

*Enjoy the many advantages  
of ebooks on your devices*

**Scientific.Net**  
Publisher in Materials Science & Engineering

**CATALOGUE  
2019  
PRINT/EBOOK**

**WITH  
ANNOUNCEMENT  
ON 2020**



Download full  
pdf catalogue from  
[scientific.net](http://scientific.net)



[/Scientific.Net.Ltd](https://www.facebook.com/Scientific.Net.Ltd)



[/Scientific\\_Net](https://twitter.com/Scientific_Net)



[/scientificnet](https://www.linkedin.com/company/scientificnet)

# Contents

---

4	Welcome
5-8	Announcement 2020
9-78	<b>MATERIALS SCIENCE</b>
11-34	Current Books 2019
35-78	Best Selling Books
79-116	<b>ENGINEERING RESEARCH</b>
81-86	Current Books 2019
87-116	Best Selling Books
117	For Libraries: Electronic Resources
119	Order Form

## HOW TO ORDER BOOKS/eBOOKS

At the back of this catalogue, you will find an order form which you can send (email/post) to Scientific.Net directly or to your preferred book distributor in your country. All individual orders directly with Scientific.Net are prepaid only.

Scientific.Net works with many book distributors all over the world and has globally no exclusive representatives. So your preferred book distributor can contact us directly at:

 [sales@scientific.net](mailto:sales@scientific.net)

# Welcome

---

***Founded in 1967 in Switzerland**, Trans Tech Publications Ltd. keeps up to date with and endorses the latest trends in academic publishing. The editorial and publishing processes are supported by our own online management and publishing system integrated into the Scientific.Net website.*

*The trademark, Scientific.Net, was created by the company and represents one of the largest web resources providing high-demand content focused on science and engineering themes. Each year thousands of new academic publications enrich the Scientific.Net collection. It includes academic journals and book series that publish regular and special issues, volumes, conference proceedings, and monographs.*

*Top-rated higher educational and research institutions as well as consortia representing entire countries subscribe to the Scientific.Net online library. Paperback books are sold all over the world through numerous agents and distributors. Modern technology allows our customers to reach the online content through mobile devices and enjoy the advantages of an eBook format. The resource has gained popularity due to the single papers purchase option which serves the needs of individual scientists striving to obtain particular research papers of their interest.*

*Alongside with the traditional subscription-based model, Trans Tech Publications Ltd. has introduced optional Open Access publication for authors who want their work to be distributed under the Creative Commons Attribution 4.0 International License. The amount and use of freely accessible content on Scientific.Net is constantly growing.*

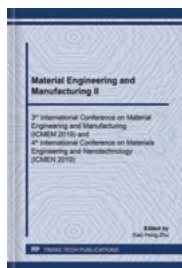
*Trans Tech Publications Ltd. strives to meet the high expectations of customers and partners via efficient service and high-quality products.*

**Anne-Kristin Wohlbier, President/CEO**



A large, stylized handwritten signature in black ink, which appears to read 'Anne-Kristin Wohlbier', is written over the bottom left portion of the portrait photo.

# Announcement 2020



## ■ Material Engineering and Manufacturing II

Edited by: Xiao Hong Zhu  
**Materials Science Forum Vol. 975**

The 3rd International Conference on Material Engineering and Manufacturing (ICMEM 2019) and the 4th International Conference on Materials

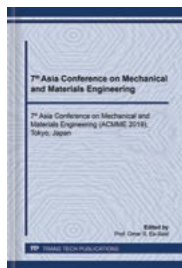
Engineering and Nanotechnology (ICMEN 2019) were dedicated to new research developments and advances in the fields of material engineering, nanotechnology, and manufacturing technologies. We hope that the presented collection of scientific papers will be interesting and useful for many engineers and researchers.

2020, **US\$ 210.00 /€ 190.00 /GBP 150.00**

Print (978-3-0357-1518-7)

eBook (978-3-0357-3518-5)

<https://www.scientific.net/MSF.975/book>



## ■ 7th Asia Conference on Mechanical and Materials Engineering

Edited by:  
Prof. Omar S. Es-Said  
**Materials Science Forum Vol. 974**

This volume contains a selection of papers submitted to the 7th Asia Conference on Mechanical and Materials Engineering (ACMME 2019) held in Tokyo, Japan from June 14-17, 2019. The collection presents recent advances in the field of materials engineering and manufacturing technologies. We hope that this book will be useful and interesting for many researchers and engineers.

2020, **US\$ 300.00 /€ 270.00 /GBP 210.00**

Print (978-3-0357-1620-7)

eBook (978-3-0357-3620-5)

<https://www.scientific.net/MSF.974/book>



## ■ Materials Engineering and Science

Edited by:  
Saad Sabbar Dahham  
**Defect and Diffusion Forum Vol. 398**

This volume of the journal contains papers presented at the International Conference on Materials Engineering and Science (IConMEAS 2018), held at Istanbul, Turkey, August 08-09, 2018 and focuses on the research results in the field of materials science for various branches of industry and construction.

2020, **US\$ 220.00 /€ 200.00 /GBP 155.00**

Print (978-3-0357-1409-8)

eBook (978-3-0357-3409-6)

<https://www.scientific.net/DDF.398/book>



## ■ Advanced Topics in Transport Processes: From Drying and Osmotic Dehydration to Freezing

Edited by: João Delgado  
and A.G. Barbosa de Lima  
**Diffusion Foundations Vol. 25**

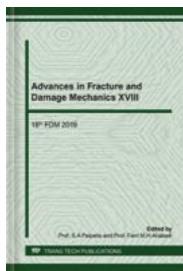
This volume is a collection of papers describing recent trends in the development, and application of the heat and mass transfer processes in the field of food preservation, namely the technologies of osmotic dehydration, vacuum drying, freeze drying, cooling, superheated steam drying, heat pump drying and spray drying.

180 pages, 2020 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-0357-1645-0)

eBook (978-3-0357-3645-8)

<https://www.scientific.net/DF.25/book>



## ■ Advances in Fracture and Damage Mechanics XVIII

Edited by: Prof. Ferri M.H.  
Aliabadi and Prof. S.A Paipetis  
**Key Engineering Materials  
Vol. 827**

The volume is a collection of edited papers presented at the 18th International Conference

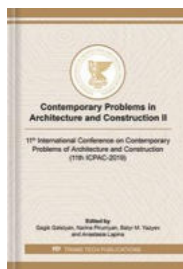
on Fracture and Damage Mechanics (FDM 2019), was held in Rodos Palace Hotel, Rhodes, Greece. The papers cover a wide range of topics, related to fracture and damage mechanics. Studies on failure analysis, fracture mechanics, composites, micromechanics, multiscale modeling as well as probabilistic aspects, computer modeling methods, and non-linear problems are presented for a wide range of structural materials, both monolithic and composite. Studies include fatigue, corrosion, creep, dynamic fracture and durability together with damage tolerance aspects. Selected papers on multiscale and multifunctional composites have been presented together with works on structural health monitoring, remaining life assessment methodologies and predictive modeling.

526 pages, 2020 **US\$ 750.00 /€ 675.00 /GBP 525.00**

Print (978-3-0357-1586-6)

eBook (978-3-0357-3586-4)

<https://www.scientific.net/KEM.827/book>



## ■ Contemporary Problems in Architecture and Construction II

Edited by: Gagik Galstyan,  
Narine Pirumyan,  
Batyr M. Yazyev  
and Anastasia Lapina  
**Key Engineering Materials  
Vol. 830**

The 11th International

Conference on Contemporary Problems of Architecture and Construction (11th ICPAC-2019) was held from October 14 - 16, 2019 on the basis National University of Architecture and Construction of Armenia. The presented according to the results of the conference collection raises important problems in construction and architecture - from ideas and project to their practical implementation on the real objects. We hope this book will be interesting and

useful for many specialists in the field of modern construction and architecture.

2020, **US\$ 270.00 /€ 245.00 /GBP 190.00**

Print (978-3-0357-1666-5)

eBook (978-3-0357-3666-3)

<https://www.scientific.net/KEM.830/book>



## ■ Materials and Technologies in Precision Machinery II

Edited by: Gow-Yi Tzou  
**Key Engineering Materials  
Vol. 829**

This volume contains articles that were submitted to the 4th International Conference on Precision Machinery and

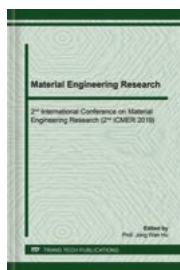
Manufacturing Technology (ICPMMT 2019, Kenting, Taiwan, May 24-26, 2019) and present last research results in the area of materials science and materials processing technologies. We hope this collection will be interesting and useful for many engineers and academic researchers.

2020, **US\$ 160.00 /€ 145.00 /GBP 115.00**

Print (978-3-0357-1660-3)

eBook (978-3-0357-3660-0)

<https://www.scientific.net/KEM.829/book>



## ■ Material Engineering Research

Edited by: Prof. Jong Wan Hu  
**Key Engineering Materials  
Vol. 828**

The 2nd International Conference on Material Engineering Research (2nd ICMER 2019) was taken place in Incheon National

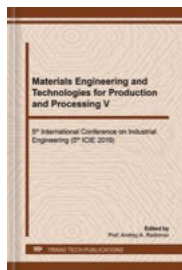
University, Incheon, South Korea during May 17th-19th, 2019. Published articles reflect the modern level of developing and exploiting new technology in the field of materials science and advanced materials processing technologies.

2020, **US\$ 200.00 /€ 180.00 /GBP 140.00**

Print (978-3-0357-1360-2)

eBook (978-3-0357-3360-0)

<https://www.scientific.net/KEM.828/book>



### ■ Materials Engineering and Technologies for Production and Processing V

Edited by:  
Prof. Andrey A. Radionov  
**Solid State Phenomena  
Vol. 299**

This volume contains papers presented at the 5th

International Conference on Industrial Engineering (ICIE) was held on 25-29 of March 2019, Sochi, Russian Federation. The edition reflects recent advances in the field of materials science, metallurgical and metalworking technologies, surface engineering, and coatings. We hope this collection will be useful for many engineers and researchers from various branches of industry.

2020, **US\$ 300.00 /€ 270.00 /GBP 210.00**

Print (978-3-0357-1500-2)

eBook (978-3-0357-3500-0)

<https://www.scientific.net/SSP.299/book>

### ■ Green Trends in Mechanical Engineering Applied Mechanics and Materials

This volume of the journal contains papers which were presented at the International Conference on Green Trends in Mechanical Engineering Sciences (ICGTMES) that was held on October 3-5, 2018, Karnataka, India. The focus of the conference was to open a new paradigm to deliberate on eco-friendly and robust design, use of materials with less environmental impact, use of fewer materials, optimal utilization of resources during manufacturing processes. We hope that the presented papers will be interesting and useful for many specialists in the field of mechanical engineering and materials science.

Publication Year 2020

Print (978-3-0357-1476-0)

eBook (978-3-0357-3476-8)

### ■ Modern and Renewable Materials in Civil Engineering

**Key Engineering Materials**

This book was prepared to the 20th anniversary of the Faculty of Civil Engineering of the VSB - Technical University of Ostrava, in Ostrava, Czech Republic. The main aim of the book is to present results in the area of research and application of modern building materials and structures in civil engineering. The contributions include not only material research, but they also present the application of those materials and results and consequences of their use.

Publication Year 2020

Print (978-3-0357-1159-2)

eBook (978-3-0357-3159-0)

### ■ Processing and Characterization of Materials

**Materials Science Forum**

This volume is the amalgamation of papers presented at International Conference on Processing and Characterization of Materials (ICPCM 2018) which was held in National Institute of Technology Rourkela, Odisha, India during 6th – 8th December 2018 and contains results of investigations in the fields of study properties of steel, alloys and composites, properties of materials for electronics, optoelectronics and for energy, nuclear, aviation and defense applications including materials processing and metal extraction technologies, microstructural characterization, materials surface modification, deposition of thin films and special coatings, corrosion, etc.

Publication Year 2020

Print (978-3-0357-1503-3)

eBook (978-3-0357-3503-1)

### ■ Metal Materials Processes and Manufacturing

**Materials Science Forum**

The 2nd International Conference on Metal Material Processes and Manufacturing (ICMMPM 2019, July 30-31, 2019, Jeju Island, South Korea) reflects the main tendencies in the field of research and development of functional materials and metalworking technologies, solutions in special technologies and materials for the MEMS production, applied biotechnologies, waste recycling and computational materials science.

Publication Year 2020

Print (978-3-0357-1632-0)

eBook (978-3-0357-3632-8)

## ■ **Advanced Materials and Processing Technologies II**

### **Materials Science Forum**

This volume contains papers presented at the 3rd International Conference on Materials Sciences and Nanomaterials (ICMSN 2019) and the 3rd International Conference on Advanced Manufacturing and Materials (ICAMM 2019). The conference proceeding includes a selection of papers dedicated to actual problems of modern materials science and materials processing technologies. We hope this collection will be useful for a wide range of specialists from many branches.

Publication Year 2020

Print (978-3-0357-1552-2)

eBook (978-3-0357-3555-0)

## ■ **Construction and Architecture: Theory and Practice for the innovation Development**

### **Materials Science Forum**

This volume contains papers collected by results of the 2nd International Scientific Conference "Construction and Architecture: Theory and Practice for the innovation Development" (CATPID-2019, 1-5 October 2019, Kislovodsk, Russia). The presented conference materials raise important problems in the area of construction and architecture: from ideas, projects and ways for their solving and optimizing to immediate practical implementation. We hope that this collection will be useful and interesting for many specialists and researchers, which activity is related to the construction industry.

Publication Year 2020

Print (978-3-0357-1610-8)

eBook (978-3-0357-3610-6)

# Materials Science

---

Current Books 2019

Best Selling Books



# Current Books 2019

## ■ Building Materials, Materials Design and Applications

Edited by: Prof. Hongqi Sun, Prof. Takashige Omatsu and Tracy Yang

### Materials Science Forum Vol. 972

This volume contains a selection of papers submitted to the 4th International Conference on Building Materials and Construction (ICBMC 2019, February 25-28, 2019, Singapore) and the 2nd International Conference on Materials Design and Applications (ICMDA 2019, April 13-15, 2019, Tokyo, Japan). The conferences proceedings present recent advances in the field of building materials, concrete structures, ductility, crack resistance, fatigue, fracture mechanics, materials properties and technologies of materials processing.

2019 US\$ 280.00/€ 255.00 /GBP 200.00

Print (978-3-0357-1530-9)

eBook (978-3-0357-3530-7)

<https://www.scientific.net/MSF.972/book>

## ■ Structural and Smart Materials III

Edited by: Jenny Ji and Tei Woo Chiat

### Materials Science Forum Vol. 971

This volume contains papers presented at the 5th International Conference on Mechanical Structures and Smart Materials (5th ICMSSM2019, May 27-28, 2019, Xi'an, China) which reflects research results and development activities in materials science and technologies of materials processing. We hope that this collection will be useful and interesting for many specialists from the mentioned areas of engineering.

148 pages, 2019 US\$ 200.00/€ 180.00 /GBP 140.00

Print (978-3-0357-1575-0)

eBook (978-3-0357-3575-8)

<https://www.scientific.net/MSF.971/book>

## ■ Modern Problems in Materials Processing, Manufacturing, Testing and Quality Assurance II

Edited by: Anatoly Surzhikov

### Materials Science Forum Vol. 970

The collection contains the results of researches conducted in the School of Non-Destructive Testing of Tomsk Polytechnic University, Russia which covering the different aspects of materials science and non-destructive testing fields. We hope this book will be useful for many specialists from the area of engineering sciences.

372 pages, 2019 US\$ 410.00/€ 370.00 /GBP 290.00

Print (978-3-0357-1617-7)

eBook (978-3-0357-3617-5)

<https://www.scientific.net/MSF.970/book>

## ■ Recent Advances in Materials and Manufacturing Technologies

Edited by: Dr. P. Nageswara Rao

and Dr. D. Venkateswarlu

### Materials Science Forum Vol. 969

The 2nd International Conference on Recent Advances in Materials and Manufacturing Technologies (ICRAMMT-2018) was held by the Marri Laxman Reddy Institute of Technology and Management, Hyderabad, India during November 19-20, 2018 and was focused on recent developments in materials science and materials processing technologies. This volume presents the latest research results in this area and we hope this collection will be a guide and fruitful reference for young researchers and engineers in the fields of materials and manufacturing engineering.

942 pages, 2019 US\$ 680.00/€ 615.00 /GBP 480.00

Print (978-3-0357-1432-6)

eBook (978-3-0357-3432-4)

<https://www.scientific.net/MSF.969/book>

## ■ Actual Problems of Engineering Mechanics

Edited by: Prof. Mykola Surianinov

### Materials Science Forum Vol. 968

This volume contains papers presented at the annual International Conference "Actual problems of engineering mechanics" (APEM 2019) which was held in 2019 for the sixth time in Odessa, Ukraine. The conference was organized by the Odesa State Academy of Civil Engineering and Architecture (Ukraine, Odessa). G.S. Pisarenko Institute for

Problems of Strength of the National Academy of Sciences of Ukraine, Odesa I.I. Mechnikov National University (Ukraine), University of West Attica (Greece) and University «North»(Croatia) were involved as partners. Presented papers will be interesting and useful for the specialists which activity related to the strength of materials and structures, functional coatings, building materials, engineering mechanics.

580 pages, 2019 US\$ 520.00/€ 470.00 /GBP 365.00

Print (978-3-0357-1581-1)

eBook (978-3-0357-3581-9)

<https://www.scientific.net/MSF.968/book>

### ■ Green Materials and Technology

Edited by: Dr. Subaer

**Materials Science Forum Vol. 967**

This volume consists of peer-reviewed papers presented at the 1st International Symposium on Green Materials and Technology (1st ISGMT) on September 29th – 30th, 2018 in Sahid Jaya Hotel Makassar, Indonesia. We hope that the articles provided in this volume can be useful for academics, researchers, and specialists from the area of green materials synthesis and related fields.

314 pages, 2019 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-0357-1451-7)

eBook (978-3-0357-3451-5)

<https://www.scientific.net/MSF.967/book>

### ■ Functional Properties of Modern Materials II

Edited by: Darminto, Budhy Kurniawan, Risdiana and Isao Watanabe

**Materials Science Forum Vol. 966**

This volume contains selected and peer-reviewed papers presented in the 4th International Conference on Functional Materials Science 2018 (ICFMS 2018, Bali, Indonesia, November 13-15, 2018). The scope of this volume is advanced and various functional materials, including functional ceramics, polymers and composites, materials for energy storage and conversion, bio- and food technologies and biomaterials, modeling and computational procedures for the research properties of functional materials, spectroscopy for advanced materials, magnetic and superconducting materials.

532 pages, 2019 US\$ 700.00/€ 630.00 /GBP 490.00

Print (978-3-0357-1496-8)

eBook (978-3-0357-3496-6)

<https://www.scientific.net/MSF.966/book>

### ■ Carbon Dioxide: Problems and Decisions II

Edited by: Ivani de Souza Bott,

Jussara Lopes de Miranda, Luiza Cristina de Moura and Melissa de Moura Fernandez

**Materials Science Forum Vol. 965**

This volume is the 4th edition of the Brazilian Congress on CO<sub>2</sub> in the Oil, Gas and Biofuels Industries (June 28 - 29h 2018, Rio de Janeiro, Brazil). The main objective of Congress was the promotion and discussion of technical decisions associated with a decrease of CO<sub>2</sub> emissions in the process of growing the energy demand in a scenario of one of the most challenging tasks of the 21st century, greenhouse gas emission restrictions.

154 pages, 2019 US\$ 180.00/€ 165.00 /GBP 130.00

Print (978-3-0357-1554-5)

eBook (978-3-0357-3554-3)

<https://www.scientific.net/MSF.965/book>

### ■ Seminar on Materials Science and Technology

Edited by: Lukman Noerochim

**Materials Science Forum Vol. 964**

This volume contains peer-reviewed papers presented at the 4th International Seminar on Science and Technology (ISST 2018), August 9th, 2018, Indonesia. Selected papers at this volume cover a wide range of topics regarding materials science and technology also as conversion energy and provide recent knowledge and achievement. We believe the volume will be essential reading for those in the related areas and will provide inspiration for future studies.

304 pages, 2019 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-0357-1434-0)

eBook (978-3-0357-3434-8)

<https://www.scientific.net/MSF.964/book>

### ■ Silicon Carbide and Related Materials 2018

Edited by: Peter M. Gammon, Vishal A. Shah,

Richard A. McMahon, Michael R. Jennings, Oliver Vavasour, Faye Padfield and Philip A. Mawby

**Materials Science Forum Vol. 963**

This volume contains selected papers from the 12th European Conference on Silicon Carbide and Related

Materials (ECSCRM 2018), held in Birmingham, UK, in September 2018. Researchers discussed the latest progress in the field of silicon carbide semiconductors, including their development and production, and their application in the power electronic devices. The papers address silicon carbide growth, including bulk, epitaxial, and thin film growth; theory and characterization, including fundamentals and material properties, point and extended defects, and surfaces and interfaces; processing, focusing on doping, implantation, and contact, dielectric growth and characterization, and etching and machining; devices, including diodes, power MOSFETs, JFETs and IGBTs; reliability, circuits and applications. The contributors are academics and industrialists from around the world.

916 pages, 2019 US\$ 730.00/€ 660.00 /GBP 515.00

Print (978-3-0357-1332-9)

eBook (978-3-0357-3332-7)

<https://www.scientific.net/MSF.963/book>

### ■ Advanced Materials and Processing Technologies

Edited by: Jun Ding, Shen-Ming Chen and Pan Jisheng

**Materials Science Forum Vol. 962**

This collection presents a selection of papers submitted on the three conferences: the 2nd International Conference on Sensors, Materials and Manufacturing (ICSMM 2018, November 19-21, 2018, Taiwan); International Conference on Materials Sciences and Nanomaterials (ICMSN 2018, July 11-13, 2018, United Kingdom) and the 2nd International Conference on Materials and Intelligent Manufacturing (ICMIM 2018, August 24-26, 2018, Japan). We hope that this edition will be interesting and useful for many specialists which activity related to modern materials science and development of the various materials processing and synthesis technologies.

264 pages, 2019 US\$ 350.00/€ 315.00 /GBP 245.00

Print (978-3-0357-1416-6)

eBook (978-3-0357-3416-4)

<https://www.scientific.net/MSF.962/book>

### ■ Advanced Materials Science

Edited by: Waluyo Adi Siswanto

and Tri Widodo Besar Riyadi

**Materials Science Forum Vol. 961**

The current volume contains articles which were presented on the International Conference on Advanced Materials Science (ICOAMS 2018, 24 - 25 October 2018, Indonesia) and reflect the last

achievements in materials science for the application in modern mechanical engineering and construction. We hope that this edition will be interesting for many engineers and researchers from mentioned branches of production.

176 pages, 2019 US\$ 190.00/€ 175.00 /GBP 135.00

Print (978-3-0357-1521-7)

eBook (978-3-0357-3521-5)

<https://www.scientific.net/MSF.961/book>

### ■ Materials for Modern Technologies V

Edited by: Prof. Yue Li and Dr. Mingmin Du

**Materials Science Forum Vol. 960**

This volume is collected from articles presented on 2019 Spring International Conference on Material Sciences and Technology (MST-S, April 22-24, 2019, Xiamen, China) and presents to readers the last achievements in the area of materials science, metallurgical and machining technologies, chemical and environmental engineering.

