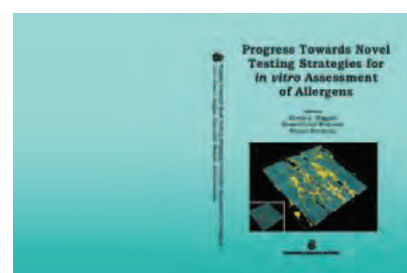
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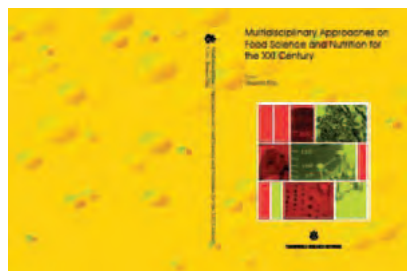


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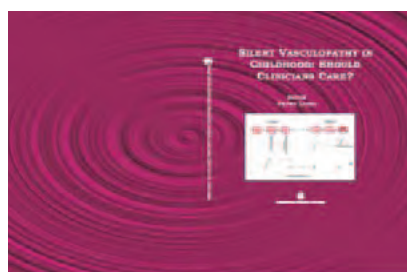
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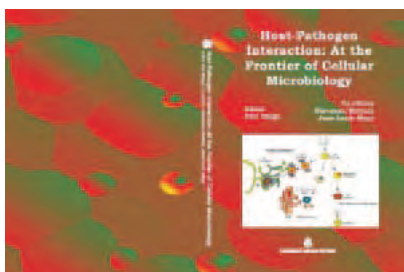
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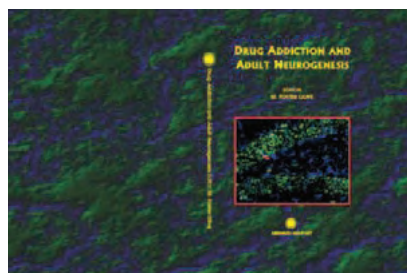
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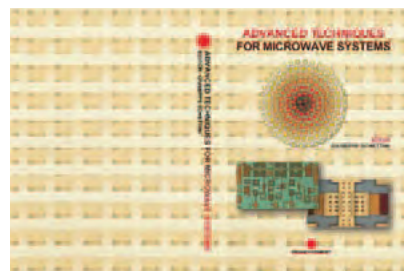
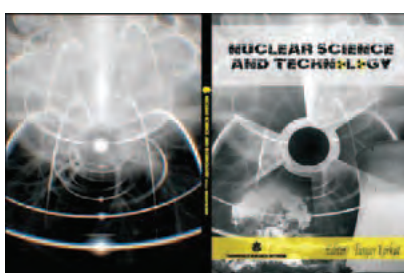
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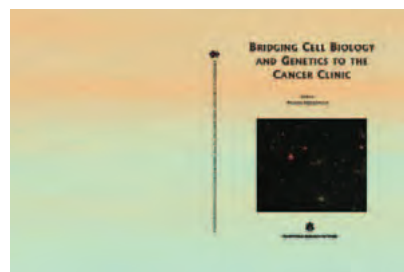
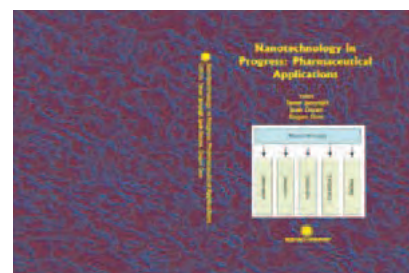


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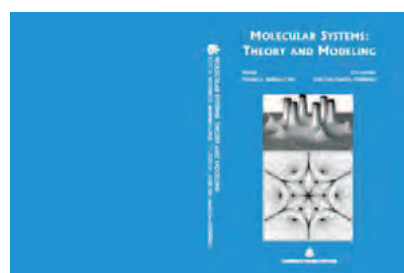
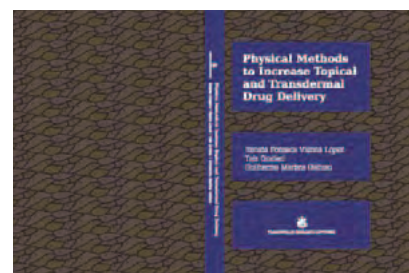


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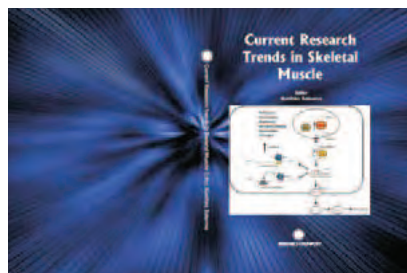
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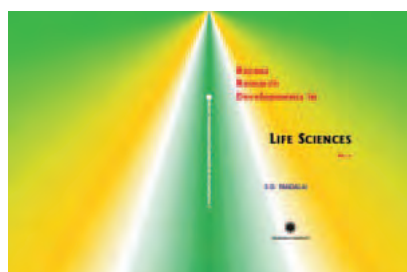
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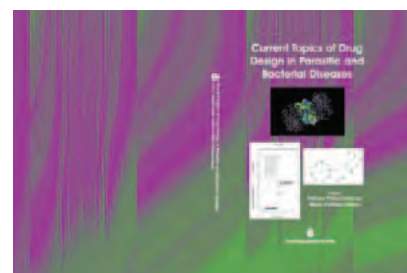


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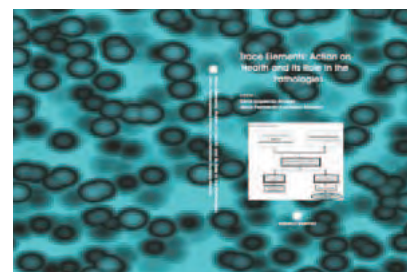


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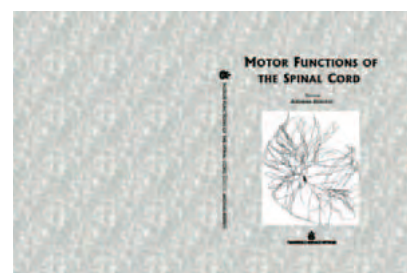


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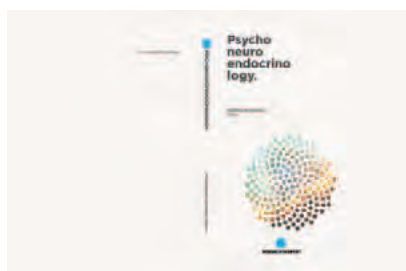


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