302 pages, 2019 US\$ 390.00/€ 355.00 /GBP 275.00

Print (978-3-0357-1449-4)

eBook (978-3-0357-3449-2)

<https://www.scientific.net/MSF.960/book>

### ■ E-Mobility and Circular Economy

Edited by: Urs A. Peuker, Markus Reuter, Daniel Goldmann and Robert Kratzsch

**Materials Science Forum Vol. 959**

The International Workshop E-Mobility and Circular Economy, which has been jointly organized by TU Bergakademie Freiberg, Helmholtz Institute Freiberg for Resource Technology and TU Clausthal, was held in 2018. The conference was dedicated to key technological and economical questions which arise in the recycling of materials commonly used in e-mobility and electronics. It was aimed both at presenting new solutions for mechanical and metallurgic recycling and the substitution of conventional engineering materials. As there is an increasing need for rare chemical species in the generation of certain electronic, electrical, and mechanical properties in e-mobility and electronics, there was an additional focus on trace elements.

202 pages, 2019 **US\$ 230.00/€ 210.00 /GBP 165.00**

Print (978-3-0357-1280-3)

eBook (978-3-0357-3280-1)

<https://www.scientific.net/MSF.959/book>

### ■ The 61st Brazilian Ceramic Conference

Edited by: Eliana Navarro Santos Muccillo

**Materials Science Forum Vol. 958**

This volume of the journal contains articles which were presented on the 61st Brazilian Ceramic Congress, which was held from June 4th to 7th 2017 in Gramado, Brazil. These publications contain the research results in the area of the synthesis, processing, and characterization of ceramic, ceramic-based materials and composites, biomaterials and technologies of building materials production and waste processing in construction.

154 pages, 2019 **US\$ 175.00/€ 160.00 /GBP 125.00**

Print (978-3-0357-1369-5)

eBook (978-3-0357-3369-3)

<https://www.scientific.net/MSF.958/book>

### ■ Advanced Manufacturing Technologies and Technologies for Polymeric and Composite Products

Edited by: Prof. Tom Savu, Constantin Gheorghie OPRAN, Prof. Giuseppe Lamanna, Manuela Roxana Dijmärescu and Ioan - Cristian Tarba

**Materials Science Forum Vol. 957**

This issue of the journal is prepared according to the results of the two conferences: the 2nd International Conference on Technologies for Polymeric and Composite Products (POLCOM 2018) and the 9th International Conference of Advanced Manufacturing Technologies, (ICAMaT 2018) that were held together in Bucharest, Romania, 1- 2 November 2018. We hope that the collected papers will be interesting and useful for many specialists in the area of materials science and materials processing, designing and production in machinery, biomedical engineering, in the practice of industrial engineering.

520 pages, 2019 **US\$ 700.00/€ 630.00 /GBP 490.00**

Print (978-3-0357-1549-1)

eBook (978-3-0357-3549-9)

<https://www.scientific.net/MSF.957/book>

### ■ Frontiers in Advanced Materials

Edited by: Lang He, Xie Huan, Xuemei Wang, Fang Wei and He Xin

**Materials Science Forum Vol. 956**

This collection presents the results of the Second Academic Conference on Frontiers in Advanced Materials (ACFAM, November 2-4, 2018, Nanjing, China). Collected papers reflect the results of the modern researches in the area of materials and related technologies. We hope these research results will be interesting and useful for many specialists from various branches.

378 pages, 2019 **US\$ 320.00/€ 290.00 /GBP 225.00**

Print (978-3-0357-1475-3)

eBook (978-3-0357-3475-1)

<https://www.scientific.net/MSF.956/book>

## ■ Chemistry and Life

Edited by: Oldrich Zmeskal

### Materials Science Forum Vol. 955

This book gathers selected papers presented at the 7th Meeting on Chemistry and Life 2018, Brno, Czech Republic. The papers represent the research results which are oriented on materials and chemical technologies and cover a broad range of related disciplines: development of composites and biodegradable polymers materials, the study on properties of organic semiconductors and building materials, etc.

110 pages, 2019 US\$ 200.00/€ 180.00 /GBP 140.00

Print (978-3-0357-1444-9)

eBook (978-3-0357-3444-7)

<https://www.scientific.net/MSF.955/book>

## ■ Semiconductors: Silicon Carbide and Related Materials

Edited by: Min Lu

### Materials Science Forum Vol. 954

The Asia-Pacific Conference on Silicon Carbide and Related Materials (APCSCRM 2018) was held on July 9-12, 2018 in Beijing, China. This collection compiled by results of this conference and reflect new developments in the areas of wide bandgap semiconductors (SiC, GaN, Ga<sub>2</sub>O<sub>3</sub>, and etc.) and their device fabrication, including advances in the bulk and epitaxial growth, material structure and property, photoelectron and electronic device. We hope that this edition will be interesting and useful for many specialists from the area of research and designing of semiconductor materials and semiconductor devices.

226 pages, 2019 US\$ 320.00/€ 290.00 /GBP 225.00

Print (978-3-0357-1385-5)

eBook (978-3-0357-3385-3)

<https://www.scientific.net/MSF.954/book>

## ■ Materials Science and Industrial Applications

Edited by: Zhibin You

### Materials Science Forum Vol. 953

This series proceeding includes original, peer-reviewed research papers from the International Conference on Materials Science and Industrial Applications (MSIA 2019), and held on January 12-13, 2019 in Wuhan, China. We hope that this publication will be interesting and useful for the wide range of the specialists which activity related to the materials science and processing technologies.

244 pages, 2019 US\$ 210.00/€ 190.00 /GBP 150.00

Print (978-3-0357-1507-1)

eBook (978-3-0357-3507-9)

<https://www.scientific.net/MSF.953/book>

## ■ Novel Trends in Production Devices and Systems V

Edited by: Daynier Rolando Delgado Sobrino and Karol Velišek

### Materials Science Forum Vol. 952

The present publication arises from the cooperation between the Institute of Production Technologies (IPT), belonging to the Faculty of Materials Science and Technology (MTF) of the Slovak University of Technology (STU) and TRANS TECH PUBLICATIONS LTD. For the fifth time, the book aims at publishing scientific achievements on the Materials Science and Production Technologies fields, as well as at enhancing the worldwide cooperation and recognition among young and senior academicians and/or practitioners. The book addresses trends in Materials Science and their application in industry, e.g.: composites and biomaterials, polymers, materials weldability, analysis of metals and alloys, numerical analyses and simulation of materials and etc. Most of these topics keep a direct relation to production technologies and systems and thus, always keeping a special focus on the used materials. The book also addresses some key production processes, technologies and systems.

380 pages, 2019 US\$ 350.00/€ 315.00 /GBP 245.00

Print (978-3-0357-1515-6)

eBook (978-3-0357-3515-4)

<https://www.scientific.net/MSF.952/book>

## ■ Frontiers of Composite Materials III

Edited by: Darren Martin and Ramesh K. Agarwal

**Materials Science Forum Vol. 951**

The main topics of the 3rd International Conference on Frontiers of Composite Materials (ICFCM2018, Sydney, Australia, November 16-18 2018) relate to different aspects in the research, design and production of the modern composite materials. We hope that the collection will be interesting and useful for specialists in the area of the structural composite materials.

130 pages, 2019 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1461-6)

eBook (978-3-0357-3461-4)

<https://www.scientific.net/MSF.951/book>

## ■ Material Science and Engineering Technology VII

Edited by: Prof. Ramesh K. Agarwal and Prof. Ying Tan

**Materials Science Forum Vol. 950**

The 7th International Conference on Material Science and Engineering Technology (ICMSET 2018) was held in Beijing, China during October 20-22, 2018 and was dedicated to new research developments and advances in the fields of materials science and engineering technology. We hope this collection of articles will be interesting and useful for the specialists in the area of materials science and technologies of materials processing.

220 pages, 2019 US\$ 210.00/€ 190.00 /GBP 150.00

Print (978-3-0357-1539-2)

eBook (978-3-0357-3539-0)

<https://www.scientific.net/MSF.950/book>

## ■ Simulation-Based Technology Development for Material Forming

Edited by: Rudolf Kawalla, Ulrich Prael, Matthias Schmidtchen and Nico Kaden

**Materials Science Forum Vol. 949**

“Simulation-based technology development for metal forming” is a compilation of selected conference papers presented at the metal forming conference MEFORM 2019, that has taken place from March 20th to 21st, 2019 in Freiberg / Saxony. The publication addresses to engineers as well as to representatives of R&D institutions and technical education aiming for simulation-based technology development in the metalworking industries. It provides insights and information about new simulation approaches to support the development of materials and forming

technologies for light or heavy metals and material characterization. The models range from fast models for material flow and load prediction to time-consuming multi-scale approaches, including microstructure evolution and the resulting mechanical properties.

146 pages, 2019 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1495-1)

eBook (978-3-0357-3495-9)

<https://www.scientific.net/MSF.949/book>

## ■ Symposium of Materials Science and Chemistry

Edited by: Roto Roto, Indriana Kartini, Julius Motuzas, Kuwat Triyana, Dwi Siswanta, Tutik Dwi Wahyuningsih and Ahmad Kusumaatmaja

**Materials Science Forum Vol. 948**

We introduce the proceedings of the Material Science and Chemistry Symposium, one of the symposia in the 4th International Conference on Science and Technology (4th ICST 2018) that was held in Yogyakarta, Indonesia on 7–8 August 2018. The published papers present results of the multiple researches on the properties of materials and technologies in area of pharmacology, food production, modern biomanufacturing and chemical industry, nanomaterials, functional and structural materials. We hope that this collection will be interesting and useful for many specialists from different branches of the modern production.

316 pages, 2019 US\$ 270.00/€ 245.00 /GBP 190.00

Print (978-3-0357-1403-6)

eBook (978-3-0357-3403-4)

<https://www.scientific.net/MSF.948/book>

## ■ Nano Engineering and Materials Technologies III

Edited by: Prof. Kazuo Umemura

**Materials Science Forum Vol. 947**

In this volume we introduce the proceedings of the 7th International Conference on Nanostructures, Nanomaterials and Nanoengineering 2018 (ICNNE 2018) and 2018 International Conference on Materials Technology and Applications (ICMTA 2018), Sapporo, Hokkaido, 26th-29th Oct, 2018. The collection presents readers with the new valuable and unique knowledge which cover the specific areas of materials science: composites; nanomaterials; alloys and metals; materials and technologies for opto- and microelectronics; materials and technologies in biomedicine, waste

recycling and environmental engineering; building materials.

254 pages, 2019 **US\$ 200.00/€ 180.00 /GBP 140.00**

Print (978-3-0357-1430-2)

eBook (978-3-0357-3430-0)

<https://www.scientific.net/MSF.947/book>

### ■ **Materials Science and Metallurgical Technology**

Edited by: Prof. Andrey A. Radionov

**Materials Science Forum Vol. 946**

This collection contains papers that were presented at the International Russian Conference on Materials Science and Metallurgical Technology has taken place on October 1-4, 2018. We hope this collection will be useful and interesting for engineers and researchers in the field of material science and metallurgical technologies.

1030 pages, 2019 **US\$ 550.00/€ 495.00 /GBP 385.00**

Print (978-3-0357-1376-3)

eBook (978-3-0357-3376-1)

<https://www.scientific.net/MSF.946/book>

### ■ **FarEastCon - Materials and Construction**

Edited by: Dr. Denis Solovev

**Materials Science Forum Vol. 945**

The International Scientific Conference “FarEastCon” took place on October 2-4, 2018 in Vladivostok, Russian Federation. This collection presents papers reflecting recent advances in the field of materials engineering and technologies for production and processing in the different areas of modern manufacturing.

1080 pages, 2019 **US\$ 530.00/€ 480.00 /GBP 375.00**

Print (978-3-0357-1292-6)

eBook (978-3-0357-3292-4)

<https://www.scientific.net/MSF.945/book>

### ■ **Functional and Functionally Structured Materials III**

Edited by: Prof. Yafang Han

**Materials Science Forum Vol. 944**

This collection contains selected papers presented at Chinese Materials Conference 2018 (CMC 2018, Xiamen City, Fujian, China, July 12-16, 2018). The Chinese Materials Conference is the most important serial conference of Chinese Materials Research Society and is held each year since the early 1990s. Chinese Materials Conference 2018 had 35 symposia covering four fields: energy and environmental materials, advanced functional materials, high-performance structural materials, and design, preparation and characterization of materials. We hope this book will be useful and interesting for many engineers and researchers engaged in materials areas.

1304 pages, 2019 **US\$ 620.00/€ 560.00 /GBP 435.00**

Print (978-3-0357-1384-8)

eBook (978-3-0357-3384-6)

<https://www.scientific.net/MSF.944/book>

### ■ **Structural and Smart Materials II**

Edited by: Tei Woo Chiat

**Materials Science Forum Vol. 943**

This collection contains papers that were presented at the 4th International Conference on Mechanical Structures and Smart Materials (ICMSSM 2018), which was held on September 22-23, 2018 in Shenzhen, China. We hope this collection will be useful and interesting for engineers and researchers in the area of materials science and materials processing technologies.

162 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1228-5)

eBook (978-3-0357-3228-3)

<https://www.scientific.net/MSF.943/book>

### ■ **Modern Problems in Materials Processing, Manufacturing, Testing and Quality Assurance**

Edited by: Dr. Anatoliy Surzhikov

**Materials Science Forum Vol. 942**

This special topic volume contains the results of research works covering the different aspects of modern materials science and technologies of materials processing. We hope that this book will be interesting for many researchers in the fields of materials science and production technologies.

174 pages, 2019 US\$ 170.00/€ 155.00 /GBP 120.00

Print (978-3-0357-1483-8)

eBook (978-3-0357-3483-6)

<https://www.scientific.net/MSF.942/book>

### ■ 7th International Conference on Materials and Applications for Sensors and Transducers

Edited by: Dr. Peter Svec, Prof. Dimitrios S. Vlachos, Prof. Evangelos Hristoforou

**Key Engineering Materials Vol. 826**

This special issue contains selected papers from 7th International Conference on Materials and Applications for Sensors and Transducers (IC-MAST 2018, September 27-28, 2018, Slovak Academy of Sciences, Bratislava Slovakia) and presents results of research on materials and materials processing technologies that can be used in the creation of sensors for the various areas of application.

2019 US\$ 200.00/€ 180.00 /GBP 140.00

Print (978-3-0357-1522-4)

eBook (978-3-0357-3522-2)

<https://www.scientific.net/KEM.826/book>

### ■ Recent Development in Machining, Materials and Mechanical Technologies III

Edited by: Huy Bich Nguyen

**Key Engineering Materials Vol. 825**

This volume contains the selected papers presented at the 2018 International Conference on Machining, Materials and Mechanical Technologies (IC3MT 2018), which was held in Ho Chi Minh City, Vietnam on 19th-22nd of September 2018. We hope this collection will be interesting and useful for many researchers and engineers from various fields of materials science and mechanical engineering.

2019 US\$ 170.00/€ 155.00 /GBP 120.00

Print (978-3-0357-1482-1)

eBook (978-3-0357-3482-9)

<https://www.scientific.net/KEM.825/book>

### ■ Green Convergence on Materials Frontiers II

Edited by: Dr. Taweechai Amornsakchai

**Key Engineering Materials Vol. 824**

This volume contains papers presented at the 13th Pure and Applied Chemistry International Conference 2019 (PACCON 2019) held during February 7-8, 2019 in Bangkok, Thailand under the theme "Together for the Benefit of Mankind". The proceedings introduce the newest results and findings in the field of materials properties and behavior, materials applications, materials manufacturing and processing, materials from renewable resources, nanomaterials and nanotechnologies.

2019 US\$ 320.00/€ 290.00 /GBP 225.00

Print (978-3-0357-1552-1)

eBook (978-3-0357-3552-9)

<https://www.scientific.net/KEM.824/book>

### ■ Engineering Tribology and Materials III

Edited by: Yunn Lin Hwang

**Key Engineering Materials Vol. 823**

This volume contains papers which were presented at the 4th International Conference on Engineering Tribology and Applied Technology 2018 (ICETAT 2018, November 16-18, 2018, Taipei, Taiwan) and reflects the modern level of the engineering research in the area of engineering tribology, materials science, and materials processing technologies. We hope this collection will be useful for many specialists from mechanical engineering sphere.

162 pages, 2019 US\$ 220.00/€ 200.00 /GBP 155.00

Print (978-3-0357-1462-3)

eBook (978-3-0357-3462-1)

<https://www.scientific.net/KEM.823/book>

### ■ New Materials and Technologies in Mechanical Engineering

Edited by: Prof. Yury Klochkov

and Aleksander Semencha

**Key Engineering Materials Vol. 822**

This volume contains papers which were presented on the International Scientific Conference "New Materials and Technologies in Mechanical Engineering" (NMTME 2019, March 12 - 15, 2019, St. Petersburg, Russian Federation) and reflects the current level of development of materials science and technologies of materials processing in the modern mechanical engineering production. We

hope this collection will be useful for many specialists in the field of mechanical engineering.

2019 US\$ 990.00/€ 900.00 /GBP 700.00

Print (978-3-0357-1611-5)

eBook (978-3-0357-3611-3)

<https://www.scientific.net/KEM.822/book>

### ■ Key Engineering Materials IX

Edited by: Prof. Alexander M. Korsunsky

**Key Engineering Materials Vol. 821**

This volume contains papers from the 9th International Conference on Key Engineering Materials (9th ICKEM 2019). The 2019 edition of the ICKEM conference was held in Oxford University, the United Kingdom on Mar. 29 - Apr. 1, 2019. The collected papers are focused on research in the areas of biomaterials, novel composite and polymer materials, ceramics, steel, alloys, building materials, materials processing technology, material performance analysis, and engineering evaluation.

548 pages, 2019 US\$ 620.00/€ 560.00 /GBP 435.00

Print (978-3-0357-1480-7)

eBook (978-3-0357-3480-5)

<https://www.scientific.net/KEM.821/book>

### ■ Strength of Materials and Structural Components

Edited by: Mohammed Abbadi, Redouane Kouddane, Mohammed Nouari and Prof. Rabie EL-OTMANI

**Key Engineering Materials Vol. 820**

This special issue contains articles on the field of the strength of materials and structural components, additive manufacturing, and testing and modeling methods in materials science. We hope this volume will be interesting for many engineers from the area of machinery.

224 pages, 2019 US\$ 270.00/€ 245.00 /GBP 190.00

Print (978-3-0357-1502-6)

eBook (978-3-0357-3502-4)

<https://www.scientific.net/KEM.820/book>

### ■ Pharmaceutical and Biomedical Materials and Technology

Edited by: Sontaya Limmatvapirat,

Suchada Piriayaprasarth

and Prasopchai Patrojanasophon

**Key Engineering Materials Vol. 819**

This volume collected from papers presented at the International conference and exhibition on Pharmaceutical Sciences and Technology (PST 2019) which was held during 18-19th June 2019, Bangkok, Thailand. The theme of the conference is "Pharmaceutical Engineering and Pharmaceutical Science for Human Health". This research collection brings together multidisciplinary research results covering the researches in the field of pharmaceutical biopolymers, materials for biomedical application, cosmetic science, materials for nanomedicine as well as technologies of their modification and processing. We hope this collection will be useful for many specialists from pharmacology and biomedicine.

274 pages, 2019 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-0357-1538-5)

eBook (978-3-0357-3538-3)

<https://www.scientific.net/KEM.819/book>

### ■ Applied Engineering, Materials and Mechanics III

Edited by: Prof. Jong Wan Hu

**Key Engineering Materials Vol. 818**

The 4th International Conference on Applied Engineering, Materials and Mechanics (4th ICAEMM 2019) was taken place in Jeju Island, South Korea, during April 19-21, 2019. The primary objective of ICAEMM 2019 was to provide a world-class forum for the exchange of original ideas and new information, latest research and scientific discussions in the area of material science and engineering technology.

158 pages, 2019 US\$ 170.00/€ 155.00 /GBP 120.00

Print (978-3-0357-1479-1)

eBook (978-3-0357-3479-9)

<https://www.scientific.net/KEM.818/book>

### ■ **Mechanics of Masonry Structures Strengthened with Composite Materials III**

Edited by: Prof. Angelo Di Tommaso,  
Prof. Cristina Gentilini and Giovanni Castellazzi

**Key Engineering Materials Vol. 817**

This book collected from papers presented on the 6th International Conference on Mechanics of Masonry Structures Strengthened with Composite Materials (MuRiCo6, June 26-28, 2019, Bologna, Italy). The aim of this collection is to present and review the latest achievements in modelling, testing and controlling masonry structures strengthened with composite materials. The innovative strengthening apparatus here considered consists of composites with continuous fibres (carbon, steel, basalt, aramid, glass, PBO, etc.) reinforcing polymer or inorganic matrices. The special problems regarding the strengthening of monumental historic constructions, considering appropriate techniques in the domain of architecture structural conservation, are focused in many scientific articles authored by eminent scientists.

702 pages, 2019 **US\$ 980.00/€ 885.00 /GBP 690.00**

Print (978-3-0357-1565-1)

eBook (978-3-0357-3565-9)

<https://www.scientific.net/KEM.817/book>

### ■ **New Polymer Composite Materials**

Edited by: Svetlana Khashirova, Azamat Zhansitov,  
Amina Vindizheva and Ruslan Shetov

**Key Engineering Materials Vol. 816**

This issue of the journal presents materials of the XV International Scientific and Practical Conference "New Polymeric Composite Materials", which was held from 3 to 7 July 2019 in the Kh.M. Berbekov Kabardino-Balkarian State University, Russia. The content of the presented papers reflects the results of research in the field of polymer synthesis and the development of new polymer composite materials, as well as the application aspects arising from them.

386 pages, 2019 **US\$ 520.00/€ 470.00 /GBP 365.00**

Print (978-3-0357-1633-7)

eBook (978-3-0357-3633-5)

<https://www.scientific.net/KEM.816/book>

### ■ **Advanced Materials, Processing and Testing Technology**

Edited by: Prof. Dajing Fang

**Key Engineering Materials Vol. 815**

This volume contains papers which were submitted at the International Conference on Advanced Materials, Processing and Testing Technology (AMPTT 2019, May 17-18, 2019, Guangzhou, China) and presents to readers research results in the area of modern materials and materials processing technologies. We hope this collection will be useful for many researchers and engineers from the various branches of modern industry and construction.

256 pages, 2019 **US\$ 320.00/€ 290.00 /GBP 225.00**

Print (978-3-0357-1623-8)

eBook (978-3-0357-3623-6)

<https://www.scientific.net/KEM.815/book>

### ■ **Advanced Materials and Engineering Materials VIII**

Edited by: Prof. Peng Sheng Wei

**Key Engineering Materials Vol. 814**

This volume of the journal contains papers from the 8th International Conference on Advanced Materials and Engineering Materials, (ICAMEM 2019, April 18-19, 2019, Hong Kong, China) and presents readers research results in the field of applied materials, advanced materials processing technologies and chemical production.

554 pages, 2019 **US\$ 600.00/€ 540.00 /GBP 420.00**

Print (978-3-0357-1488-3)

eBook (978-3-0357-3488-1)

<https://www.scientific.net/KEM.814/book>

### ■ **Surface Modification Technologies**

Edited by: Antonello Astarita, T.S. Sudarshan,  
Antonino Squillace and Pierpaolo Carbone

**Key Engineering Materials Vol. 813**

The book is a collection of the papers and the keynote lectures presented at the 33rd Surface Modification Technologies Conference (SMT33) which was held in Naples on 26 to 28 June 2019. The conference was focused on surface engineering and covered the following areas: corrosion, treatments, characterization, additive manufacturing, coatings, modification technologies. This book transfers up-to-date knowledge from scientist and experts to the common practice, representing a valuable resource for engineers, designers, researchers, and students.

488 pages, 2019 US\$ 600.00/€ 540.00 /GBP 420.00

Print (978-3-0357-1525-5)

eBook (978-3-0357-3525-3)

<https://www.scientific.net/KEM.813/book>

### ■ **Advanced Materials for Defense**

Edited by: Raul Fangueiro and Soheli Rana

**Key Engineering Materials Vol. 812**

This book covers selected reviewed research papers submitted to AUXDEFENSE 2018 conference, held in Lisbon, Portugal on 3-4 September 2018. These papers discuss the latest research and development in the defense sector, addressing mainly three topics: new materials for enhancing mechanical, chemical and biological protection along with improved comfort of the soldiers, different testing methods to characterize their performance and lastly, modelling and simulation techniques to help product design and prediction of properties. This book will be of great interest for the researchers and scientists working in this area as well as for the industries involved in developing products for the defense sector.

152 pages, 2019 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1366-4)

eBook (978-3-0357-3366-2)

<https://www.scientific.net/KEM.812/book>

### ■ **Functional Materials and Technologies**

Edited by: Dr. Dessy Natalia and Dr. Rachmawati

**Key Engineering Materials Vol. 811**

We are pleased to introduce the readers the Proceeding containing a selection of papers from contributed talks presented at the 6th International Conference on Mathematics and Natural Sciences (the 6th ICMNS) that was held in Bandung, Indonesia, on November 2-3, 2016. This collection represents research results in the area of the modern material sciences: functional and structural materials, materials for electronics, biotechnologies, food chemistry and pharmacology, technologies and materials in environmental engineering.

198 pages, 2019 US\$ 210.00/€ 190.00 /GBP 150.00

Print (978-3-0357-1531-6)

eBook (978-3-0357-3531-4)

<https://www.scientific.net/KEM.811/book>

### ■ **New Methods of Damage and Failure Analysis of Structural Parts**

Edited by: Prof. Bohumír Strnadel

**Key Engineering Materials Vol. 810**

The book covers a broad range of topics related to damage, failure, wear structural materials and parts and some technological aspects that provide the necessary strength properties of these materials. The collection contains the results of research and analysis of the fracture behavior of the materials that are subject to fatigue, stress corrosion cracking and extreme plastic deformation including analysis of the failures. Several papers focus on the microstructure of materials and prediction of their lifespan based on the knowledge of damage processes. The articles present various aspects of experimental, theoretical and computational investigations with an emphasis on the direct applications in engineering. The book was comprised of the papers presented at the conference "New Methods of Damage and Failure Analysis of Structural Parts" (September 10-14, 2018, Technical University of Ostrava-VSB, Czech).

160 pages, 2019 US\$ 230.00/€ 210.00 /GBP 165.00

Print (978-3-0357-1447-0)

eBook (978-3-0357-3447-8)

<https://www.scientific.net/KEM.810/book>

### ■ **22nd Symposium on Composites**

Edited by: Joachim M. Hausmann

**Key Engineering Materials Vol. 809**

The "22nd Symposium on Composites", held in the science city of Kaiserslautern, Germany, from June 26-28, 2019, covered a wide range of composite-related topics including polymer, metal and ceramic matrix composites, hybrid structures and materials, coatings, manufacturing technologies, testing and simulation, smart materials, biocomposites and recycling. This conference was organized by the "Gemeinschaftsausschuss Verbundwerkstoffe (GAV)" within the "Deutsche Gesellschaft für Materialkunde e.V. (DGM)" in cooperation with the "Institut für Verbundwerkstoffe GmbH (IVW)" and the University of Kaiserslautern. Researchers from different scientific institutions and technology companies presented and discussed the latest developments and trends in all kinds of composites.

690 pages, 2019 US\$ 750.00/€ 675.00 /GBP 525.00

Print (978-3-0357-1453-1)

eBook (978-3-0357-3453-9)

<https://www.scientific.net/KEM.809/book>

### ■ Rehabilitation and Reconstruction of Buildings II

Edited by: Michaela Dvorakova, Rostislav Drochytka and Jan Vanerek

**Key Engineering Materials Vol. 808**

The 20th Conference on the Rehabilitation and Reconstruction of Buildings (28 - 29 November 2018, Brno, Czech Republic) addresses the issue of building rehabilitation, a field which can be topically classified into the following areas of interest: 1. Flaws and failures affecting historical and contemporary buildings; 2. Advanced materials used in buildings reconstruction and 3. Fire safety of buildings. The scientific papers include the areas of remediation of wood structures, building surface treatments (plasters), repair mortars, stone restoration, rehabilitation of masonry, rehabilitation of concrete structures, physicochemical properties of building materials, statics and dynamics of buildings and rehabilitation of timber-frame structures.

194 pages, 2019 US\$ 230.00/€ 210.00 /GBP 165.00

Print (978-3-0357-1492-0)

eBook (978-3-0357-3492-8)

<https://www.scientific.net/KEM.808/book>

### ■ Functional Materials Technology and Industry Forum X

Edited by: Rui Tang and Zhi Hao Yuan

**Key Engineering Materials Vol. 807**

This collection of papers from the 10th China Functional Material Technology and Industry Forum (10th CFMTIF, 19 - 22 October 2018, Tianjin, China) presents the results of scientific researches and engineering solutions in the area of functional materials which are generally characterized as those materials which possess particular native properties and functions of their own, including electrical, magnetic, optical, thermot, acoustic, mechanic, chemical, biological functions.

194 pages, 2019 US\$ 190.00/€ 175.00 /GBP 135.00

Print (978-3-0357-1412-8)

eBook (978-3-0357-3412-6)

<https://www.scientific.net/KEM.807/book>

### ■ Physics and Technology of Nanostructured Materials IV (Supplement Book)

Edited by: Nikolay G. Galkin

**Key Engineering Materials Vol. 806**

This volume contains papers, which were presented on the 4th Asian School-Conference on Physics and Technology of Nanostructured Materials (ASCO-NANOMAT, September 23-28, 2018, Vladivostok, Russia). The represented research results reflect the recent tendencies in the area of development nanostructured materials, semiconductors, functional materials, coatings, and surfaces.

228 pages, 2019 US\$ 200.00/€ 180.00 /GBP 140.00

Print (978-3-0357-1568-2)

eBook (978-3-0357-3568-0)

<https://www.scientific.net/KEM.806/book>

### ■ Advanced Materials and Application II

Edited by: Prof. Mosbeh Kaloop, Mohamed Ismail Bassyouni, Wonjun Park and Chengji Xian

**Key Engineering Materials Vol. 805**

This volume contains papers presented at the 2019 International Symposium on Advanced Materials and Application (ISAMA 2019), which took place in Seoul, South Korea, on January 18-20, 2019. The proceedings introduce to the readers with the newest researches results and findings in the field of materials properties and testing, materials application, materials behavior simulation and analysis, materials manufacturing, and processing.

226 pages, 2019 US\$ 320.00/€ 290.00 /GBP 225.00

Print (978-3-0357-1315-2)

eBook (978-3-0357-3315-0)

<https://www.scientific.net/KEM.805/book>

### ■ Nanomechanics and Nanomaterials: Advance and Application

Edited by: Shijie Zhu and Nobuyoshi Miyamoto

**Key Engineering Materials Vol. 804**

The book consists of the selected, peer-reviewed papers from the 5th International Conference on Nanomechanics and Nanocomposites (ICNN5) and the 2nd FIT-ME Symposium, 22-25 August 2018, Fukuoka Institute of Technology, Fukuoka, Japan. The scope and aim of the book are to exhibit the recent exciting accomplishments and future trends in the field of nanocomposites and functional

materials for various fields of application. This collection can be interesting for specialists in the field of nanomechanics, physics, and chemistry of nanocomposites and functional materials with a scientific program covering theoretical aspects, experimental methods and examples of practical industrial applications.

94 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1437-1)

eBook (978-3-0357-3437-9)

<https://www.scientific.net/KEM.804/book>

### ■ **Advanced Materials Research IX**

Edited by: Matheus F.A. Goosen, Alan Kin Tak Lau and Amanda F. Wu

**Key Engineering Materials Vol. 803**

This volume of the journal contains papers collected by results of the 9th International Conference on Advanced Materials Research (9th ICAMR 2019, 24-27 January 2019, Singapore) and presents the latest innovations and scientific discoveries covering all aspects of advanced materials research. We hope this collection will be interesting for many engineers and researchers.

408 pages, 2019 **US\$ 520.00/€ 470.00 /GBP 365.00**

Print (978-3-0357-1484-5)

eBook (978-3-0357-3484-3)

<https://www.scientific.net/KEM.803/book>

### ■ **Ecological Materials in Civil Construction**

Edited by: Peter Alekseev

**Key Engineering Materials Vol. 802**

This collection is dedicated to the development and research of the application of environmentally friendly building materials and innovative technologies in construction. The authors of the articles present the results of laboratory studies and industrial applications of innovative decisions in the construction.

148 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1527-9)

eBook (978-3-0357-3527-7)

<https://www.scientific.net/KEM.802/book>

### ■ **Composite Materials and Material Engineering III**

Edited by: Prof. Kazuo Umemura

**Key Engineering Materials Vol. 801**

This volume collected from papers presented on the 4th International Conference on Composite Materials and Materials Engineering (ICCMME 2019) that took place at Tokyo University of Science, Japan, during Jan. 19-22, 2019. We hope these articles will be useful and interesting for specialists from the area of modern materials and technologies of their synthesis and processing.

462 pages, 2019 **US\$ 620.00/€ 560.00 /GBP 435.00**

Print (978-3-0357-1491-3)

eBook (978-3-0357-3491-1)

<https://www.scientific.net/KEM.801/book>

### ■ **Materials Science and Applied Chemistry II**

Edited by: Prof. Māris Turks

**Key Engineering Materials Vol. 800**

This volume contains the papers presented at the 59th International Scientific Conference of Riga Technical University (RTU), Section of Materials Science and Applied Chemistry - MSAC 2018, held in Riga, Latvia, 26th of October 2018. We hope this collection will be interesting and useful for many chemical engineers from various branches of modern production.

360 pages, 2019 **US\$ 420.00/€ 380.00 /GBP 295.00**

Print (978-3-0357-1407-4)

eBook (978-3-0357-3407-2)

<https://www.scientific.net/KEM.800/book>

### ■ **Modern Materials and Manufacturing 2019**

Edited by: Kristo Karjust, Jakob Kübarssepp, Tauno Otto and Irina Hussainova

**Key Engineering Materials Vol. 799**

This volume contains papers, presented to the conference Modern Materials and Manufacturing 2019 (MMM 2019, 24 - 26 April 2019, Tallinn, Estonia). The topics of the presented papers are focused, on the one hand, on various areas of materials engineering, such as alloys, ceramics, polymers, coatings, tribology, etc., and on the other hand, on different aspects of modern technologies of additive manufacturing. We hope this collection will be interesting for many specialists whose activity related to materials and technologies of materials

processing in the various areas of modern production.

318 pages, 2019 **US\$ 410.00/€ 370.00 /GBP 290.00**

Print (978-3-0357-1513-2)

eBook (978-3-0357-3513-0)

<https://www.scientific.net/KEM.799/book>

### ■ **Materials Science and Technology X**

Edited by: Peerapong Pinwanich  
and Akrapol Soisungval

**Key Engineering Materials Vol. 798**

This volume collected from papers which were presented at the 10th International Conference on Materials Science and Technology (MSAT-10, September 6-7, 2018, Bangkok, Thailand) and reflects the last results of engineering and scientific researches in the area of materials science and technologies of materials synthesis and processing. We hope this collection should be useful for a wide range of specialists from various branches of engineering activity.

446 pages, 2019 **US\$ 410.00/€ 370.00 /GBP 290.00**

Print (978-3-0357-1429-6)

eBook (978-3-0357-3429-4)

<https://www.scientific.net/KEM.798/book>

### ■ **Material Science Technology and Global Sustainability II**

Edited by: Syed Shatir A. Syed-Hassan

**Key Engineering Materials Vol. 797**

This volume of the journal presents readers with the collection of papers by results of the 4th International Conference on Global Sustainability and Chemical Engineering (ICGSCE 2018) which was successfully held during 5-6 September 2018 in Kuala Lumpur, Malaysia. The topics mentioned in this collection cover a wide range of modern materials science and chemical engineering in the aspect of clean and sustainable development.

438 pages, 2019 **US\$ 320.00/€ 290.00 /GBP 225.00**

Print (978-3-0357-1204-9)

eBook (978-3-0357-3204-7)

<https://www.scientific.net/KEM.797/book>

### ■ **Advances on Manufacturing and Material Sciences II**

Edited by: Mokhtar Awang

**Key Engineering Materials Vol. 796**

This volume is a compilation of research papers presented on the 4th International Conference on Mechanical, Manufacturing and Plant Engineering (ICMMPPE 2018) which was held in Melaka, Malaysia on 14-15 November 2018. The collection presents to readers the results of research in the fields of materials science and materials processing technologies in modern mechanical engineering.

200 pages, 2019 **US\$ 230.00/€ 210.00 /GBP 165.00**

Print (978-3-0357-1333-6)

eBook (978-3-0357-3333-4)

<https://www.scientific.net/KEM.796/book>

### ■ **Structural Integrity Assessment**

Edited by: Jian Ming Gong, Ming-Liang Zhu  
and Shan Tung Tu

**Key Engineering Materials Vol. 795**

This edition is published by results of the 2018 International Symposium on Structural Integrity (ISSI2018, Nov. 2-5, 2018, Nanjing, China). The articles cover a variety of topics associated with research in the area of the structural integrity assessment and ensuring, while the fracture mechanics, damage mechanisms and structural strength aspects of engineering materials have been closely focused on. The publication of the proceedings aims to present the current solutions in the field of structural integrity research of materials, components and structures.

504 pages, 2019 **US\$ 390.00/€ 355.00 /GBP 275.00**

Print (978-3-0357-1433-3)

eBook (978-3-0357-3433-1)

<https://www.scientific.net/KEM.795/book>

### ■ **Advances in Engineering Plasticity and its Application IX**

Edited by: Jeong Whan Yoon, Heung Nam Han, Beom Soo Kang and Young Suk Kim

**Key Engineering Materials Vol. 794**

This edition includes the selected papers in the area of engineering plasticity, which were presented at the 14th Asia-Pacific Symposium on Engineering Plasticity and its Applications (AEPA 2018) was held on Jeju Island, Korea during December 2-7, 2018.

358 pages, 2019 **US\$ 320.00/€ 290.00 /GBP 225.00**

Print (978-3-0357-1362-6)

eBook (978-3-0357-3362-4)

<https://www.scientific.net/KEM.794/book>

### ■ **Functional Materials and Application II**

Edited by: Henry Hu and Gu Xu

**Key Engineering Materials Vol. 793**

The 3rd International Conference on Advanced Functional Materials (ICAFM, San Francisco, California, USA) was a platform for academics, researchers, and practical engineers from around the world to present and disseminate their research outcome, to exchange innovative ideas and information on many branches of materials science: applied materials chemistry and physics with its functions, crystal growth, solid state sciences, solid state electronics, coatings and surface engineering, solar cells development, thin films, nanoscience, nanotechnology, as well as materials processing technologies. We hope this book will be useful for many specialists from the area of materials science.

110 pages, 2019 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1344-2)

eBook (978-3-0357-3344-0)

<https://www.scientific.net/KEM.793/book>

### ■ **Advanced Materials and Technologies III**

Edited by: Dr. Stanislav Kolisnychenko

**Advanced Materials Research Vol. 1155**

The presented volume of the journal "Advanced Materials Research" is collected from peer-reviewed stand-alone papers describing the results of research and engineering solutions dealing with actual problems in the area of materials science and materials processing technologies. Published articles will be useful for professionals in various branches

of engineering, for students and academic staff concerned with the related specialties.

100 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1077-9)

eBook (978-3-0357-3077-7)

<https://www.scientific.net/AMR.1155/book>

### ■ **Advanced Materials and Technologies II**

Edited by: Dr. Stanislav Kolisnychenko

**Advanced Materials Research Vol. 1154**

This volume of the journal "Advanced Materials Research" is collected from peer-reviewed stand-alone papers describing the results of research and engineering solutions dealing with actual problems in the area of materials science and materials processing technologies. Published articles will be useful for professionals in various branches of engineering and for students and academic staff concerned with the related specialties.

172 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1074-8)

eBook (978-3-0357-3074-6)

<https://www.scientific.net/AMR.1154/book>

### ■ **Innovative Technologies for Joining Advanced Materials IX**

Edited by: Nicușor Alin Sîrbu

**Advanced Materials Research Vol. 1153**

This volume of proceedings includes the selected papers presented at the 9th International Conference: Innovative Technology for Joining Advanced Materials (TIMA 18) held in Timisoara, Romania, during November 1 - 2, 2018. In the presented collection, particular attention is paid to specific problems in the joining of the various structural materials and developing the modern joining technologies.

140 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1457-9)

eBook (978-3-0357-3457-7)

<https://www.scientific.net/AMR.1153/book>

### ■ **Advanced Materials and Technologies**

Edited by: Dr. Stanislav Kolisnychenko

#### **Advanced Materials Research Vol. 1152**

This volume of the journal "Advanced Materials Research" is collected from peer-reviewed stand-alone papers describing the results of research and engineering solutions dealing with actual problems in the area of materials science and materials processing technologies. Published articles will be useful for professionals in the various branches of engineering and for students and academic staff concerned with the related specialties.

94 pages, 2019 **US\$ 180.00/€ 165.00 /GBP 130.00**

Print (978-3-0357-1255-1)

eBook (978-3-0357-3255-9)

<https://www.scientific.net/AMR.1152/book>

### ■ **Sustainable Materials Science and Technology II**

Edited by: Antonio Macias García,

Eduardo Manuel Cuerda Correa

and Joaquín R. Domínguez Vargas

#### **Advanced Materials Research Vol. 1151**

This book includes selected articles from the 2nd International Conference on Sustainable Materials Science and Technology (SMST 2, 19-21 July 2018, Spain) and reflects the research results in the different fields of materials science, biomaterials, construction materials, etc. The presented scientific contributions show the importance of materials in contemporary society.

68 pages, 2019 **US\$ 145.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1254-4)

eBook (978-3-0357-3254-2)

<https://www.scientific.net/AMR.1151/book>

### ■ **Advances in Metastable, Amorphous and Nanostructured Materials**

Edited by: Prof. Arcady Zhukov

#### **Journal of Metastable and Nanocrystalline Materials Vol. 31**

This special volume is collected from some papers presented at the 24th International Symposium on Metastable, Amorphous and Nanostructured Materials (ISMANAM 2017, June 18-23, 2017, San Sebastian, Spain) and reflects recent results of research and developments in the field of metastable, amorphous and nanostructured materials and intermetallic compounds. We hope

this collection will be interesting and useful for many specialists on modern materials science.

70 pages, 2019 **US\$ 145.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1252-0)

eBook (978-3-0357-3252-8)

<https://www.scientific.net/JNM.31/book>

### ■ **Nano Hybrids and Composites Vol. 26**

This volume of the journal "Nano Hybrids and Composites" offers our readers a special collection of the peer-reviewed articles covering some practical aspects in the research of properties and application of the reinforced composites, nanocarbons, and also methods and results of mathematical modeling and numerical investigation of the phenomena of heat and mass transfer in the various medium. We hope that the presented volume will be useful for many specialists from the area of modern functional materials and design of mechatronics systems.

114 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1132-5)

eBook (978-3-0357-3132-3)

<https://www.scientific.net/NHC.26/book>

### ■ **Nano Hybrids and Composites Vol. 25**

This volume of the journal "Nano Hybrids and Composites" offers our readers a collection of the peer-reviewed articles covering some practical aspects in the research of properties and application of the micro- and nano-hybrid composite materials, biosynthesis of nanoparticles, nanosized additives in geotechnics, the nano-metal oxide for the gas sensors. We hope that the presented volume will be useful for many specialists from the area of modern functional materials.

98 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1109-7)

eBook (978-3-0357-3109-5)

<https://www.scientific.net/NHC.25/book>

### ■ **Nano Hybrids and Composites Vol. 24**

Edited by: Dr. Mehmet Serkan Kirgiz

#### **Nano Hybrids and Composites Vol. 24**

This special issue of the journal contains articles that reflect the latest research results in the area of E-glass fibers, composite cements and concretes. In our opinion, this special collection will be interesting and

useful for specialists whose activity is related to modern construction and architecture.

52 pages, 2019 **US\$ 100.00/€ 90.00 /GBP 70.00**

Print (978-3-0357-1170-7)

eBook (978-3-0357-3170-5)

<https://www.scientific.net/NHC.24/book>

### ■ Journal of Nano Research Vol. 59

The 59th volume of the "Journal of Nano Research" contains peer-reviewed papers by the results of the research from the field of synthesis and properties of various nanomaterials and nanostructures for the biomedical and industrial application. We hope that this volume of the journal will be useful and interesting for a wide range of engineers, scientists, and students whose activity is related with the creation and using of nanomaterials and nanotechnologies in different branches of human activity.

188 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1178-3)

eBook (978-3-0357-3178-1)

<https://www.scientific.net/JNanoR.59/book>

### ■ Journal of Nano Research Vol. 58

The 58th volume of the "Journal of Nano Research" presents readers the collection of peer-reviewed papers by the results of the research from the field of synthesis and the use of various nanomaterials and nanostructures. We hope that this volume of the journal will be useful and interesting for a wide range of engineers, scientists, and students whose activity is related with the creation and using of nanomaterials and nanotechnologies in different branches of human activity.

172 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1068-7)

eBook (978-3-0357-3068-5)

<https://www.scientific.net/JNanoR.58/book>

### ■ Journal of Nano Research. Vol. 57

The 57th volume of the "Journal of Nano Research" contains peer-reviewed papers by the results of the research from the field of synthesis and the use of various nanomaterials and nanostructures. We hope that this volume of the journal will be useful and interesting for a wide range of engineers, scientists, and students whose activity is related with the creation and using of nanomaterials and nanotechnologies in different branches of human activity.

200 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1356-5)

eBook (978-3-0357-3356-3)

<https://www.scientific.net/JNanoR.57/book>

### ■ Journal of Nano Research Vol. 56

The 56th volume of the "Journal of Nano Research" presents readers with the collection of peer-reviewed papers by the results of the research from the field of synthesis and the use of various nanomaterials and nanostructures. We hope that this volume of the journal will be useful and interesting for a wide range of engineers, scientists, and students whose activity is related with the creation and using of nanomaterials and nanotechnologies in different branches of human activity.

176 pages, 2019 **US\$ 145.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1140-0)

eBook (978-3-0357-3140-8)

<https://www.scientific.net/JNanoR.56/book>

### ■ Metallurgy Technology and Materials VII

Edited by: Mohamed Nor Sabirin

**Solid State Phenomena Vol. 298**

This volume contains papers which were presented at the 7th International Conference on Metallurgy Technology and Materials (ICMTM2019, June 14-15, 2019, Xiamen, China) and presents to readers the recent research results in the area of materials science and materials processing technologies.

2019 **US\$ 320.00/€ 290.00 /GBP 225.00**

Print (978-3-0357-1487-6)

eBook (978-3-0357-3487-4)

<https://www.scientific.net/SSP.298/book>

## ■ Industrial Processes of Multi-Material Assembly

Edited by: Prof. Mosbah Zidani and Dr. Hichem Farh  
**Solid State Phenomena Vol. 297**

The innovative assembly and materials junction processes result in multi-materials components with different mechanical behavior, with various electrical and optical properties must meet the technological challenges to improve product performance, relief structures, reducing cycle times and process control. The research efforts are principally focused on the effect of the forming parameters of very diverse processes (forming, solid phase (friction) or liquid (TIG, SMAW, etc.) brazing and additive manufacturing, materials implantation and deposition) on the microstructural aspect of the junction ensuring the cohesion and required properties of the resulting multi-material assemblies.

220 pages, 2019 **US\$ 250.00/€ 225.00 /GBP 175.00**  
Print (978-3-0357-1570-5)  
eBook (978-3-0357-3570-3)

<https://www.scientific.net/SSP.297/book>

## ■ Binders, Materials and Technologies in Modern Construction V

Edited by: Dr. Karel Dvořák and Dominik Gazdič  
**Solid State Phenomena Vol. 296**

This book was prepared by results of the 17th International Conference Silicate Binders (ICBM 2018) that was held December 6 in Brno, Czech Republic and focused on the scientific and practical knowledge of inorganic binders and materials. The most important topics were chemistry and technology of cement and other hydraulic and silicate binders and chemistry and technology of lime and gypsum based binders. We hope this collection will be useful for many specialists in the field of building materials.

240 pages, 2019 **US\$ 250.00/€ 225.00 /GBP 175.00**  
Print (978-3-0357-1550-7)  
eBook (978-3-0357-3550-5)

<https://www.scientific.net/SSP.296/book>

## ■ Materials and Manufacturing Technology

Edited by: Syed Masood  
**Solid State Phenomena Vol. 295**

The 2018 Asia Conference on Material and Manufacturing Technology (ACMMT 2018), was held in Beijing, China, September 14-16, 2018. The presented collection by results of ACMMT 2018 informs readers about the last achievements in the sphere of materials science and processes of metalworking. We hope you will find this collection informative and useful in your professional activity.

122 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**  
Print (978-3-0357-1405-0)  
eBook (978-3-0357-3405-8)

<https://www.scientific.net/SSP.295/book>

## ■ Functional Materials and Metallurgy II

Edited by: Hui Jun Li  
and Mohd Hamdi Bin Abdul Shukor  
**Solid State Phenomena Vol. 294**

This is a collection of articles from the 3rd International Conference on Functional Materials and Metallurgy (ICFMM 2018) which has been held in Wuhan, China during November 10-12, 2018. The main topics of ICFMM 2018 were dedicated to issues related to nanomaterials, functional materials, metallurgical and metalworking technologies, chemical technologies in environmental engineering, bio- and building materials. We hope that the presented collection will be useful for many specialists from the area of modern materials science and materials processing technologies.

162 pages, 2019 **US\$ 180.00/€ 165.00 /GBP 130.00**  
Print (978-3-0357-1438-8)  
eBook (978-3-0357-3438-6)

<https://www.scientific.net/SSP.294/book>

## ■ Functional Thin Films and Special Coatings

Edited by: Prof. Tomasz Tański  
and Dr. Przemysław Snopiński

### Solid State Phenomena Vol. 293

This volume provides an overview of thin film materials and coatings, design and manufacture for a wide variety of application areas. In particular, the topics of interest include fabrication of thin films by electrospinning, a thin film for solar energy conversion, optical and electrical investigation of thin films and special coatings, applications of PVD/ALD coatings, low friction thin layers. We hope that the presented research results and recommendations will be interesting and useful for engineers and researchers from various areas of engineering.

166 pages, 2019 US\$ 190.00/€ 175.00 /GBP 135.00

Print (978-3-0357-1486-9)

eBook (978-3-0357-3486-7)

<https://www.scientific.net/SSP.293/book>

## ■ 25th Concrete Days 2018

Edited by: Šárka Nenadřlová and Petra Johová

### Solid State Phenomena Vol. 292

The 25th International Conference Concrete Days 2018 was held in Prague, Czech Republic from November 21st – 22nd, 2018. The published papers present recent research results in the area of modern concretes and concrete structures, discuss modeling and design of concrete structures, bridges, and buildings, properties of concretes as well as significant structural projects and realizations.

278 pages, 2019 US\$ 370.00/€ 335.00 /GBP 260.00

Print (978-3-0357-1459-3)

eBook (978-3-0357-3459-1)

<https://www.scientific.net/SSP.292/book>

## ■ Materials Properties and Technologies of Processing

Edited by: Gennadiy Pivnyak, Roman Dychkovskiy,  
Edgar Cáceres Cabana and Adam Smoliński

### Solid State Phenomena Vol. 291

This volume contains peer-reviewed papers prepared as the event of the National Contact Point “Secure, Clean and Efficient Energy” under the support of the Ministry of Education and Science of Ukraine. Selected papers at this volume cover a wide range of topics regarding physical and chemical geotechnologies also as solid body mechanics and

provide the recent knowledge and achievement. Presented works together with scientific substantiation have an analytical justification and practical proof of received results. We believe the volume will be essential reading for those in the related areas and will provide an inspiration for future studies and achievement.

216 pages, 2019 US\$ 280.00/€ 255.00 /GBP 200.00

Print (978-3-0357-1498-2)

eBook (978-3-0357-3498-0)

<https://www.scientific.net/SSP.291/book>

## ■ Solid State Science and Technology VI

Edited by: S.M. Iskandar, Najmee Mohamad Saiful  
and Hidayat Ahmad Suhaimi Faris

### Solid State Phenomena Vol. 290

This volume was collected on the results of the 6th International Conference on Solid State Science and Technology (ICSSST2017, 13 – 16 November 2017, Penang, Malaysia) and the main objective of this volume is to present the latest findings of researches on solid-state science and technology in all aspects of physical and chemical properties, preparation and characterization techniques, optical properties; macro-, micro- and nanostructures. We hope this book will be useful for many engineers and researchers in the area of materials science.

364 pages, 2019 US\$ 230.00/€ 210.00 /GBP 165.00

Print (978-3-0357-1272-8)

eBook (978-3-0357-3272-6)

<https://www.scientific.net/SSP.290/book>

## ■ Solid Compounds of Transition Elements III

Edited by: Prof. Ernst Bauer, Daniel Fruchart,  
Herwig Michor and Herbert Müller

### Solid State Phenomena Vol. 289

This volume of the journal contains papers presented at the 21st International Conference on Solid Compounds of Transition Elements, SCTE 2018 which was held in the Technische Universität Wien, Austria, from March 25 to March 29, 2018. The conference was dedicated to fundamental and applied research regarding structure, crystal chemistry, chemical bonding, as well as with magnetic, thermodynamic, phononic and electronic properties of different classes of intermetallic compounds. Hydrides, borides, carbides, silicides and homologues, pnictides, chalcogenides, oxides and halides (especially those of low oxidation states exhibiting

metal or semimetal properties) were in the focus of the conference also.

232 pages, 2019 **US\$ 190.00/€ 175.00 /GBP 135.00**

Print (978-3-0357-1302-2)

eBook (978-3-0357-3302-0)

<https://www.scientific.net/SSP.289/book>

### ■ **Advanced Research in Materials Science II**

Edited by: Tegus Ojiyed, Jav Davaasambuu and Altan Bolag

#### **Solid State Phenomena Vol. 288**

This volume contains papers presented at the 7th International Conference on Materials Science (ICMS2018), which was also the 2nd Joint Chinese-Mongolian-Russian International Conference on Functional Materials, held at Erenhot, China, June 20-22, 2018 and focuses on the research of the structures, characteristics, properties and applications of new functional materials.

164 pages, 2019 **US\$ 170.00/€ 155.00 /GBP 120.00**

Print (978-3-0357-1426-5)

eBook (978-3-0357-3426-3)

<https://www.scientific.net/SSP.288/book>

### ■ **Manufacturing Sciences and Technologies IX**

Edited by: Sujan Debnath

#### **Solid State Phenomena Vol. 287**

This collection contains papers that were presented at the 9th International Conference on Manufacturing Science and Technology (ICMST 2018, Kuala Lumpur, Malaysia, August 11-13, 2018). We hope this collection will be useful and interesting for engineers and researchers in the area of materials science and materials processing technologies.

104 pages, 2019 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1388-6)

eBook (978-3-0357-3388-4)

<https://www.scientific.net/SSP.287/book>

### ■ **Advances in Nanostructured Materials for Multifunctional Applications: Synthesis, Characterization and Properties**

Edited by: Luz Stella Gomez-Villalba

#### **Solid State Phenomena Vol. 286**

This volume presents the recent research progress in the synthesis, characterization techniques, properties and interactions of nanostructured materials for

multifunctional applications. The opportunity to apply singular or hybrid nanomaterials proves to be a constant challenge in order to optimize its use, achieving simultaneous results for its application in different branches of research. It is focused on the study of structures and their effect on the properties of solids, using different experimental techniques and practical applications of nanostructured materials in the context of the latest achievements in the area of research of solid-state phenomena.

168 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1320-6)

eBook (978-3-0357-3320-4)

<https://www.scientific.net/SSP.286/book>

### ■ **Semi-Solid of Alloys and Composites XV**

Edited by: Qiang Zhu, Ahmed Rassili, Stephen P. Midson and Xiao Gang Hu

#### **Solid State Phenomena Vol. 285**

The 15th International conference on Semi-Solid Processing of Alloys and Composites (S2P) are dedicated to the science and technology of semi-solid processing of metals, alloys and composites. Since the discovery of the distinctive flow behavior of metals in the semi-solid state during the early seventies, this fascinating technology has experienced a dynamic and turbulent development history, which has led to a whole family of new production processes, new equipment, and industrial applications with the goal of exploiting this characteristic flow behavior for technical and economic benefits.

520 pages, 2019 **US\$ 410.00/€ 370.00 /GBP 290.00**

Print (978-3-0357-1373-2)

eBook (978-3-0357-3373-0)

<https://www.scientific.net/SSP.285/book>

### ■ Study and Characterization of Alloys and Materials

Edited by: Dr. Hichem Farh, Prof. Mosbah Zidani and Djamel MIROUD

**Defect and Diffusion Forum Vol. 397**

In the field of engineering, the ability of a finished part to fulfil its function in the intended application closely related properties of materials for its production. The development of new high-technology structural materials, adapted to each new application requires knowledge of base matter properties, the regularity of changes in its microstructure and properties during processing. This volume contains results of research the microstructures of materials, methods by which the latter are worked, the effect of interactions at the interfaces for multi-materials and how structure determine their final properties.

2019 US\$ 250.00/€ 225.00 /GBP 175.00

Print (978-3-0357-1571-2)

eBook (978-3-0357-3571-0)

<https://www.scientific.net/DDF.397/book>

### ■ Transfer Phenomena in Fluid and Heat Flows X

Edited by: Luiz Alberto Oliveira Rocha, Antonio F. Miguel and Andreas Öchsner

**Defect and Diffusion Forum Vol. 396**

This special issue "Transfer Phenomena in Fluid and Heat Flows X" in the journal "Defect and Diffusion Forum" presents a collection of peer-reviewed works associated with diffusion phenomena, the motion of the fluid flow and heat transfer in the technical and natural systems.

218 pages, 2019 US\$ 320.00/€ 290.00 /GBP 225.00

Print (978-3-0357-1592-7)

eBook (978-3-0357-3592-5)

<https://www.scientific.net/DDF.396/book>

### ■ Vacuum Heat Treatment

Edited by: Prof. Peter Jurči

**Defect and Diffusion Forum Vol. 395**

This volume contains papers collected by results of the Conference on Vacuum Heat Treatment and Heat Treatment of Tools that was held on November 20 - 21, 2018 in Puchov, Slovakia. The published papers cover different fields of the main conference topic, such as heat treatment of tool steels in a vacuum; thermo-chemical treatment of tool steels; cryogenic treatments; interrelationships between the treatment

parameters, obtained microstructures and resulting mechanical properties; distortion behaviour of components, and wear performance of tools and engineering components.

144 pages, 2019 US\$ 180.00/€ 165.00 /GBP 130.00

Print (978-3-0357-1551-4)

eBook (978-3-0357-3551-2)

<https://www.scientific.net/DDF.395/book>

### ■ Materials Science: Properties and Technologies

Edited by: Prof. Jong Wan Hu

**Defect and Diffusion Forum Vol. 394**

This volume of the journal contains papers from the 3rd International Conference on Material Science and Engineering Technology (3rd ICMSET 2019) was taken place in Saipan, USA, during March 15-17, 2019 and presents readers research results in the field of applied materials and advanced materials processing technologies.

136 pages, 2019 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1485-2)

eBook (978-3-0357-3485-0)

<https://www.scientific.net/DDF.394/book>

### ■ Transfer Phenomena in Fluid and Heat Flows IX

Edited by: Dr. Stanislav Kolisnichenko

**Defect and Diffusion Forum Vol. 393**

This volume of the journal "Defect and Diffusion Forum" presents to readers the next 9th special issue from the series "Transfer Phenomena in Fluid and Heat Flows" which contains articles covering theoretical and practical aspects of modeling and numerical investigation of the diffusive convection and magnetohydrodynamic mixed convective flows, heat transfer phenomena in different media and engineering objects, solving other engineering problems related to heat and mass transfer phenomena.

160 pages, 2019 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1010-6)

eBook (978-3-0357-3010-4)

<https://www.scientific.net/DDF.393/book>

### ■ **Transfer Phenomena in Fluid and Heat Flows VIII**

Edited by: Dr. Stanislav Kolisnychenko  
**Defect and Diffusion Forum Vol. 392**

This volume of the journal “Defect and Diffusion Forum” presents to readers the next 8th special issue from the series “Transfer Phenomena in Fluid and Heat Flows” which contains articles covering theoretical and practical aspects of modeling and numerical investigation of the diffusive convection and magnetohydrodynamic mixed convective flows, heat transfer phenomena in different media and engineering objects, solving other engineering problems related to heat and mass transfer phenomena.

264 pages, 2019 **US\$ 310.00/€ 280.00 /GBP 220.00**

Print (978-3-0357-1053-3)  
eBook (978-3-0357-3053-1)

<https://www.scientific.net/DDF.392/book>

### ■ **New Perspectives on Mass and Thermal Transport in Engineering Materials**

Edited by: Andreas Öchsner, Prof. Graeme E. Murch, Ali Shokuhfar and João Delgado  
**Defect and Diffusion Forum Vol. 391**

The present volume attempts to capture some of this excitement by providing a cross-section of contemporary research in mass transfer and thermal processes in the modern engineering materials and technologies. The volume spans both experiment and modelling and covers both basic research and applied research. Topics covered are broad, covering heat exchange in porous media to the drying of sisal fibre, from the role of nanoparticles for enhanced oil recovery to the atomistic of grain boundary diffusion and segregation.

264 pages, 2019 **US\$ 210.00/€ 190.00 /GBP 150.00**

Print (978-3-0357-1562-0)  
eBook (978-3-0357-3562-8)

<https://www.scientific.net/DDF.391/book>

### ■ **Transfer Phenomena in Fluid and Heat Flows VII**

Edited by: Antonio F Miguel, Luiz Alberto Oliveira Rocha and Andreas Öchsner  
**Defect and Diffusion Forum Vol. 390**

This volume of the journal “Defect and Diffusion Forum” presents to readers the special issue “Transfer Phenomena in Fluid and Heat Flows VII” which contains articles covering theoretical and

practical aspects of modeling and numerical investigation of the diffusion processes, heat and mass transfer processes and fluid mechanics in different media and engineering objects.

222 pages, 2019 **US\$ 210.00/€ 190.00 /GBP 150.00**

Print (978-3-0357-1529-3)  
eBook (978-3-0357-3529-1)

<https://www.scientific.net/DDF.390/book>

### ■ **Transport Phenomena in Single and Multiphase Systems: New Developments at Different Fields**

Edited by: João Delgado and A.G. Barbosa de Lima  
**Diffusion Foundations Vol. 24**

This volume, entitled “Transport Phenomena in Single and Multiphase Systems: New Developments at Different Fields” includes articles that discuss some of the most important theoretical advances, computational developments and technological applications of heat and mass transfer and fluid flow phenomena at different engineering fields.

174 pages, 2019 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-0357-1547-7)  
eBook (978-3-0357-3547-5)

<https://www.scientific.net/DF.24/book>

### ■ **Thermo-Mechanical Properties of Polymer Composites**

Edited by: Dr. Inamuddin, Anish Khan and Abdullah Mohamed Asiri  
**Diffusion Foundations Vol. 23**

This volume contains papers describing the results of some research in the area of application diffusion and transport phenomena in polymer composite materials and substances for the industrial and engineering goals. We hope that the presented papers will be interesting and useful for many engineers and researchers.

244 pages, 2019 **US\$ 200.00/€ 180.00 /GBP 140.00**

Print (978-3-0357-1271-1)  
eBook (978-3-0357-3271-9)

<https://www.scientific.net/DF.23/book>

### ■ Contemporary Advances in Diffusion in Solids

Edited by: Prof. Graeme E. Murch, Andreas Öchsner and Prof. Irina V. Belova

#### Diffusion Foundations Vol. 22

This volume was designed to capture a wide cross-section of contemporary international diffusion research by presenting advances in both experimental aspects and modelling of diffusion at both basic science and applied levels.

196 pages, 2019 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1563-7)

eBook (978-3-0357-3563-5)

<https://www.scientific.net/DF.22/book>

### ■ Diffusion Controlled Growth and Oxidation of Metal-Silicides

Edited by: Prof. Alope Paul

#### Diffusion Foundations Vol. 21

Silicide intermetallics are widely used in various applications such as microelectronics, structural and coating industries. Some aspects of the diffusion-controlled growth and oxidation of metal-silicides are presented in this volume of the journal.

202 pages, 2019 US\$ 170.00/€ 155.00 /GBP 120.00

Print (978-3-0357-1505-7)

eBook (978-3-0357-3505-5)

<https://www.scientific.net/DF.21/book>

### ■ Advanced Topics in Heat and Mass Transfer and Fluid Flow Phenomena in Multiphase Systems

Edited by: João Delgado and A.G. Barbosa de Lima

#### Diffusion Foundations Vol. 20

This volume, entitled “Advanced Topics in Heat and Mass Transfer and Fluid Flow Phenomena in Multiphase Systems”, is aimed to provide a collection of recent contributions in the field of transport and fluid flow phenomena in multiphase systems and we hope that this publication will be useful and interesting for many researchers and engineers.

166 pages, 2019 US\$ 145.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1443-2)

eBook (978-3-0357-3443-0)

<https://www.scientific.net/DF.20/book>

### ■ Diffusion and Thermal Transport in Bulk and Nano-Materials

Edited by: Prof. Helmut Mehrer

#### Diffusion Foundations Vol. 19

This volume is dedicated to the memory of Professor Dr. Nicolaas Augustinus Stolwijk whose works were related with study of a wide spectrum of diffusion processes in metals, intermetallic compounds, semiconductors, solar grade silicon, polymer electrolytes and in minerals.

138 pages, 2019 US\$ 145.00/€ 135.00 /GBP 105.00

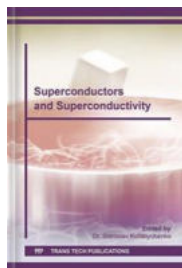
Print (978-3-0357-1460-9)

eBook (978-3-0357-3460-7)

<https://www.scientific.net/DF.19/book>



# Best Selling Books



## ■ Superconductors and Superconductivity

Edited by:

Dr. Stanislav Kolisnychenko

**Specialized Collections Vol. 4**

The phenomenon of superconductivity in materials offers great opportunities for fundamental and applied sciences. Application of superconducting material in

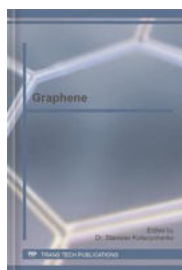
measuring devices, medical diagnostics, in space and energy industries and transport, is only a short list of possible use of the phenomenon of superconductivity in everyday human activity. The special collection "Superconductors and Superconductivity" consists of papers published by Trans Tech Publications Inc. from 2010 up to 2015 and covers a wide range of advanced achievements in the field of applied research and applied application of superconductors in different branches of engineering. Compiled scientific papers are presented in two chapters: Chapter 1: Superconductors: Properties and Production Technologies Chapter 2: Practice of Using Superconductors and Superconductivity

814 pages, 2015 **US\$ 210.00/€ 190.00 /GBP 150.00**

Print (978-3-03835-903-6)

eBook (978-3-0357-0093-0)

<https://www.scientific.net/SC.4/book>



## ■ Graphene

Edited by:

Dr. Stanislav Kolisnychenko

**Specialized Collections Vol. 3**

As a direct development of nanotechnologies, graphene is the first known crystal that has genuine two-dimensional structure (2D). The diversity of properties of graphene has

predetermined a wide range of applications of its use in many areas of scientific and practical activities. The collection "Graphene" consists of papers published by Trans Tech Publications Inc. from 2010 up to 2015 and covers the technology of graphene formation, as well as the application of this unique material to a wide range of technological

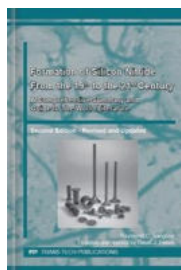
developments. The papers are presented in nine chapters: Chapter 1: Technologies of Graphene Formation; Chapter 2: Research and Analysis Properties and Quality of Graphene; Chapter 3: Composites and Polymers Based on Graphene; Chapter 4: Research and Development of Films, Fibers, Surface and Coating with Use of Graphene; Chapter 5: Application of Graphene in Photocatalytic Processes and Environmental Engineering; Chapter 6: Graphene in Biomedical Engineering; Chapter 7: Using Graphene in Electronics and Photovoltaics; Chapter 8: Application of Graphene for Sensors and NEMS; Chapter 9: Using of Graphene in Energy Storage, Fuel Cells and Supercapacitors.

3122 pages, 2015 **US\$ 550.00/€ 495.00 /GBP 385.00**

Print (978-3-03835-902-9)

eBook (978-3-03826-952-6)

<https://www.scientific.net/SC.3/book>



## ■ Formation of Silicon Nitride from the 19th to the 21st Century

Edited by:

Raymond C. Sangster

and David J. Fisher

**Materials Science Foundations Vols. 84-85**

The elements: Si, N, O, C and H, have strong chemical

affinities for one another. Under the correct conditions, Si-N bonding will occur in almost any Si-N-(O/C/H), and many related, reaction systems; although Si-O and Si-C are formidable competitors to Si-N. The most favored Si-N compound is stoichiometric Si<sub>3</sub>N<sub>4</sub>. It comes in three common varieties. How they interrelate, how one finds them and (above all) how one makes them - and how sometimes they just happen to form - are the subjects of this book, with due attention being paid to closely related matters. This revised second edition summarizes and integrates what is recorded in the world literature from 1857 through 2014 as being known about the formation of silicon nitride - Si<sub>3</sub>N<sub>4</sub> - and its close relatives. The book is the key to all that has been learned, over the past 150 years, about how silicon nitride comes to exist: in nature, in the laboratory or in the factory and in many reaction systems; together with how it is used in ceramics, electronic films, optical coatings and many other ways (including an introduction to closely related substances). It will aid the researcher in designing

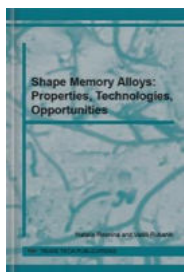
new projects, the supervisor in briefing new employees, the salesman in working with new customers, the patent attorney in assessing patents and the professor in designing graduate course assignments. This comprehensive reference gathers information published on the chemistry of silicon nitride and its products, uses, and markets. Separate chapters overview the manufacture of silicon nitride powder, the production of silicon nitride ceramics via the reaction bonding process, the intrinsic reactions between crystalline silicon surfaces and N<sub>2</sub> for silicon wafers, nitridation of Si-O based materials, and chemical vapor deposition of Si-H compounds.

1016 pages, 2015 US\$ 315.00/€ 285.00 /GBP 225.00

Print (978-3-03835-994-4)

eBook (978-3-03826-901-4)

<https://www.scientific.net/MSFo.84-85/book>



### ■ Shape Memory Alloys: Properties, Technologies, Opportunities

Edited by: Natalia Resnina and Vasili Rubanik

**Materials Science Foundations Vols. 81-82**

The collective monograph consists of five parts: Theory and modeling of martensitic

transformation and functional properties; Martensitic transformations and shape memory effects; Controlling the functional properties of shape memory alloys; Shape memory alloys with complex structure; Application of shape memory alloys) covering of all aspects of shape memory alloys from theory and modelling to applications. It presents the scientific results obtained by leading scientific teams studying shape memory alloys in the former Soviet Republics together with their colleagues from other countries during the last decade.

640 pages, 2015 US\$ 290.00/€ 260.00 /GBP 205.00

Print (978-3-03835-357-7)

eBook (978-3-03826-742-3)

<https://www.scientific.net/MSFo.81-82/book>



### ■ Diffusion in Hydrogen Storage Alloys

Edited by: D.J. Fisher

**Materials Science Foundations Vol. 89**

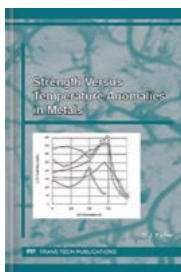
This volume presents a summary of relevant diffusion data. Enormous amount of research has been expended on the option of storing the hydrogen in solid metal alloys. The loading of metals with hydrogen, and its extraction, depends upon several processes. It is found that the slowest, and therefore the rate-determining process is hydrogen diffusion in the solid.

152 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-990-6)

eBook (978-3-0357-0106-7)

<https://www.scientific.net/MSFo.89/book>



### ■ Strength Versus Temperature Anomalies in Metals

Edited by: D.J. Fisher

**Materials Science Foundations Vol. 88**

Perhaps the best-known aspect of the behavior of metals, and indeed of most materials, is that they weaken with temperature. This

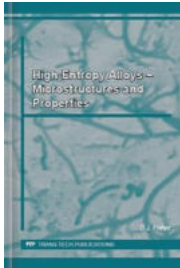
weakening is however a problem in some applications. Only tungsten for instance, with its naturally high melting-point, was suitable for the manufacture of the filaments of incandescent light-bulbs. Even then, it was necessary to add oxide particles having a yet higher melting-point in order to prevent the weakening effect of grain-growth. These are alloys however which can be said to be weakened by heat, but nevertheless 'hang on' to enough strength to perform their task. The real boon would be an alloy, which actually, as it were, 'rose to the occasion'. Such a class of alloy exists and is the subject of this book. It brings together everything which is known about the yield strength anomaly; both theoretically and experimentally.

158 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-992-0)

eBook (978-3-0357-0011-4)

<https://www.scientific.net/MSFo.88/book>



## ■ High-Entropy Alloys – Microstructures and Properties

Edited by: D.J. Fisher  
**Materials Science Foundations Vol. 86**

There are relatively few revolutions in the venerable and rather staid field of metallurgy. One can count

among them the advent of metallic glasses, of superplastic metals, or of memory-alloys. The latest revolution involves the relatively staid topic of alloy formulation but is all the more startling because the resultant materials break every long-cherished rule of alloy design. In particular, the famous empirical rules of Hume-Rothery are completely ignored. That is, in the archetypal high-entropy alloy, five metals are alloyed together in equal proportions regardless of atomic-size difference, valence or crystal structure. Common sense would tell any experienced metallurgist that that could result only in a uselessly brittle mass of intermetallic compounds. But in a truly paradigm-shifting manner, Professor J.W.Yeh of Taiwan correctly predicted that a high configurational entropy could suppress the appearance of detrimental intermetallic compounds and lead to simple familiar microstructures having very useful properties. High-Entropy Alloys can exhibit, for instance, astounding hardness and strength and also have a very good corrosion resistance. The present book summarises the microstructures and properties of all of the high-entropy alloys.

160 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-993-7)

eBook (978-3-03826-945-8)

<https://www.scientific.net/MSFo.86/book>



## ■ Relaxation of Stress and Density, Strength (Fatigue)

Edited by: Wolfgang Gräfe  
**Materials Science Foundations Vol. 78**

This treatment of “Time-Dependent Mechanical Properties of Solids” begins with a phenomenological

description of the transport of some unspecified entity. It is assumed that the transport is caused by mechanical stresses or temperature fields. Using these assumptions, it is possible to deduce formulae for a theoretically based description of several phenomena without referring to any specific process or entity. These theoretical results then provide the tools for performing methodologically better scientific work and for a better analysis of data in the practical application of materials. By publishing this work, the author hopes to improve technical safety in transportation and other fields of practical materials application. Another goal is to stimulate the scientific investigation of a wider range of substances in order to analyze more extensively the elementary processes which produce observed phenomena. This second edition is extended and Chapter 12, five new Sections as well as the Appendices A7, A8 and A9 are additionally inserted.

206 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-998-2)

eBook (978-3-03826-502-3)

<https://www.scientific.net/MSFo.798/book>



## ■ The Dislocation-Particle Analogy and Plasma-Crystal Models

Edited by: Prof. David J. Fisher  
**Foundations of Materials Science and Engineering Vol. 96**

The present monograph focuses on the very fruitful method of equating particle-physics phenomena - where the speed of light is a key factor - to dislocation-motion in solids - where the speed of sound plays an analogous role. The so-called ‘dusty plasma’ has proved to be a very useful

substitute and its use confirms that the particle/dislocation analogy is well-founded.

126 pages, 2018 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1471-5)

eBook (978-3-0357-3471-3)

<https://www.scientific.net/FoMSE.96/book>



### ■ Defect-Mediated Degradation of Diffusion Barriers

Edited by: David J. Fisher  
**Foundations of Materials Science and Engineering Vol. 95**

The wide practical use of the diffusion barrier phenomenon in the various areas of science

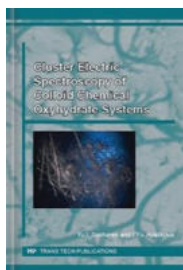
and modern engineering is impossible without the studying of all aspects of their creation, functioning and degradation. The present monograph covers a specific and important aspect of the diffusion barriers damaging process - the deleterious effect of atomic-scale defects in the structure of diffusion barriers.

130 pages, 2018 US\$ 140.00/€ 125.00 /GBP 100.00

Print (978-3-0357-1346-6)

eBook (978-3-0357-3346-4)

<https://www.scientific.net/FoMSE.95/book>



### ■ Cluster Electric Spectroscopy of Colloid Chemical Oxhydrate Systems

Edited by: Yu.I. Sucharev and I.Yu. Apalikova  
**Materials Science Foundations Vol. 87**

This monograph deals with the shape of Liesegang

operator and its respective phase diagrams of spontaneous surges and analyzed properties of cluster attractors. It describes the influence of pulsation noise or self-organization current of gel systems in a magnetic field on singularities of optic parameters of yttrium oxhydrate, as well as on kinetic curves of changes in optic density of oxhydrate systems, sorptive properties of d- and f-elements, and the structural organization of their colloids. This monograph is meant for postgraduate

students, magisters, researchers, and those interested in solid-state chemistry and physics.

596 pages, 2015 US\$ 180.00/€ 165.00 /GBP 125.00

Print (978-3-03835-991-3)

eBook (978-3-0357-0034-3)

<https://www.scientific.net/MSFo.87/book>



### ■ Non-Stoichiometric Oxides of 3d-Metals

Edited by: Andrzej Stokłosa  
**Materials Science Foundations Vol. 79**

In the present work, in Part I, new elements widening the bases of the defects theory are shown; particularly, this work discusses the mechanism of the formation of defects as a

result of elementary processes; the work also presents a description of the equilibrium state by one equation, taking into account the concentrations of defects and their changes during the process of reaching the equilibrium. The equation relates the concentrations of defects, dependent on the standard Gibbs energies of their formation, with the equilibrium pressure of oxygen. The obtained relations and the discussion have led to the development of a method for determination of complete diagrams of concentrations of the point defects, which allows taking into account the minority defects. Part II presents the results of the calculations of the diagrams of point defects' concentrations for a series of pure and doped oxides of transition metals 3d, with different composition (M/O ratio), crystallographic structure and point defects' structure. A critical analysis of the results of the studies of the deviation from the stoichiometry and the electrical conductivity, obtained (so far) by most research groups has been also performed. A new interpretation of these results, concerning concentrations and types of ionic defects present has been performed and the mobility of electronic defects and its dependence on the temperature and oxygen pressure have been determined.

590 pages, 2015 US\$ 265.00/€ 240.00 /GBP 185.00

Print (978-3-03835-997-5)

eBook (978-3-03826-608-2)

<https://www.scientific.net/MSFo.79/book>

### ■ Mechatronic Systems and Materials VI

Edited by: Algirdas V. Valiulis, Olegas Černašėjus and Vadim Mokšin

#### **Solid State Phenomena Vols. 220-221**

Collection of selected, peer reviewed papers from the 9th International Conference on Mechatronic Systems and Materials (MSM 2013), July 1–3, 2013, Vilnius, Lithuania. The 170 papers are grouped as follows: Chapter 1: Mechatronic Systems I: (Industrial Robotics; Microrobotics; Mobile Robots; Analysis of Vibration), Chapter 2: Mechatronic Systems II: (Optimization; Optimal Design; Integrated Diagnostics; Failure Analysis; Tribology in Mechatronics Systems; Analysis of Signals), Chapter 3: Mechatronic Systems III: (Applications of Artificial Intelligence; Sensors and Actuators in Mechatronics; Control of Mechatronics Systems), Chapter 4: Materials: (Multifunctional and Smart Materials; Metallic Alloys; Piezoelectric Materials; Nanomaterials; Ceramics and Glasses; Biomaterials and Technology; Coatings and Properties), Chapter 5: Engineering Technologies: (Advanced and Digital Manufacturing; Systems Engineering; Micro and Nano Technologies; Materials Joining Technologies; Modeling and Optimization of Processes), Chapter 6: Education: (New Trends and Curricula for BSC and MSC in Two Tier Higher Education in the Fields of Mechatronic Systems and Materials Science)

1068 pages, 2015 US\$ 370.00/€ 335.00 /GBP 260.00

Print (978-3-03835-227-3)

eBook (978-3-03826-611-2)

<https://www.scientific.net/SSP.220-221/book>

### ■ Ultra Clean Processing of Semiconductor Surfaces XIII

Edited by: Paul W. Mertens, Marc Meuris and Marc Heyns

#### **Solid State Phenomena Vol. 255**

This volume contains the proceedings of 13th International Symposium on Ultra Clean Processing of Semiconductor Surfaces (UCPSS 2016, Knokke, Belgium, September 12-14, 2016) ([www.ucpss.org](http://www.ucpss.org)) and includes studies on cleaning such as particle removal using acoustic enhancement, removal of metallic contamination, pattern collapse of fine flexible and fragile features, wetting and drying issues, control and measuring of contamination. FEOL and BEOL topics cover: chemistry of semiconductor surfaces, cleaning related to new gate stacks, cleaning at the interconnect level, selective wet etching, resist strip and polymer removal,

cleaning and contamination control for various new materials and cleaning after Chemical-Mechanical-Polishing (CMP).

414 pages, 2016 US\$ 315.00/€ 285.00 /GBP 225.00

Print (978-3-0357-1084-7)

eBook (978-3-0357-3084-5)

<https://www.scientific.net/SSP.255/book>

### ■ Oxide Semiconductors for Solar-to-Chemical Energy Conversion

Edited by: Venkataraman Thangadurai, Yasuro Ikuma  
**Solid State Phenomena Vol. 253**

This volume is focused on the materials and devices for solar-to-chemical energy conversion. The introductory paper, by Alim and Bak, considers the basic concepts of the light-induced water oxidation by oxide semiconductors. This paper is concentrated on the photoreactivity of metal oxides, such as TiO<sub>2</sub>, with water and the related charge transfer during partial and total oxidation. The second paper of Yang et al provides an overview on the performance of TiO<sub>2</sub> as photoanode in photoelectrochemical water oxidation. The paper of Nasir et al considers application of BiVO<sub>4</sub> as photoelectrode for the generation of solar hydrogen fuel using water as the raw material. The work of Pastuovic et al is a treatise on the application of accelerator-based nuclear techniques in the characterisation of oxide semiconductors for solar energy conversion. This volume is addressed to those interested in the progress of research in oxide materials for solar energy conversion.

154 pages, 2016 US\$ 140.00/€ 125.00 /GBP 100.00

Print (978-3-03835-707-0)

eBook (978-3-0357-0195-1)

<https://www.scientific.net/SSP.253/book>

### ■ Physics and Technology of Nanostructured Materials III

Edited by: Nikolay G. Galkin

#### **Solid State Phenomena Vol. 245**

The first book of the Proceedings of ASCO-Nanomat 2015 includes articles of 41 contributed papers of the third school-conference, which were recommended for publication by Publishing Committee. The articles reflect the new results and scientific achievements in the field of growth and synthesis of new nanomaterials and coatings, technology of their growth and preparation, their physical properties, calculations and modeling of the electronic structure

and properties of new nanomaterials. The Proceedings consist of two chapters. In the first one "Semiconducting and Metal Nanoheterostructures: Self-Organization and Characterization" the 14-th articles devoted to atomic processes and nanostructure formation and characterization and ab initio calculations and modeling were collected. In the second chapter named "Nonlinear Optical Mediums, Nanocomposites, Nanostructured Coatings, Functional Materials and their Applications" the 27 articles devoted to formation technology and characterization of different kinds of nanomaterials of organic and non-organic nature were presented. This proceedings volume is intended for scientists, readers, professors and post-graduate students.

262 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-682-0)

eBook (978-3-0357-0165-4)

<https://www.scientific.net/SSP.245/book>

### ■ Physics and Technology of Nanostructured Materials III (Supplement Book)

Edited by: Nikolay Gennadievich Galkin  
**Solid State Phenomena Vol. 247**

Collection of actual researches and decisions in area of semiconductor, magnetic, ferroelectric nanostructures and functional hybrid materials. This publication will be useful for a wide range of researchers and engineers in the field of nanostructured materials for modern and future industry.

184 pages, 2016 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-03835-648-6)

eBook (978-3-0357-0129-6)

<https://www.scientific.net/SSP.247/book>

### ■ Gettering and Defect Engineering in Semiconductor Technology XVI

Edited by: P. Pichler  
**Solid State Phenomena Vol. 242**

Collection of selected, peer reviewed papers from the GADEST 2015: Gettering and Defect Engineering in Semiconductor Technology, September 20-25, 2015, Bad Staffelstein, Germany. The 71 papers are grouped as follows: Chapter 1: Growth of Mono- and Multi-Crystalline Silicon; Chapter 2: Passivation and Defect Studies in Solar Cells; Chapter 3: Intrinsic Point Defects and Dislocations in Silicon; Chapter 4: Light Elements in Silicon-Based Materials; Chapter 5: Properties and Gettering of Transition Metals in

Silicon; Chapter 6: Radiation- and Impurity-Related Defect Studies in Silicon and Germanium; Chapter 7: Thermal Properties of Semiconductors; Chapter 8: Luminescence and Optical Properties of Semiconductors; Chapter 9: Nano-Sized Layers and Structures; Chapter 10: Wide-Bandgap Semiconductors; Chapter 11: Advanced Methods and Tools for Investigation of Semiconductor Materials  
500 pages, 2016 US\$ 390.00/€ 350.00 /GBP 275.00

Print (978-3-03835-608-0)

eBook (978-3-0357-0083-1)

<https://www.scientific.net/SSP.242/book>

### ■ 26th Symposium on Experimental Mechanics of Solids

Edited by: Pawel Pyrzanowski and Jacek Gadowski  
**Solid State Phenomena Vol. 240**

Collection of selected, peer reviewed papers from the 26th Symposium on Experimental Mechanics of Solids, October 22-25, 2014, Jachranka, Poland. The 40 papers are grouped as follows: Chapter 1: Experimental and Numerical Methods and Equipments for Practical Investigation and Engineering Designing; Chapter 2: Investigation Processes of Fatigue and Fracture; Chapter 3: Investigations Mechanical Properties of Advanced Materials; Chapter 4: Experimental Methods for Investigations of Devices, Machines and Structures

282 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-568-7)

eBook (978-3-0357-0041-1)

<https://www.scientific.net/SSP.240/book>

### ■ Radiation Induced Modification of Materials

Edited by: Hardev Singh Virk  
**Solid State Phenomena Vol. 239**

The irradiation of materials with energetic particles has significant effects on the properties of target materials. In addition to the well-known detrimental effects of irradiations, they have also some beneficial effects on the properties of materials. Irradiation effect can change the morphology of the materials in a controlled manner and tailor their mechanical, structural, optical and electrical properties. Irradiation induced modifications in the properties of materials can be exploited for many useful applications. This 2nd volume on Radiation Effects considers the importance of Radiation Induced Modifications of Materials. It includes 9 Papers

written by experts in this field on a variety of subjects.

260 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-554-0)

eBook (978-3-0357-0025-1)

<https://www.scientific.net/SSP.239/book>

### ■ Solid State Nuclear Track Detectors and their Applications

Edited by: Hardev Singh Virk

**Solid State Phenomena Vol. 238**

The credit of introducing Solid State Nuclear Track Detectors (SSNTDs) as a powerful research tool in the early sixties goes to P.B. Price, R.L. Fleischer and R.M. Walker of the General Electric Company of the United States of America. Basically, SSNTDs are dielectric materials or solid insulators such as mica, glass, synthetic plastics, etc. which record and permanently store the trajectory of fast moving charged particles in the form of submicroscopic trails of continuous damage called latent tracks. The present Volume consists of one dozen Papers on Applications of SSNTDs in various fields; Radon Studies covering more than half of this Volume.

224 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-527-4)

eBook (978-3-03826-997-7)

<https://www.scientific.net/SSP.238/book>

### ■ Engineering Research of Vehicles

Edited by: Andrzej Grządziela, Bogdan Pojawa and Piotr Szymak

**Solid State Phenomena Vol. 236**

Collection of selected, peer reviewed papers from the 2 Day Symposium on Mechatronics Systems, Mechanics and Materials 2014/IV, November 19-20, 2014, Władysławowo, Poland. The 31 papers are grouped as follows: Chapter 1: Materials, Mechanisms and Energy of Technical Systems and Devices; Chapter 2: Control and Robotics; Chapter 3: Diagnostics of Equipment; Chapter 4: Environment Protection Engineering

285 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-510-6)

eBook (978-3-03826-980-9)

<https://www.scientific.net/SSP.236/book>

### ■ Ferroc Materials: Synthesis and Applications

Edited by: Hardev Singh Virk

**Solid State Phenomena Vol. 232**

Ferroc is the generic name given to the study of ferromagnets, ferroelectrics, and ferroelastics. The basis of this study is to understand the large changes in physical characteristics that occur over a very narrow temperature range. In recent years, a new class of ferroc materials has been attracting increased interest. These multiferroics exhibit more than one ferroc property simultaneously in a single phase. The present volume: "Ferroc Materials: Synthesis and Applications" has ten Chapters, spread over areas as diverse as Magnetic Oxide Nanomaterials, Ferrites Synthesis, Hexaferrites, Spin Torque Nano-Oscillator, Ferroelectric Lattices, Flexoelectricity and Ferroelectric Materials for High Temperature Piezoelectric Applications.

286 pages, 2015 US\$ 210.00/€ 190.00 /GBP 150.00

Print (978-3-03835-486-4)

eBook (978-3-03826-953-3)

<https://www.scientific.net/SSP.232/book>

### ■ Oxide Materials for Electronic Engineering - Fabrication, Properties and Application

Edited by: Sergii Ubizskii, Leonid Vasylychko and Yaroslav Zhydachevskii

**Solid State Phenomena Vol. 230**

Collection of selected, peer reviewed papers from the International Scientific Conferences Oxide Materials for Electronic Engineering – Fabrication, Properties and Applications (OMEE 2014), May, 26-30, 2014, Lviv, Ukraine. The 47 papers are grouped as follows: Chapter 1: Technology of the Active Media of Electronic Engineering; Chapter 2: Active Media Fundamentals: Crystal Structure, Micro- and Nanostructure, Electronic Structure; Chapter 3: Nanoparticles, Nano-Ceramics and Nano-Composites; Chapter 4: Materials for Quantum and Optoelectronics, Defects, Impurities and Transport Phenomena; Chapter 5: Magnetic Materials, Multiferroics, Superconductors; Chapter 6: Materials for Sensing and Catalysis

316 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-428-4)

eBook (978-3-03826-814-7)

<https://www.scientific.net/SSP.230/book>

### ■ Light Metals and their Alloys IV

Edited by: Anna J. Dolata and Maciej Dyzia

#### **Solid State Phenomena Vol. 229**

Special topic volume with invited peer reviewed papers only. The 18 papers are grouped as follows: Chapter 1: Aluminium and Aluminium Alloys; Chapter 2: Magnesium and Magnesium Alloys; Chapter 3: Titanium and Titanium Alloys

158 pages, 2015 **US\$ 115.00/€ 100.00 /GBP 80.00**

Print (978-3-03835-447-5)

eBook (978-3-03826-905-2)

<https://www.scientific.net/SSP.229/book>

### ■ Electrocatalysts for Hydrogen Energy

Edited by: Bożena Łosiewicz

#### **Solid State Phenomena Vol. 228**

This special topic volume deals with the development of novel solid state electrocatalysts of a high performance to enhance the rates of the hydrogen or oxygen evolution. It contains a description of various types of metals, alloys and composites which have been obtained using electrodeposition in aqueous solutions that has been identified to be a technologically feasible and economically superior technique for the production of the porous electrodes. The goal was to produce papers that would be useful to both the novice and the expert in hydrogen technologies. This volume is intended to be useful to the materials scientist or electrochemist, student or professional, who is planning studies of solid state electrocatalysts and who may have had little previous experience with electrochemical measurements. Such a reader will find an outline of basic theory and a discussion of experimental techniques and data analysis, with examples and appropriate references. It is hoped that the more advanced reader will also find this volume valuable as a review and summary of the literature up to the time of writing, with a discussion of current theoretical and experimental issues of research activity in the field of hydrogen energy.

420 pages, 2015 **US\$ 180.00/€ 165.00 /GBP 125.00**

Print (978-3-03835-418-5)

eBook (978-3-03826-804-8)

<https://www.scientific.net/SSP.228/book>

### ■ Corrosion and Surface Engineering

Edited by: Joanna Michalska and Maciej Sowa

#### **Solid State Phenomena Vol. 227**

Collection of selected, peer reviewed papers from the International Scientific Conference Corrosion 2014, November 18-21, 2014, Gliwice, Poland. The 136 papers are grouped as follows: Chapter 1: Corrosion and Surface Engineering, Corrosion Protection; Chapter 2: Concrete Corrosion; Chapter 3: Corrosion and Surface Engineering in Industry; Chapter 4: Atmospheric Corrosion, Tribocorrosion, Erosion, Hydrogen Degradation and Diffusion; Chapter 5: Microbiological Corrosion; Chapter 6: High-Temperature Corrosion and Surface Strength, Thermal Coating; Chapter 7: Corrosion of Biomaterials; Chapter 8: Testing Methods

590 pages, 2015 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-03835-391-1)

eBook (978-3-03826-777-5)

<https://www.scientific.net/SSP.227/book>

### ■ Technologies and Properties of Modern Utility Materials XXII

Edited by: Jacek Mendala and Paweł Gradoń

#### **Solid State Phenomena Vol. 226**

Collection of selected, peer reviewed papers from the XXII Conference on Technologies and Properties of Modern Utility Materials, (TPMUM 2014), May 16, 2014, Katowice, Poland. The 42 papers are grouped as follows: I: Materials Analysis; II: Processing Technologies; III: Surface Engineering; IV: Materials and Environment

230 pages, 2015 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-345-4)

eBook (978-3-03826-730-0)

<https://www.scientific.net/SSP.226/book>

### ■ Environmentally Assisted Wear Processes

Edited by: Ellina Łunarska, Jarosław Chmiel, Alexander Balitskii and Małgorzata Szyzsko

**Solid State Phenomena Vol. 225**

This volume contains a collection of papers from International Conference „Wear Processes 2012” which were held in Świnoujście, Poland, from 12 to 14 of September 2012. The Conference is organized periodically and is a continuation of the seminars series concerning “Testing and modelling of complex wear processes”, that are organized since 2003. The Initiator of the Conference is Jarosław Chmiel, PhD. Eng. from Maritime University of Szczecin. The aim of the Conference is a creating a forum of information exchange for researchers dealing with issues of wear phenomena caused by more as one process acting on a material simultaneously, the subject somewhat neglected at most conferences focusing on wear problems. The main topics of the Conference are as follows:- fundamental problems of deterioration and wear of materials.- simple and complex deterioration processes.- hydrogen degradation of materials.- wear processes accelerated by the hydrogen degradation and corrosion.- modeling of wear processes.- causes of abnormally rapid of wear. Since 2010, the Conference is held under the auspices of the European Structural Integrity Society, Technical Committee TC10 “Environmentally Assisted Cracking”.

212 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-381-2)

eBook (978-3-03826-766-9)

<https://www.scientific.net/SSP.225/book>

### ■ Fatigue and Fracture Mechanics XXV

Edited by: Dariusz Skibicki

**Solid State Phenomena Vol. 224**

Collection of selected, peer reviewed papers from the 25th Polish National Conference on „Fatigue and Fracture Mechanics”, May 20-23, 2014, Fojutowo, Poland. The 45 papers are grouped as follows: Chapter 1: Fatigue of Materials, Chapter 2: Fracture Behaviour of Materials, Chapter 3: Other Aspects of Material Strength.

300 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-324-9)

eBook (978-3-03826-708-9)

<https://www.scientific.net/SSP.224/book>

### ■ Advances in Manufacturing Engineering

Edited by: Tomasz Giesko, Jerzy Smolik and Andrzej Zbrowski

**Solid State Phenomena Vol. 223**

Collection of selected, peer reviewed papers from the Conference on Future Engineering, September 25-26, 2014, Korytnica, Poland. The 43 papers are grouped as follows: Chapter 1: Materials Synthesis and Preparation, Chapter 2: Material Properties, Characterisation and Application, Chapter 3: Composites and Ceramics, Chapter 4: Films and Coatings, Chapter 5: Cathode Materials Research, Chapter 6: Biomedical Material Research.

404 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-335-5)

eBook (978-3-03826-719-5)

<https://www.scientific.net/SSP.223/book>

### ■ Nanomaterials

Edited by: Hardev Singh Virk

**Solid State Phenomena Vol. 222**

The present volume “Nanomaterials: Basic Concepts and Applications”, as the title suggests, deals with basic concepts and applications of nanomaterials, a buzz word in the modern world of Science and Technology. Because of advanced characterization and new fabrication techniques, nanomaterials are now central to multiple disciplines, including materials science, chemistry, physics, engineering and medicine. This special volume under Solid State Phenomena series will present an overview of recent research developments, including synthesis, characterization, and applications, in Nanoelectronics, Luminescence, Drug Delivery, Memristors, Solar Cells and Semiconductors.

212 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-337-9)

eBook (978-3-03826-721-8)

<https://www.scientific.net/SSP.222/book>

### ■ Ultra Clean Processing of Semiconductor Surfaces XII

Edited by: Paul Mertens, Marc Meuris and Marc Heyns

**Solid State Phenomena Vol. 219**

Collection of selected, peer reviewed papers from the 12th International Symposium on Ultra Clean Processing of Semiconductor Surfaces (UCPSS),

September 21-24, 2014, Brussels, Belgium. The 71 papers are grouped as follows: Chapter 1: Cleaning for FEOL Applications, Chapter 2: Cleaning for FEOL Applications: Beyond-Si Active Area, Chapter 3: Wet Etching for FEOL Applications, Chapter 4: Wet Processing of High Aspect Ratio Structures, Chapter 5: Fluid Dynamics, Cleaning Mechanics, Chapter 6: Photo Resist Performance and Rework, Chapter 7: Cleaning for BEOL Interconnect Applications, Chapter 8: Cleaning for 3D Applications, Chapter 9: Contamination Control and AMC, Chapter 10: Cleaning and Wet Etching for Semiconductor Photo-Voltaic Cells

350 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-242-6)

eBook (978-3-03826-626-6)

<https://www.scientific.net/SSP.219/book>

### ■ Advanced Materials and Structures V

Edited by: Mircea Nicoara and Carmen Opris  
**Solid State Phenomena Vol. 216**

Collection of selected, peer reviewed papers from the Fifth International Conference on Advanced Materials and Structures (AMS 2013), 24-25 October 2013, Timișoara, Romania. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 56 papers are grouped as follows: Chapter 1: Advanced Materials, Chapter 2: Materials Characterization, Chapter 3: Modern Processing Techniques

346 pages, 2014 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-212-9)

eBook (978-3-03826-595-5)

<https://www.scientific.net/SSP.216/book>

### ■ 2014 China Functional Materials Technology and Industry Forum

Edited by: Guangming Zhao, Lixin Chen, Yu Tang, Lang He, Bin Long, Zunyu Nie and Haohua Chen  
**Materials Science Forum Vols. 809-810**

Collection of selected, peer reviewed papers from the 2014 China Functional Material Technology and Industry Forum (CFMTIF 2014), August 26-28, 2014, Xi'an, China. The 149 papers are grouped as follows: Chapter 1: Nanoscale Materials and Nanocomposites; Chapter 2: Microscale Materials and Thick Films; Chapter 3: Polymer Materials; Chapter 4: Metallic Materials and Alloys; Chapter 5: Composites; Chapter 6: Biomaterials; Chapter 7: Thin Film and Coating Materials; Chapter 8: Optical, Electrical and Sensing

Material Properties; Chapter 9: Energy Materials; Chapter 10: Natural and Environmental Materials

948 pages, 2015 US\$ 400.00/€ 360.00 /GBP 280.00

Print (978-3-03835-352-2)

eBook (978-3-03826-737-9)

<https://www.scientific.net/MSF.809-810/book>

### ■ Advanced Functional Materials: Properties and Applications, Vol. II

Edited by: Dr. Inamuddin and Dr. Amir Al-Ahmed  
**Materials Science Forum Vol. 875**

Contributors of this collection have extensive experience at various field of development the materials and technology for advanced applications. This book is a result of collaboration between all contributing authors who agreed to share their research expertise as well as visions for the future materials development.

178 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1022-9)

eBook (978-3-0357-3022-7)

<https://www.scientific.net/MSF.875/book>

### ■ Corrosion and Surface Treatment in Industry

Edited by: Maroš Halama

**Materials Science Forum Vol. 844**

The background of scientific papers of this special issue is mainly result of EFC No.401 forum and together with practical "Corrosion training" will give you motivation to improve fight against corrosion. The papers divided into chapters: corrosion protection; measurement, assessment and prediction of corrosion rate; surface treatment and coatings.

210 pages, 2016 US\$ 170.00/€ 155.00 /GBP 120.00

Print (978-3-03835-525-0)

eBook (978-3-03826-995-3)

<https://www.scientific.net/MSF.844/book>

### ■ Advances in Abrasive Technology XIX

Edited by: Peter Krajnik, Amir Rashid, Hideki Aoyama, Xipeng Xu, Jun Wang

**Materials Science Forum Vol. 874**

This volume of journal "Materials Science Forum" was collected by results of 19th International Symposium on Advances in Abrasive Technology (ISAAT 2016, Stockholm, Sweden, October 2-5, 2016) and intended to disseminate the recent advances in

both conventional and nonconventional technologies of materials removal and covers many aspects of modern scientific and engineering practice in area of materials efmachining. Topics include: grinding and polishing, abrasive fine-finishing, micro- and nanomachining, ultrasonic and laser machining, surface integrity and materials characterization, as well as other advanced cutting technologies and etc. This book will be useful for academics and practicing engineers in advancement of the efficient materials removal technologies for modern mechanical engineering.

574 pages, 2016 US\$ 315.00/€ 285.00 /GBP 225.00

Print (978-3-0357-1034-2)

eBook (978-3-0357-3034-0)

<https://www.scientific.net/MSF.874/book>

### ■ Materials Engineering and Technologies for Production and Processing

Edited by: Prof. Andrey A. Radionov

**Materials Science Forum Vol. 843**

International Conference on Industrial Engineering (ICIE-2015) presents 49 articles by numerous participants from different countries on subject of materials engineering and technologies for production and processing. ICIE-2015 provides a forum for research scientists in academia and industries internationally to share ideas and discuss their latest research findings. The main aim of the book is to provide the reader with a review of the latest investigations in the field of modern functional materials and technologies and, also of cost-effective use of resources of metallurgy industry.

306 pages, 2016 US\$ 175.00/€ 160.00 /GBP 125.00

Print (978-3-03835-681-3)

eBook (978-3-0357-0164-7)

<https://www.scientific.net/MSF.843/book>

### ■ Properties and Application of Geopolymers

Edited by: Januarti Jaya Ekaputri and Antoni

**Materials Science Forum Vol. 841**

The objective of this book is the lighting of latest achievements in the field of development and application of geopolymers in various industries in aspect of using green materials for sustainable development.

224 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-544-1)

CD (978-3-03859-330-0)

eBook (978-3-0357-0015-2)

<https://www.scientific.net/MSF.841/book>

### ■ Emerging Functional Materials: Advances in Energy and Environmental Applications

Edited by: Alagarsamy Pandikumar, Nay Ming Huang and Hong Ngee Lim

**Materials Science Forum Vol. 832**

This Special Topic Volume includes only invited peer reviewed papers. The 14 papers cover different functional materials properties including nanoparticles in biomedical applications, methods of solar cells production and sensors implementation.

206 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-647-9)

eBook (978-3-0357-0128-9)

<https://www.scientific.net/MSF.832/book>

### ■ Surface Engineering and Materials in Mechanical Engineering

Edited by: Anna Guzanová, Dagmar Draganovská and Janette Brezinová

**Materials Science Forum Vol. 818**

Collection of selected, peer reviewed papers from the Surface Engineering 2014, October 23-24, 2014, High Tatras, Slovakia. The 72 papers are grouped as follows: Chapter 1: Surface Topography and Coatings; Chapter 2: Corrosion Processes and Corrosion Properties of Materials; Chapter 3: Surface Treatment of Wood; Chapter 4: Technological Properties of Materials for Mechanical Engineering; Chapter 5: Plastics and Composites

334 pages, 2015 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-03835-469-7)

eBook (978-3-03826-931-1)

<https://www.scientific.net/MSF.818/book>

## ■ Phase Transitions, Critical and Nonlinear Phenomena in Condensed Matter

Edited by: Vasily Buchelnikov, Vladimir Sokolovskiy and Mikhail Zagrebin

**Materials Science Forum Vol. 845**

This volume presents a selection from papers submitted to the International Conference "Phase transitions, critical and nonlinear phenomena in condensed matter". The papers selected for this volume tend to present to a reader recent advances in the fields of phase transitions and critical phenomena in condensed matter; mathematical modeling and computer simulation of phase transitions and critical phenomena; nonlinear phenomena and chaos in condensed matter; structural transformations in carbon materials and also recent results in the field of investigation of the meteorite "Chelyabinsk".

306 pages, 2016 **US\$ 225.00/€ 200.00 /GBP 155.00**

Print (978-3-03835-649-3)

eBook (978-3-0357-0130-2)

<https://www.scientific.net/MSF.845/book>

## ■ Basic Research of Materials

Edited by: Prof. Yafang Han, Xuefeng Liu and Ying Wu

**Materials Science Forum Vol. 817**

Collection of selected, peer reviewed papers from the Chinese Materials Congress 2014 (CMC 2014), July 4-7, 2014, Chengdu, China. The 118 papers are grouped as follows: Symposium S: Materials for Mechanical Engineering and Processing Technology

772 pages, 2015 **US\$ 375.00/€ 340.00 /GBP 265.00**

Print (978-3-03835-396-6)

eBook (978-3-03826-782-9)

<https://www.scientific.net/MSF.817/book>

## ■ High Performance Structural Material

Edited by: Prof. Yafang Han, Qiang Zhang and Bin Jiang

**Materials Science Forum Vol. 816**

Collection of selected, peer reviewed papers from the Chinese Materials Congress 2014 (CMC 2014), July 4-7, 2014, Chengdu, China. The 145 papers are grouped as follows: Symposium L: Metal Matrix and Ceramic Matrix Composites; Symposium M: High Temperature/Ultra-High Temperature Structural Materials, Surface and Coating Engineering; Symposium N: High Entropy Alloys and Special High Temperature Material; Symposium O: Advanced Magnesium Alloys and Application; Symposium P:

Superalloys; Symposium Q: Powder Metallurgy; Symposium R: Steel

930 pages, 2015 **US\$ 375.00/€ 340.00 /GBP 265.00**

Print (978-3-03835-395-9)

eBook (978-3-03826-781-2)

<https://www.scientific.net/MSF.816/book>

## ■ Advanced Functional Materials

Edited by: Prof. Yafang Han, Zhong Wei Gu

and Qiang Fu

**Materials Science Forum Vol. 815**

Collection of selected, peer reviewed papers from the Chinese Materials Congress 2014 (CMC 2014), July 4-7, 2014, Chengdu, China. The 127 papers are grouped as follows: Symposium E: Materials in Microelectronic and Optoelectronic Industry; Symposium G: Multiferroic Materials; Symposium H: Smart Materials; Symposium I: Vanadium-Titanium and Rare Earth Functional Materials; Symposium J: Biomedical Materials; Symposium K: High Performance And Functional Polymer and Composite Materials

780 pages, 2015 **US\$ 375.00/€ 340.00 /GBP 265.00**

Print (978-3-03835-394-2)

eBook (978-3-03826-780-5)

<https://www.scientific.net/MSF.815/book>

## ■ Energy and Environmental Materials II

Edited by: Prof. Yafang Han, Jiatao Zhang

and Jianguo Zhu

**Materials Science Forum Vol. 814**

Collection of selected, peer reviewed papers from the Chinese Materials Congress 2014 (CMC 2014), July 4-7, 2014, Chengdu, China. The 89 papers are grouped as follows: Symposium A: Energy Related Composites and Nano-Materials; Symposium B: Photocatalytic Materials and Its Applications in the Field of Energy and Environment; Symposium C: Minerals And Resources, Materials for Oil-Gas Field Engineering, Structure Building Applications; Symposium D: Environment Technologies and Functional Materials, Environmental Emission and Protection

598 pages, 2015 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-03835-393-5)

eBook (978-3-03826-779-9)

<https://www.scientific.net/MSF.814/book>

### ■ **Advanced Composites for Marine Engineering**

Edited by: Li Min Zhou, Prof. Yiu Wing Mai, Bo Ming Zhang, Ji Ze Mao and Hao Jiang

**Materials Science Forum Vol. 813**

Collection of selected, peer reviewed papers from the 1st International Conference on Advanced Composites for Marine Engineering (ICACME 2013), September 10-12, 2014, Beijing, China. The 43 papers are grouped as follows: Chapter 1: Numerical Methods and Analysis, Optimization, Algorithm and Modelling for Materials and Structures; Chapter 2: Applied Mechanics, Structural Analysis, Characterisation and Applications; Chapter 3: Advanced Composite Materials and Processes

380 pages, 2015 **US\$ 180.00/€ 165.00 /GBP 125.00**

Print (978-3-03835-406-2)

eBook (978-3-03826-795-9)

<https://www.scientific.net/MSF.813/book>

### ■ **Materials Science, Testing and Informatics VII**

Edited by: T. Berecz, K. Májlinger, I.N. Orbulov and P.J. Szabó

**Materials Science Forum Vol. 812**

Collection of selected, peer reviewed papers from the 9th Hungarian Conference on Materials Science, October 13-15, 2013, Balatonkenese, Hungary. The 75 papers are grouped as follows: Session I. - Materials and Technologies; Session II. - Materials Testing; Session III. - Modelling

516 pages, 2015 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-03835-389-8)

eBook (978-3-03826-774-4)

<https://www.scientific.net/MSF.812/book>

### ■ **Corrosion in Power Industry**

Edited by: Maroš Halama and Jan Stoullil

**Materials Science Forum Vol. 811**

Nowadays trend in application of eco policy, stricter legislative and globalisation in economy together with research and development in emerging technologies such as nanotechnology bringing also new corrosion challenges into the power industry sector. New alloys and composite materials, eco-friendly energy systems, effective monitoring techniques and sophisticated prediction methods contribute on safer and more reliable operation of energy units. All up-mentioned circumstances required interdisciplinary approach to build

perspective solutions with aim to minimize degradation process of components made from different materials used in power industry. In this special issue You can find papers dealing with application of nanotechnologies, corrosion monitoring techniques, materials characterisation but also several case studies from corrosion failures in power industry. All these information contribute on expansion of knowledge database, which is highly sufficient in the area with main aim to prevent against corrosion failures.

112 pages, 2015 **US\$ 135.00/€ 120.00 /GBP 95.00**

Print (978-3-03835-361-4)

eBook (978-3-03826-746-1)

<https://www.scientific.net/MSF.811/book>

### ■ **HeteroSiC & WASMPPE 2013**

Edited by: Marcin Zielinski

**Materials Science Forum Vol. 806**

Collection of selected, peer reviewed papers from the 2013 HeteroSiC-WASMPPE, June 17-19, 2013, Nice, France. The 25 papers are grouped as follows: Chapter 1: 3C-SiC – Epitaxy, Characterization and Devices; Chapter 2: 4H-SiC and 15R-SiC – Growth and Characterization; Chapter 3: Related Materials – Gallium Nitride, Graphene and Silicon; Chapter 4: SiC Devices and Device Processing

156 pages, 2015 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-294-5)

eBook (978-3-03826-678-5)

<https://www.scientific.net/MSF.806/book>

### ■ **Advancement in Manufacturing Processes**

Edited by: Rupinder Singh

**Materials Science Forum Vol. 808**

The manufacturing processes have been in evidence for the past hundred years and are being widely used in diverse areas. Among various manufacturing processes, casting, welding, forging, non-traditional manufacturing processes etc are commercially used as manufacturing solutions. This special issue provides an overview of emerging technologies to the areas of Rapid tooling, Rapid moulding, Rapid casting, Die castings, In-process measurement and monitoring for precision/ultra-precision processes, Surface characterisation, Metrology applied to precision/ultra-precision processes and Traditional and Non-Traditional machining processes. The readers from academics, researchers, industrial

practitioners and university students specialising in castings, rapid prototyping, manufacturing processes, and related fields may get benefit from these specialized papers.

134 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-350-8)

eBook (978-3-03826-735-5)

<https://www.scientific.net/MSF.808/book>

### ■ Geopolymer and Green Technology Materials

Edited by: Mohd Mustafa Al Bakri Abdullah, Liyana Jamaludin, Muhammad Faheem Mohd Tahir and Andrei Victor Sandu

**Materials Science Forum Vol. 803**

Collection of selected, peer reviewed papers from the 2014 Malaysia-Indonesia Geopolymer Symposium (MIGS 2014), May 11-12, 2014, Kuala Lumpur, Malaysia. The 57 papers are grouped as follows: Chapter 1: Aggregate, Chapter 2: Geopolymer Technology, Chapter 3: Green Materials, Chapter 4: Coating

394 pages, 2015 US\$ 175.00/€ 160.00 /GBP 125.00

Print (978-3-03835-233-4)

eBook (978-3-03826-617-4)

<https://www.scientific.net/MSF.803/book>

### ■ Advanced Powder Technology IX

Edited by: Francisco Ambrozio Filho and Aloisio Nelmo Klein

**Materials Science Forum Vol. 802**

Collection of selected, peer reviewed papers from the Ninth International Latin American Conference on Powder Technology (PTECH 2013), October 27 – 29, 2013, São Paulo, Brazil. The 114 papers are grouped as follows: Chapter 1: Synthesis; Chapter 2: Processing; Chapter 3: Properties; Chapter 4: Applications

672 pages, 2014 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-354-6)

eBook (978-3-03826-739-3)

<https://www.scientific.net/MSF.802/book>

### ■ Multi-Functional Nanoscale Materials and their Potential Applications

Edited by: Alagarsamy Pandikumar, Huang Nay Ming and Lim Hong Ngee

**Materials Science Forum Vol. 807**

Nanotechnology is now ubiquitous and deeply embedded in our day-to-day lives. Unknowingly, it has weaved seamlessly into various applications, making it impossible to look passed its importance. This volume is a compendium of review as well as research articles, providing a wide spectrum of bottom-up fabrication approaches and their utilization on multiple fronts. This volume will be valuable to scientists, academicians, engineers and students who are keen to discover the advances in nanotechnology for favourable materials construction techniques and applications in relation to human health, environment and engineering.

212 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-338-6)

eBook (978-3-03826-722-5)

<https://www.scientific.net/MSF.807/book>

### ■ Innovative Materials and Technologies

Edited by: M.M. Al Bakri Abdullah, Z. Yahya and M.A.A. Mohd Salleh

**Key Engineering Materials Vol. 700**

This special issue aims to provide a high level research paper for researchers, engineers and scientists to present their new advances and research results in the field of materials and innovative technologies for mechanical engineering, construction electronic packaging.

278 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-671-4)

eBook (978-3-0357-0152-4)

<https://www.scientific.net/KEM.700/book>

### ■ High Performance Concrete – Innovation & Utilization

Edited by: Gai-Fei Peng, Jun Zhang, Ting-Yu Hao and Fa-Guang Leng

**Key Engineering Materials Vols. 629-630**

Collection of selected, peer reviewed papers from the 10th International Symposium on High Performance Concrete – Innovation & Utilization (HPC 2014), September 16-18, 2014, Beijing, China. The 87 papers are grouped as follows: Chapter 1: High-Performance and Ultra-High Performance Concrete, Chapter 2: Concrete Durability and Mechanical Properties, Chapter 3: Fire Resistance, Chapter 4: Concrete Sustainability, Recycling and Utilization, Chapter 5: Mix Proportion Design and Hydration, Chapter 6: Self-Compacting Concrete, Chapter 7: Special Raw Materials, Concrete Composites and Additives,

Chapter 8: Structural Performance and Modeling,  
Chapter 9: Testing Methods, Evaluation and Quality  
658 pages, 2015 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-276-1)

eBook (978-3-03826-660-0)

<https://www.scientific.net/KEM.629-630/book>

### ■ Design, Manufacturing and Measurement for Advanced Optics

Edited by: Chen Xin, Lee Wingbun, Liu Qiang, Cheung ChiFai, To Suet and Wang Sujuan

**Key Engineering Materials Vol. 679**

This book comprises 36 papers presented in the 4th Asia Pacific Conference on Optics Manufacture (APCOM 2014), November 9-11, 2014, Guangzhou, China. APCOM 2014 aims to provide an exciting platform for the international exchange of latest research findings and developments in the area of optical design, advanced optics manufacturing technology and optical measurement.

224 pages, 2016 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-638-7)

eBook (978-3-0357-0119-7)

<https://www.scientific.net/KEM.679/book>

### ■ Bioceramics 30

Edited by: Chikara Ohtsuki, Hitoshi Hirata, Ayae Sugawara-Narutaki, Masakazu KAWASHITA and Masanobu Kamitakahara

**Key Engineering Materials Vol. 782**

This volume contains papers corresponding to communications presented at 30th Symposium and Annual Meeting of the International Society for Ceramics in Medicine (ISCM, October 26–29, 2018, Nagoya, Japan) and it continues the tradition of the Bioceramics series offering, generally to young researchers, the ability to publish the work they are eager to present to the community of specialists participating in the meeting. The originality of the Bioceramics series is that the papers are available before the meeting to allow deeper, more detailed discussions than those occurring in classical meetings where exchanges are often hampered by the limited time devoted to presentations. These

papers might not be perfect, but we believe that the basis for the discussions they provide is irreplaceable.

322 pages, 2018 US\$ 270.00/€ 245.00 /GBP 190.00

Print (978-3-0357-1374-9)

eBook (978-3-0357-3374-7)

<https://www.scientific.net/KEM.782/book>

### ■ Bioceramics 27

Edited by: Ika Dewi Ana, Kuwat Triyana

**Key Engineering Materials Vol. 696**

The presented collection include selected papers submitted to the Bioceramics 27 which describe of modern processing methods of bioceramics; bioceramic coatings; processes of biomineralization; utilization of bioceramics for drug delivery systems, tissue engineering and regenerative medicine. In this issue also are presented results of researches the interaction of cell and tissue with bioceramic elements and clinical applications of bioceramics in dentistry and orthopedics.

296 pages, 2016 US\$ 305.00/€ 275.00 /GBP 215.00

Print (978-3-0357-1040-3)

eBook (978-3-0357-3040-1)

<https://www.scientific.net/KEM.696/book>

### ■ Wear and Contact Mechanics II

Edited by: Luis Rodríguez-Templeque and Ferri M.H. Aliabadi

**Key Engineering Materials Vol. 681**

This special topic volume is a compilation of works contributed by experts from the international scientific community in the field of Wear and Contact Mechanics. The papers presented in this volume cover different aspects of the current areas of research in Wear and Contact Mechanics using new innovative theoretical, experimental and computational approaches. Numerical formulations are based on the finite element method (FEM) or the boundary element method (BEM) and their variants, i.e., Isogeometric analysis, p-version of finite elements and symmetric Galerkin boundary elements. A number of topics are addressed, such as computational wear and contact modeling with Isogeometric dual mortar methods, treatment of nonmatching interfaces, node-to-surface contact formulations for high-order elements and 3D problems, elastic-plastic contact between hard metal particles, friction in lubricated line contacts, running-in wear and fretting wear computing,

frictional contact problems between viscoelastic-solids, frictional indentation of functionally graded materials (FGM), electro-elastic contact modeling, estimation of contact parameters in finite element analysis and high technological applications, as auxetic microstructures modeling and duct-concrete contact interface in high curvature post-tensioned tanks.

246 pages, 2016 US\$ 155.00/€ 140.00 /GBP 110.00

Print (978-3-03835-745-2)

eBook (978-3-0357-0236-1)

<https://www.scientific.net/KEM.681/book>

### ■ Materials and Technologies in Construction with Reference to Energy Efficiency and Sustainable Development

Edited by: Mohammad Arif Kamal

**Key Engineering Materials Vol. 678**

This special topical volume on is aimed to cover the recent advancements and trends in the area of building materials with reference to energy efficiency and sustainable development. The volume will be of special interest to environmentally-minded producers of building materials and to engineers, architects and building professionals, but it may also be of use to readers and researchers who are interested in building construction but who lack specialist technical knowledge.

156 pages, 2016 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-658-5)

eBook (978-3-0357-0139-5)

<https://www.scientific.net/KEM.678/book>

### ■ Materials and Construction Technologies for Sustainable Development

Edited by: Mohammad Arif Kamal

**Key Engineering Materials Vol. 666**

Construction is a major industry in all countries and great deal of natural resources are consumed in buildings. Buildings have a significant and continuously increasing impact on the environment since they are responsible for a large portion of carbon emissions and use a considerable number of resources. This special volume on 'Materials and Construction Technologies for Sustainable Development' contains Eleven chapters which address a wide range of issues pertaining to building materials with reference to energy efficiency. The volume will be of special interest to environmentally conscious engineers, producers of building materials,

architects, building professional and it may also be useful to scientists and researchers.

154 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-613-4)

eBook (978-3-0357-0089-3)

<https://www.scientific.net/KEM.666/book>

### ■ Sustainable Building Materials and Materials for Energy Efficiency

Edited by: Mohammad Arif Kamal

**Key Engineering Materials Vol. 650**

This special topical volume on 'Sustainable Building Materials and Materials for Energy Efficiency' is aimed to cover the recent advancements and trends in the area of building materials with reference to energy efficiency and sustainability. Sustainable building materials minimizes the consumption of earth's resources and help in maintaining the ecosystem balance and in return proves to be economical, not just during construction but also year after year. Using sustainable building materials promotes conservation of dwindling nonrenewable resources internationally. Integrating sustainable and energy efficient building materials into building projects can help reduce the environmental impacts associated with the extraction, transportation, processing, fabrication, installation, reuse, recycling, and disposal of these building industry source materials. The volume will be of special interest to environmentally-minded producers and suppliers of building materials and to engineers, architects and building workers, but it may also be of use to readers and researchers who are interested in building construction but who lack specialist technical knowledge.

158 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-490-1)

eBook (978-3-03826-957-1)

<https://www.scientific.net/KEM.650/book>

### ■ **Electrophoretic Deposition: Fundamentals and Applications V**

Edited by: A.R. Boccaccini, J.H. Dickerson, B. Ferrari, O. Van der Biest and T. Uchikoshi

**Key Engineering Materials Vol. 654**

Collection of Selected, Peer Reviewed Papers from the 5th International Conference on Electrophoretic Deposition: Fundamentals and Applications, October 5-10, 2014, Hernstein, Austria. The 46 Papers are Grouped as Follows: I. Fundamentals of EPD; II. Novel Approaches and Modeling; III. Functional Films and Deposits; IV. EPD in Ceramic Processing; V. EPD of Biomaterials and Biological Entities; VI. Nanostructured Materials and Films; VII. Polymers and Composite Coatings; VIII. Advanced Experimental Techniques

300 pages, 2015 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-03835-497-0)

eBook (978-3-03826-964-9)

<https://www.scientific.net/KEM.654/book>

### ■ **Some Research Results on Bridge Health Monitoring, Maintenance and Safety V**

Edited by: Yang Liu

**Key Engineering Materials Vol. 648**

In China, the amount of deteriorating bridges is increasing gradually, and the costs of maintenance, repair and rehabilitation of these bridges far exceed available budgets. Internationally, above issue also is paid more attention. To alleviate this issue, the bridge engineering profession continues to take positive steps towards developing more comprehensive bridge monitoring and management systems. Therefore, it is significant to combine some good works that have been done in this field, which is the original objective to introduce the recent research results in the fields of bridge health monitoring, bridge maintenance and safety in the mainland of China. This project encompasses some aspects of bridge health monitoring, maintenance and safety. Specifically, it deals with: bridge health monitoring; bridge repair and rehabilitation issues; bridge related safety and other implications.

102 pages, 2015 **US\$ 120.00/€ 105.00 /GBP 85.00**

Print (978-3-03835-480-2)

eBook (978-3-03826-946-5)

<https://www.scientific.net/KEM.648/book>

### ■ **Proceedings of the 4th International Conference on Materials and Applications for Sensors and Transducers**

Edited by: J. Gutierrez, J.M. Barandiarán, Evangelos Hristoforou and Dr. Dimitros S. Vlachos  
**Key Engineering Materials Vol. 644**

These are the proceedings of the 4th International Conference on Materials and Applications for Sensors and Transducers, Bilbao, Spain. The collection covers a selection of 63 peer review papers covering up-to-date research result in the field. IC-MAST is an international annual held conference which tries to meet the needs for various types of sensors, particularly those ones which may be manufactured by low cost methods (i.e. hybrid sensors, smart specialization devices, particular applications not necessarily requiring integrated micro-nano technologies), covering all types of materials and physical effects.

306 pages, 2015 **US\$ 135.00/€ 120.00 /GBP 95.00**

Print (978-3-03835-441-3)

eBook (978-3-03826-897-0)

<https://www.scientific.net/KEM.644/book>

### ■ **New Materials and Processing Technologies**

Edited by: Tomasz Tokarski

**Key Engineering Materials Vol. 641**

Collection of selected, peer reviewed papers from the International Conference of Non-Ferrous Metals - Processing and New Technologies, June 4-6, 2014, Wisła, Poland. The 40 papers are grouped as follows: Chapter 1: Materials and Related Industrial Technologies; Chapter 2: Metalworking

344 pages, 2015 **US\$ 155.00/€ 140.00 /GBP 110.00**

Print (978-3-03835-446-8)

eBook (978-3-03826-904-5)

<https://www.scientific.net/KEM.641/book>

### ■ **Tribological Aspects in Modern Aircraft Industry**

Edited by: M. Karama, Karl Delbé and J. Denape  
**Key Engineering Materials Vol. 640**

The main objectives of this special issue (consisting mainly of a selection of extended papers presented at 5th International Symposium on AirCRAFT Materials ACMA 2014) are to push the current limits in modeling and computation in response to industrial and society challenges. It is also to control the

calculations and models in a framework that takes into account the major sources of uncertainty to optimize materials and structures. Particular attention is given to the modeling and validation of composite materials and structures.

62 pages, 2015 US\$ 80.00/€ 75.00 /GBP 60.00

Print (978-3-03835-425-3)

eBook (978-3-03826-811-6)

<https://www.scientific.net/KEM.640/book>

### ■ Sheet Metal 2015

Edited by: M. Merklein, J. Duflo, A. Leacock, F. Micari and H. Hagenah

#### Key Engineering Materials Vol. 639

Collection of selected, peer reviewed papers from the 16th International Conference on Sheet Metal (SheMet 2015), March 16-18, Erlangen-Nürnberg, Germany. The 70 papers are grouped as follows: Chapter 1: Keynote; Chapter 2: Forming; Chapter 3: Bending; Chapter 4: Incremental Forming; Chapter 5: Hot Stamping; Chapter 6: Sheet-Bulk Metal Forming; Chapter 7: Materials Testing; Chapter 8: Modelling; Chapter 9: Cutting and Joining; Chapter 10: Planning; Chapter 11: MatProFuture

594 pages, 2015 US\$ 280.00/€ 255.00 /GBP 195.00

Print (978-3-03835-450-5)

eBook (978-3-03826-911-3)

<https://www.scientific.net/KEM.639/book>

### ■ Materials and Technologies for Green Construction

Edited by: Mohammad Arif Kamal

#### Key Engineering Materials Vol. 632

The need of today is to have energy efficient buildings materials and construction technologies that cater to this rising need. Hence, selecting construction and finishing materials that have low embodied energy and have less operational and maintenance cost is the most powerful tool for the architects, designers and the constructors to achieve high energy efficiency in buildings. This special volume on 'Materials and Technologies for Green Construction' contains Ten chapters which address a wide range of issues pertaining to building materials and technologies with reference to energy efficiency. This volume demonstrates that alternatives to modern building materials are available and that

today it is possible to produce building materials and select raw materials from an ecological perspective.

150 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-329-4)

CD (978-3-03859-029-3)

eBook (978-3-03826-713-3)

<https://www.scientific.net/KEM.632/book>

### ■ Measurement and Quality Control of Processes and Products in Manufacturing and Enterprise

Edited by: Krzysztof Stepień

#### Key Engineering Materials Vol. 637

International Symposium on Measurement and Quality Control (ISMQC) is one of the most important scientific events that is normally held once in every three years in the field of measurements and quality control. During ISMQC 2013 that were selected by Programme Committee to be published in the Special Issue of "Key Engineering Materials" and one additional paper whose subject fits perfectly the scope of the symposium.

120 pages, 2015 US\$ 115.00/€ 100.00 /GBP 80.00

Print (978-3-03835-388-1)

eBook (978-3-03826-773-7)

<https://www.scientific.net/KEM.637/book>

### ■ Recent Highlights in Advanced Functional Materials and Biomedical Research

Edited by: Xinhua Yuan

#### Key Engineering Materials Vol. 636

Collection of selected, peer reviewed papers from the 8th International Conference on Molecular Imprinting (MIP 2014), September 18-21, 2014, Zhenjiang, China. The 37 papers are grouped as follows: Chapter 1: Engineering Materials; Chapter 2: Biotechnologies and Biomedical Engineering

214 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-382-9)

eBook (978-3-03826-767-6)

<https://www.scientific.net/KEM.636/book>

## ■ Material Engineering Practice IX

Edited by: Mária Mihaliková and Pavol Zubko

### Key Engineering Materials Vol. 635

These are the proceedings of the 9th Scientific-Technical Conference on "Material in engineering practice, 2014". Its content was intended to present innovative materials on improving the properties of materials and quality of materials and, also on the degradation of properties during operation. Special attention was paid to the prediction of mechanical and technology materials properties as well as modern methods for testing the characteristics of materials.

242 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-344-7)

eBook (978-3-03826-729-4)

<https://www.scientific.net/KEM.635/book>

## ■ Sustainable Construction Materials

Edited by: José Aguiar, Aires Camões, Raul Fangueiro, Rute Eires, Sandra Cunha and Mohammad Kheradmand

### Key Engineering Materials Vol. 634

The special topic volume includes selected and extended papers from the Luso-Brazilian Conference of Sustainable Construction Materials. This book contains extended papers selected and reviewed by the Scientific Committee, in areas such as Materials and Energy, Materials and Residues, Natural Materials and Materials and Repair.

580 pages, 2015 US\$ 265.00/€ 240.00 /GBP 185.00

Print (978-3-03835-351-5)

eBook (978-3-03826-736-2)

<https://www.scientific.net/KEM.634/book>

## ■ Testing and Evaluation of Inorganic Materials V

Edited by: Yiwang Bao, Danyu Jiang and Jianghong Gong

### Key Engineering Materials Vol. 633

Collection of Selected, Peer Reviewed Papers from the Proceedings of the Fifth Annual Meeting on Testing and Evaluation of Inorganic Materials, April 16-18, 2014, Guiyang, China. The 115 papers are grouped as follows: Chapter 1: Chemical Composition, Microstructure, Physical Properties and Technologies of Producing and Processing of Inorganic Materials, Chapter 2: Techniques and

Devices for Analysis and Testing of Materials Properties

552 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-333-1)

eBook (978-3-03826-717-1)

<https://www.scientific.net/KEM.633/book>

## ■ Bioceramics 26

Edited by: Maria-Pau Ginebra, Cristina Canal, Montserrat Espanol, Edgar B. Montufar and Roman A. Perez

### Key Engineering Materials Vol. 631

Collection of selected, peer reviewed papers from the 26th Symposium and Annual Meeting of the International Society for Ceramics in Medicine (BIOCERAMICS 26), November 6-8, 2014, Barcelona, Spain. The 76 papers are grouped as follows: I. Biostable Ceramics and Tough Ceramics; II. Glasses and Glass-ceramics; III. Calcium Phosphates; IV. Cements; V. Composites and Hybrid Materials; VI. Nanoparticles and Nanostructured Ceramics; VII. Coatings, Surface Engineering and Interfaces; VIII. Additive Manufacturing of Ceramics and Composites; IX. Scaffolds; X. Ceramics for Drug Delivery; XI. Cell-Material Interactions; XII. Preclinical Models: Animal Studies; XIII. Clinical Applications

472 pages, 2015 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-282-2)

eBook (978-3-03826-666-2)

<https://www.scientific.net/KEM.631/book>

## ■ Journal of Nano Research Vol. 39

Edited by: Prof. Alexei N. Nazarov, Prof. Volodymyr S. Lysenko, Prof. Denis Flandre, Dr. Yuri V. Gomeniuk

### Journal of Nano Research Vol. 39

This special volume is devoted to the new and fast evolving field of physics and technology of functional nanomaterials and devices. The published review and original research papers contain new experimental and theoretical results in the field of fabrication and utilization of functional nanomaterials and devices for modern micro- and nanoelectronics with special emphasis on technology, physics and diagnostics. The problems of application of new materials, structures and devices for low power consumption and energy harvesting as well as for nanosensors (of pressure, temperature, biological species), optoelectronic devices and

micro/nano-mechanical systems are addressed and discussed.

286 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-530-4)

eBook (978-3-0357-0000-8)

<https://www.scientific.net/JNanoR.39/book>

### ■ Progress in Thermodynamics, Diffusion, Ion and Proton Transport of Ionic Compounds and Ion-Conducting Polymer Films

Edited by: Helmut Mehrer

**Diffusion Foundations Vol. 8**

Ion conducting, proton conducting, and mixed conductor materials are important components of solid-state devices for energy storage and conversion and for energy production. The present volume of "Diffusion Foundations" is the second one of two volumes devoted to recent progress in structure, thermodynamics, ion and proton transport in ionic materials and in this volume ceramic materials and polymer membranes are in focus.

168 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1103-5)

eBook (978-3-0357-3103-3)

<https://www.scientific.net/DF.8/book>

### ■ Heat and Mass Transfer in Porous Materials

Edited by: J.M.P.Q. Delgado

**Diffusion Foundations Vol. 7**

This volume includes theoretical, numerical and experimental developments, providing a self-contained major reference that is appealing to both the scientists and the engineers from area of Heat and Mass Transfer.

196 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-570-0)

eBook (978-3-0357-0043-5)

<https://www.scientific.net/DF.7/book>

### ■ Progress in Ion Transport and Structure of Ion Conducting Compounds and Glasses

Edited by: Helmut Mehrer

**Diffusion Foundations Vol. 6**

Solid electrolytes are important components of for all-solid-state devices of energy storage and

conversion. A prerequisite for such applications is a knowledge about ion transport in the device materials. The present volume contains a series of five chapters by experienced authors from the field of diffusion and ionic conduction. The chapters are devoted to various aspects of ion transport in compounds and glasses studied by theoretical and experimental methods.

206 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1025-0)

eBook (978-3-0357-3025-8)

<https://www.scientific.net/DF.6/book>

### ■ Structure, Thermodynamics and Diffusion Properties of Grain Boundaries and Interfaces

Edited by: Vladimir V. Popov and Elena N. Popova

**Diffusion Foundations Vol. 5**

The majority of materials, especially metals, are used in the form of polycrystals. It is well recognized that many properties of polycrystalline materials are determined by grain boundaries (GBs). Grain boundaries appreciably affect many practically important mechanical and physical properties of construction materials. Grain-boundary diffusion plays a key role in such practically important processes as Coble creep, sintering, diffusion induced grain boundary migration (DIGM), various discontinuous reactions, recrystallization and grain growth. The purpose of this Volume is to provide a collection of recent contributions in the field of structure, thermodynamics and diffusion properties of grain boundaries and interfaces. The Volume includes reviews of both experimental and theoretical studies carried out by well-recognized scientists whose publications are well-known and widely cited.

286 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-517-5)

eBook (978-3-03826-987-8)

<https://www.scientific.net/DF.5/book>

### ■ Diffusion in High-Tech Materials

Edited by: Prof. Helmut Mehrer

#### Diffusion Foundations Vol. 17

This volume is dedicated to the memory of Professor Dr. Nicolaas Augustinus Stolwijk whose works were related to the study of a wide spectrum of diffusion processes in metals, intermetallic compounds, semiconductors, solar grade silicon, polymer electrolytes and in minerals.

160 pages, 2018 US\$ 145.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1290-2)

eBook (978-3-0357-3290-0)

<https://www.scientific.net/DF.17/book>

### ■ Diffusion Phenomena in Engineering Materials

Edited by: Prof. Irina V. Belova, Prof. Graeme E. Murch and Andreas Öchsner

#### Diffusion Foundations Vol. 4

This volume of Diffusion Foundations entitled Diffusion Phenomena in Engineering Materials captures an important cross section of the contemporary scene of diffusion in solids, ranging from the fundamental science of diffusion through to the application of diffusion concepts in technology. The chapters are written by well-acknowledged experts in their respective areas. In the first chapter, Professor Dayananda provides an in-depth overview of some of the important findings from the vast literature on multicomponent diffusion in alloys. In Chapter 2, Professors Belova and Murch and co-workers describe a new solution to the important problem of accurately estimating a tracer diffusivity in a binary alloy, given the other tracer diffusivity, the interdiffusivity and thermodynamic factor. This is followed by Chapter 3 where Professor Lidiard gives a penetrating perspective on the state of knowledge about the Soret effect and thermodiffusion (thermotransport) in solids. In Chapter 4, Professor Kozłowski and colleagues describe important new findings about the critical dimensions of ferromagnetic nanoparticles of iron. This is followed by Chapter 5 where Professor Cimenoglu and co-workers present an in-depth overview of surface hardening of titanium and its alloys by way of diffusion of the interstitial atoms of oxygen, nitrogen and boron. In Chapter 6 Professor Morton-Blake describes fascinating new molecular dynamics simulations of sodium and chloride ions in a synthetic ion channel in a membrane. Finally, in Chapter 7, Professor Seetharaman and colleagues

describe the important role of diffusion phenomena in process metallurgy. We wish to thank the authors for their prompt contributions and the reviewers for their input.

170 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-496-3)

eBook (978-3-03826-963-2)

<https://www.scientific.net/DF.4/book>

### ■ Heat and Mass Transfer Processes: New Developments and Applications

Edited by: J.M.P.Q. Delgado

#### Diffusion Foundations Vol. 3

The purpose of this Volume is to provide a collection of recent contributions in the field of heat and mass transfer in porous media. It includes a set of new developments in the field of basic and applied research work on the physical and chemical aspects of heat and mass transfer phenomena in a porous medium domain, as well as related material properties and their measurements. This volume contents include both theoretical and experimental developments, providing a self-contained major reference that is appealing to both the scientists and the engineers. The topics that will be presented in this Volume will be going to the encounter of a variety of scientific and engineering disciplines, such as chemical, civil, agricultural, mechanical engineering, etc. The book is divided in several chapters that intend to be a resume of the current state of knowledge for benefit of professional colleagues, scientists, students, practitioners, lecturers and other interested parties to network. In Chapter 1, Prof. Pereira and colleagues presents a numerical analysis of heat and mass transport during drying of grains with particular reference to bean and rough rice. In Chapter 2, Prof. Delgado discuss a method for determining the coefficient of transverse dispersion in flow through packed beds, which is based on the measurement of the rate of dissolution of planar or cylindrical surfaces, buried in the bed and aligned with the flow direction. In Chapter 3, Professors Delgado and Vázquez da Silva report the use of Darcy flow theory for mass transfer around a sphere buried in a granular bed to numerically obtain the concentration boundary layer thickness of a soluble sphere over a wide range of values of relevant parameters. This is followed by Chapter 4 by Professors Malico and Ferreira de Sousa who presents the extension of a compact finite difference immersed boundary method for the detailed calculation of fluid flow and heat transfer in

porous media. In Chapter 5, Prof. Almeida Cruz and colleagues presents a theoretical and experimental study about water absorption in unsaturated polyester polymer composites reinforced with vegetable fibers, with particular reference to macambira fiber. In Chapter 6, Professors Kacur and Minár present a method for the determination of the hydraulic permeability for flow in partially saturated porous media. This is followed by Chapter 7 by Prof. Barreira and colleagues who present a detailed analysis of the drying kinetics of solid red bricks. In Chapter 8, Prof. Almeida and colleagues analyse the hygrothermal performance and degradation of gypsum houses in different Brazilian climates. In Chapter 9, Prof. Miguel presents the key mechanisms behind pedestrian dynamics, namely individual and collective patterns of motion. In Chapter 10, Prof. Gorbachev and colleagues simulate the precipitates evolution in steels with Nb and V, in which two carbonitride phases can coexist. Finally, in Chapter 11, Prof. Freitas and colleagues presents a detailed case study to evaluate the performance over time of adhesive systems for bonding ceramic tiles used on the façades of a building located near the sea.

166 pages, 2015 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-373-7)

eBook (978-3-03826-758-4)

<https://www.scientific.net/DF.3/book>

### ■ Transfer Phenomena in Fluid and Heat Flows V

Edited by: Dr. Stanislav Kolisnychenko  
**Defect and Diffusion Forum Vol. 384**

This volume of the journal “Defect and Diffusion Forum” presents readers with the special issue “Transfer Phenomena in Fluid and Heat Flows V” which contains articles covering theoretical and practical aspects of modeling and numerical investigation of the diffusion in solid materials, diffusive convection, magnetohydrodynamic mixed convective flows and heat transfer phenomena in different media and engineering objects.

148 pages, 2018 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1441-8)

eBook (978-3-0357-3441-6)

<https://www.scientific.net/DDF.384/book>

### ■ Transfer Phenomena in Fluid and Heat Flows III

Edited by: Dr. Stanislav Kolisnychenko  
**Defect and Diffusion Forum Vol.374**

The special issue “Transfer Phenomena in Fluid and Heat Flows III” of the journal “Defect and Diffusion Forum” presents papers covering theoretical and practical aspects of modeling and numerical investigation of the diffusive convection, magnetohydrodynamic mixed convective flows and heat transfer phenomena in different media and engineering objects. We hope that our special issue will be very interesting and useful for a wide audience of researchers and engineers from various fields of human activity.

168 pages, 2017 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-0357-1211-7)

eBook (978-3-0357-3211-5)

<https://www.scientific.net/DDF.374/book>

### ■ Transport Problems with a Focus on Fluid and Heat Flow

Edited by: Antonio F. Miguel,  
Luiz Alberto Oliveira Rocha and Andreas Öchsner  
**Defect and Diffusion Forum Vol. 379**

The presented volume “Transport Problems with a Focus on Fluid and Heat Flow” in the journal “Defect and Diffusion Forum” covers in a wider sense diffusion related phenomena. The basic phenomena of heat and mass transfer play an important role in basic and applied research and this volume presents a balanced collection of recent developments in this area.

206 pages, 2017 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1342-8)

eBook (978-3-0357-3342-6)

<https://www.scientific.net/DDF.379/book>

### ■ Diffusion Phenomena: Aspects of Characterization and Experiments

Edited by: Prof. Andreas Öchsner, Prof. Irina V. Belova and Prof. Graeme E. Murch  
**Defect and Diffusion Forum Vol. 367**

Present issue is devoted to problems classical mass diffusion such as phase transformations, corrosion behavior, coatings and microstructures and extensions to new research in the field of nanotechnology. Were investigated classical carbon and alloy steels, titanium and aluminum alloys as well as polymer materials. Technical applications

relate to oil recovery, surface quality, and improved material properties for machining and processing. Many of these topics are related to experimental measurements and methods as well as numerical simulation and approaches to predict properties and processes.

204 pages, 2016 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1003-8)

eBook (978-3-0357-3003-6)

<https://www.scientific.net/DDF.367/book>

### ■ Flow Phenomena: Fluids, Heat and Mass

Edited by: Antonio F. Miguel,  
Luiz Alberto Oliveira Rocha and Andreas Öchsner  
**Defect and Diffusion Forum Vol. 366**

In this issue are published results of high-tech application of computational modeling and simulation the dynamics of different flows, heat and mass transfer in different fields of science and engineering.

210 pages, 2016 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-03835-798-8)

eBook (978-3-0357-0289-7)

<https://www.scientific.net/DDF.366/book>

### ■ Recent Developments of Diffusion Processes and their Applications: Fluid, Heat and Mass

Edited by: Andreas Öchsner, Prof. Irina V. Belova  
and Prof. Graeme E. Murch

**Defect and Diffusion Forum Vol. 364**

This topical volume on "Recent Developments of Diffusion Processes and their Applications: Fluid, Heat and Mass" addresses diffusion in a wider sense with a special focus on technical applications. Diffusion phenomena play an important role in the development of modern engineering materials and related fields. Understanding these different transport phenomena at many levels, from atomistic to macro, has therefore long attracted the attention of many researchers in materials science and engineering and related disciplines. The present topical volume captures a representative cross-section of some of the recent advances in the area of diffusive transport. Reflecting the enormous breadth of the area, the range of topics covered is accordingly very large. Topics include classical mass diffusion problems such as phase transformations, corrosion

behavior, thin layers and microstructures. Technical applications related to fuel production and energy conversion, biological and biomedical material are treated. Many of these topics are related to experimental measurements and methods as well as simulation and approaches to predict properties and processes.

215 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-454-3)

eBook (978-3-03826-915-1)

<https://www.scientific.net/DDF.364/book>

### ■ Fluid Flow, Energy Transfer and Design II Defect and Diffusion Forum Vol. 362

Fluid flow, thermodynamics and heat/mass transfer are nowadays central pillars of science and technology. They have been central to the development of our civilization because we use them not only to understand natural-world phenomena but also to achieve incremental improvements in technology. The special session "Fluid Flow, Energy Transfer and Design" held at the 10th International Conference on Diffusion in Solids and Liquids (DSL 2014) includes papers of different areas ranging from physics, mathematics and chemistry to engineering and provided several contributions for this topical volume. Other experts in the field of heat and mass transfer were as well invited to contribute to this volume.

262 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-439-0)

eBook (978-3-03826-895-6)

<https://www.scientific.net/DDF.362/book>

### ■ Diffusion in Materials

Edited by: S.V. Divinski, H. Bracht and N.A. Stolwijk  
**Defect and Diffusion Forum Vol. 363**

Collection of selected, peer reviewed papers from the International Conference on Diffusion in Materials (DIMAT 2014), August 17-22, 2014, Münster, Germany. The 34 papers are grouped as follows: Chapter 1: Reactions and Interdiffusion in Binary and Multicomponent Systems; Chapter 2: Ion Transport; Chapter 3: Defects, Stresses and Relaxation; Chapter 4: Short-Circuit Diffusion; Chapter 5: Diffusion Phenomena under Strong Gravitation; Chapter 6: Diffusion-Related

Phenomena; Chapter 7: Advanced Methods of Diffusion Measurement

250 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-427-7)

eBook (978-3-03826-813-0)

<https://www.scientific.net/DDF.363/book>

## ■ Luminescent Materials and their Applications

Edited by: Hardev Singh Virk

**Defect and Diffusion Forum Vol. 361**

It is pertinent to note that Luminescence phenomenon has once again occupied a central stage with the announcement of Nobel Prize in October 2014 to three Japanese scientists. The discovery of Gallium Nitride proved to be a revolutionary step forward in creation of Blue LEDs. With the advent of LED lamps, we now have more long-lasting and more efficient alternatives to older light sources. The Volume under reference consists of 9 Chapters, written by experts in the area of Luminescent Materials. First 5 Chapters are contributed as Review Papers and the last 4 are based on Research Papers. Chapter 1 is contributed by H.S. Virk, editor of this Volume, under the Title: "History of Luminescence from Ancient to Modern Times". It traces the history of Luminescence based on E. Newton Harvey's 770-page volume, which is a Classic in this area and narrates interesting stories from ancient cultures to modern times. The author has summarized the results of investigations of Bangalore Group under Sir CV Raman, the Indian Nobel Laureate of 1930. He has called "The Physics Nobel Prize 2014," an Award for Luminescence. Chapter 2 is contributed by Sanjay Tiwari and JV Yakhmi on an important Topic: "Recent Advances in Luminescent Nanomaterials for Solid State Lighting Applications". In fact, the recent Nobel Prize 2014 in Physics has been awarded for development of Luminescent Materials. The authors write: "Luminescent nanomaterials have attracted great interest worldwide because of their unusual structural, optical and electronic properties as well as efforts to prepare miniaturised devices. By understanding and manipulating these properties, the performance of the resulting optical structure can be tailored for desired end-use applications". Chapter 3: "Persistence Mechanisms and Applications of Long Afterglow Phosphors" is contributed by NPL, New Delhi Group of V. Shankar and D. Haranath. The authors present a broad review of long persistence (LP) materials that are a special kind of photon energy storage and conversion

materials. These are also known as long afterglow phosphors or long decay phosphors (LDP). This review Paper covers the recent advances in the blue, green and red-emitting LP phosphors/nanophosphors, persistence mechanism involved, and the basic problems associated with their luminescence efficiency and persistence times. Chapter 4 by the Group of SK Omanwar: "Exploring Synthesis Techniques for Yttrium Based Phosphors" is focused on synthesis techniques developed by author's group. An inter-comparison of various techniques is listed, and data presented in 9 tables. The synthesis methods of yttrium based phosphors in terms of the particle sizes, morphology, required temperatures for synthesis, cost required for synthesis, and required time, are presented in this review in detail. Chapter 5 is contributed by the team of BP Chandra, a renowned scholar in ML, under the title: "Mechanoluminescence of Coloured Alkali Halide Crystals". It is one of the longest Chapters in this volume and focusses on both Theoretical and Experimental aspects of elasto-mechanoluminescence (EML), plasto-mechanoluminescence (PML) and fracto-mechanoluminescence (FML) of coloured alkali halide crystals in all details. Chapters 6 & 7 are contributed by an upcoming Group working under Dr Sanjay Dhoble of RTM university Nagpur. The authors investigate PL and TL properties of  $\text{Eu}^{2+}$  and  $\text{Ce}^{3+}$  Activated  $\text{BaAlSi}_5\text{O}_{27}$  Phosphors in the 6th Chapter: "Photoluminescence and Thermoluminescence Properties of  $\text{Eu}^{2+}$  and  $\text{Ce}^{3+}$  Activated  $\text{BaAlSi}_5\text{O}_{27}$  Phosphors". TL dose response of  $\text{BaAlSi}_6\text{O}_{27}:\text{Eu}^{2+}$  Phosphor was found to be linear in the dose range from 5.8 mGy to 22.5 mGy, and above this, it goes to the saturation level. 7th chapter: "Photoluminescence Properties of  $\text{YAl}_3(\text{BO}_3)_4:\text{RE}^{3+}$  ( $\text{RE}=\text{Ce}/\text{Dy}/\text{Tb}$ ) Phosphors" is also focused on PL properties of phosphors. It was found that this phosphor acts as a potential color tunable UV phosphor for white light LED devices. Chapters 8 & 9 are contributed by Meera Ramrakhiani Group of RD University, Jabalpur. EL studies have been made by this group of young researchers in their contributed Papers: "Electroluminescence in Organically Capped  $\text{Cd}^{1-x}\text{Zn}_x\text{Se}$  Chalcogenide Nanocrystals" and "Synthesis and Electroluminescence of Silver Doped  $\text{ZnS}/\text{PVK}$  Nanocomposite", respectively. It is interesting to note that research work on Nanocomposites has been recognized to boost the economy at global level. Effect of Silver doping and ZnS loading has been

investigated on the performance of ZnS/PVK nanocomposite in the last Chapter of this Volume.

256 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-399-7)

eBook (978-3-03826-785-0)

<https://www.scientific.net/DDF.361/book>

### ■ Planar-Defect Energies

Edited by: D.J. Fisher

**Defect and Diffusion Forum Vol. 359**

Energy, and especially its minimization, are factors which govern all physical processes. Given sufficient time and thermal activation, for instance, grain boundaries will move so as to tend towards a regular array of 14-sided grains. When a grain boundary intercepts a surface, the energies of the surface and boundary govern the precise form of the triple-point. Regions of mismatch within the solid, especially those associated with dislocations, interfere with dislocation cross-slip and thereby affect mechanical properties. The present volume comprises a compilation of measured values of the energies of various planar defects in solids: including grain boundaries, stacking-faults, twins, etc. for a wide range of material groups: metals, semiconductors, oxides, carbides, diamond, graphite, nitrides, halides, ice, and various minerals. The 451 entries cover the period from 1958 to 2014.

206 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-332-4)

eBook (978-3-03826-716-4)

<https://www.scientific.net/DDF.359/book>

### ■ Point Defect Energies

Edited by: D.J. Fisher

**Defect and Diffusion Forum Vol. 360**

The point defect is just one of the menagerie of defects (comprising dislocations, dislocations, discommensurations, stacking-faults, antiphase boundaries, etc.) which affect the mechanical and other properties of all materials. The class of point defect can be further divided into interstitial, substitutional and antisite. Various combinations of these defects lead to pairings such as those of Frenkel and Shottky type. The present volume comprises a compilation of selected data concerning point defects in metals, semiconductors, carbon and carbides, nitrides, halides, oxides and miscellaneous materials including solid inert gases. Not mentioned here are Stone-Wales defects, which were covered in volume

356. The 458 entries of the present volume cover the period from 1962 to 2014.

228 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-397-3)

eBook (978-3-03826-783-6)

<https://www.scientific.net/DDF.360/book>

### ■ Monte Carlo Diffusion Studies

Edited by: D.J. Fisher

**Defect and Diffusion Forum Vol. 358**

The Monte Carlo method, largely the brainchild of Stanislaw Ulam and first implemented by John von Neumann, depends upon the use of digital computers and is therefore very much a product of post-WW2 technological developments; even though one could argue that the Buffon's Needle estimate was an ancestor of the technique. The probabilistic nature of the method makes it a good choice for modeling those physical phenomena which involve similarly random motions at the atomic scale; a particularly good example being that of mass diffusion. The present volume comprises a compilation of selected Monte Carlo studies of diffusion in borides, carbides, diamond, graphene, graphite, hydrides, ice, metals, oxides, semiconductors, sulfides, zeolites and other materials. General aspects of diffusion are also covered. The 516 entries cover the period from 1966 to 2014.

266 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-266-2)

eBook (978-3-03826-650-1)

<https://www.scientific.net/DDF.358/book>

### ■ Luminescence

Edited by: Hardev Singh Virk

**Defect and Diffusion Forum Vol. 357**

The word luminescence was first used by a German physicist, Eilhardt Wiedemann, in 1888. He also classified luminescence into six kinds according to the method of excitation. No better basis of classification is available today. He recognized photoluminescence, thermoluminescence, electroluminescence, crystalloluminescence, triboluminescence, and chemiluminescence. The designations are obvious, characterized by the prefix. This Volume consists of 9 Chapters, including 8 Review Papers and one Case Study. The first two papers are based on OLEDs. Organic light emitting diodes (OLEDs) have been the focus of intense study since the late 1980s. Since that time, research has continued to demonstrate the potential of OLEDs as

viable systems for displays and eco-friendly lighting applications. Thejokalyani and Sanjay Dhoble have given historical introduction to OLEDs in the first chapter under the title "Importance of Eco-friendly OLED Lighting". They describe core fabrication technologies and applications of OLEDs in their paper. V. K. Chandra et al. have covered both theoretical and experimental aspects in their paper, "Organic Light - Emitting Diodes and their Applications" in the most rigorous way. This Chapter describes the salient features of OLEDs and discusses the applications of OLEDs in displays and solid state lighting devices. Organic-inorganic hybrid nanocomposite materials have been of great interest for their extraordinary performances. Interaction between the polymer matrix and nanocrystalline fillers produces wonderful features, viz. thermal, magnetic, mechanical, electrical and optical properties to these materials. S.K. Tripathi et al. have reviewed the present status of II-VI polymer nanocomposites from the photoluminescence studies point of view in the 3rd Chapter.

Electroluminescence in undoped and doped chalcogenide nanocrystals and nanocomposites is reviewed in 4th Chapter by Meera et al. Nanocrystalline powder samples of CdS, CdSe, ZnS and ZnSe nanocrystals and their composites with PVA and PVK have been prepared by chemical route and investigated in detail. Chapters 5 and 6 are contributed by RK Gartia on two important topics: "Thermoluminescence of Persistent Luminescent Materials" and "Design of Inorganic Scintillators: Role of Thermoluminescence". The author has demonstrated the application of TL, by virtue of its inherent sensitivity coupled with its universal applicability, to investigate practically all semiconducting/inorganic materials in terms of their trap- spectroscopy. Chapter 7 by Rabiul Biswas deals with application of luminescence to earth and planetary sciences. The author discusses some landmarks and recent developments in this field of luminescence dating with stress on extending the dating range. Chapter 8 by Jain and Bøtter-Jensen is focused on the developments around the Risø-TL/OSL reader which is popular amongst the dating community. The 9th Chapter is added as a case study. The authors, JN Reddy and KVR Murthy, claim that the primary objective of their PC Controlled TL Reader is to bring out versatile TL instrumentation system and also to make it affordable to many of the researchers in the Universities and other areas, including Radio-therapy and Medical Physics.

260 pages, 2014 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-195-5)

eBook (978-3-03826-578-8)

<https://www.scientific.net/DDF.357/book>

### ■ **Nanomaterials: Science, Technology and Applications**

Edited by: R. Vasanthakumari, I.B. Shameem Banu, Takuya Tsuzuki and Abdul Hadi

**Advanced Materials Research Vol. 938**

Collection of selected, peer reviewed papers from the International Conference on Nanomaterials: Science, Technology and Applications (ICNM'13), December 5-7, 2013, Chennai, India. The 54 papers are grouped as follows: I. Nano Materials: Synthesis and Characterisation, II Electrical, Magnetic, Optical Properties of Nanomaterials, III. Polymers and Nanocomposites, IV. Bio Nanomaterials and their Applications, V. Nanomaterials: Energy & Environment, VI. Nanomaterials: Theoretical and Computational Studies

350 pages, 2014 US\$ 180.00/€ 165.00 /GBP 125.00

Print (978-3-03835-098-9)

eBook (978-3-03826-479-8)

<https://www.scientific.net/AMR.938/book>

### ■ **Sustainable Energy and Environmental Engineering III**

Edited by: Seung-Bok Choi and Yun-Hae Kim

**Advanced Materials Research Vols. 1092-1093**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Sustainable Energy and Environmental Engineering (ICSEEE 2014), December 30-31, 2014, Shenzhen, China. The 316 papers are grouped as follows: Chapter 1: Development and Utilization of Solar Energy, Biomass Energy, Wind Energy and other New Energies; Chapter 2: Materials and Chemical Engineering for Using and Storage of Energy, Fuel Cells; Chapter 3: Power Engineering and Power Systems, Automation, High Voltage and Insulation Technology in Power Systems; Chapter 4: Power System Management; Chapter 5: Engineering Thermal Physics and Applied Thermal Engineering; Chapter 6: Green Building Materials, Ecological Buildings, Energy-Saving Buildings and Architectural Environment Analysis; Chapter 7: Environmental Chemistry and Biology, Animal and Plant Protection, Animal and Plant Resources Utilization; Chapter 8: Environmental Safety and Health, Disaster Prevention and Mitigation; Chapter 9: Environmental Planning, Assessment, Analysis, Monitoring and

Protection; Chapter 10: Pollution Control and Prevention, Disposal and Recycling of Waste; Chapter 11: Ecological Environmental Protection; Chapter 12: Hydrology, Water Resources and Water Supply; Chapter 13: Soil and Water Conservation and Desertification Control; Chapter 14: Geographic Information Science and Remote Sensing; Chapter 15: Mineral, Oil and Gas Resources: Prospecting, Exploration, Mining and Processing; Chapter 16: Agricultural Products Processing and Biological Pharmaceutical; Chapter 17: Energy-Saving, Low-Carbon, Eco-Economy, Circular Economy, Environmental Protection and Economic Development

1734 pages, 2015 US\$ 375.00/€ 340.00 /GBP 265.00

Print (978-3-03835-422-2)

eBook (978-3-03826-808-6)

<https://www.scientific.net/AMR.1092-1093/book>

### ■ Tribology in Manufacturing Processes & Joining by Plastic Deformation

Edited by: Peter Groche

**Advanced Materials Research Vols. 966-967**

Collection of selected, peer reviewed papers from the 6th International Conference on Tribology in Manufacturing Processes & Joining by Plastic Deformation, June 22-24, 2014, Darmstadt, Germany. The 63 papers are grouped as follows: Chapter 1: Plenary Keynotes, Chapter 2: Wear and Friction Testing, Chapter 3: Machining Operations, Chapter 4: Sheet Forming, Chapter 5: Massive Forming, Chapter 6: Lubrication and Surface Treatments, Chapter 7: Metallurgical Joining, Chapter 8: Simulation of Joining Processes, Chapter 9: Mechanical Joining

730 pages, 2014 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-127-6)

eBook (978-3-03826-510-8)

<https://www.scientific.net/AMR.966-967/book>

### ■ Civil, Materials and Computing Engineering

Edited by: Wen-Pei Sung and Jimmy (C.M.) Kao

**Advanced Materials Research Vols. 1079-1080**

Collection of selected, peer reviewed papers from the 2014 International Conference on Civil, Materials and Computing Engineering (ICCMC 2014), December 6-7, 2014, Taiwan. The 277 papers are grouped as follows: Chapter 1: Materials Engineering and Technologies, Chapter 2: Applied Mechanics, Geo Science, Building, Structural and Civil Engineering, Chapter 3: Power,

Energy and Thermal Research, Environmental Engineering, Chapter 4: Mathematical Analysis, Computer Science, Communication and Information Technologies, Chapter 5: Mechanical Engineering, Measurement, Control and Automatisation, Chapter 6: Engineering Management, Business and Economics.

1400 pages, 2015 US\$ 445.00/€ 400.00 /GBP 310.00

Print (978-3-03835-366-9)

eBook (978-3-03826-751-5)

<https://www.scientific.net/AMR.1079-1080/book>

### ■ Environmental Protection and Resource Utilization IV

Edited by: Yubin Tang, Qunjie Xu and Yulin Min

**Advanced Materials Research Vols. 1073-1076**

Collection of selected, peer reviewed papers from the 4th International Conference on Energy, Environment and Sustainable Development (EESD 2014), October 25-26, 2014, Nanjing, China. The 555 papers are grouped as follows: Chapter 1: Environmental Materials And Processing Technology; Chapter 2: Environmental Chemistry And Biology; Chapter 3: Environmental Safety And Health; Chapter 4: Environmental Planning And Assessment; Chapter 5: Environmental Analysis, Detection And Monitoring; Chapter 6: Environmental Restoration Engineering; Chapter 7: Pollution Control Engineering And Removal Technologies; Chapter 8: Waste Disposal And Recycling; Chapter 9: Water Supply And Drainage; Chapter 10: Forest Cultivation And Protection, Plants Protection; Chapter 11: Ecological Environment And Architectural Environment Protection; Chapter 12: Green Building Engineering And Management, Energy-Efficient And Energy Saving Engineering; Chapter 13: Urban And Regional Planning, Land Resources Planning; Chapter 14: Engineering Management And Project Management; Chapter 15: Disaster Prevention And Mitigation; Chapter 16: Hydrology, Water Resources Engineering, Soil And Water Conservation; Chapter 17: Agricultural Products Processing, Biological Pharmaceutical And Sustainable Agriculture; Chapter 18: Geographic Information Science And Remote Sensing; Chapter 19: Geology Of Mineral Prospecting And Exploration; Chapter 20: Technologies In Mining And Mineral Processing Industry; Chapter 21: Geology Of Oil And Gas, Well Development Projects; Chapter 22: Sustainable Development Of Logistics And Transportation Networks; Chapter 23: Demand, Supply, Development, Management Of Energy And

## Materials Science & Engineering

Resources; Chapter 24: Environmental Protection And Low Carbon Ideas In The Context Of Sustainable Development

3098 pages, 2015 **US\$ 445.00/€ 400.00 /GBP 310.00**

Print (978-3-03835-360-7)  
eBook (978-3-03826-745-4)

<https://www.scientific.net/AMR.1073-1076/book>

### ■ Civil, Structural and Environmental Engineering III

Edited by: Yong Huang, Tai Bao, Zhenhua Huang and Hong Wang

**Advanced Materials Research Vols. 1065-1069**

Collection of selected, peer reviewed papers from the 2014 3rd Global Conference on Civil, Structural and Environmental Engineering (GCCSEE 2014), October 21-22, 2014, Chengdu, China. The 682 papers are grouped as follows: Chapter 1: Geotechnical and Geological Engineering; Chapter 2: Tunnel, Subway and Underground Facilities; Chapter 3: Coastal and Marine Engineering; Chapter 4: Hydraulic Engineering; Chapter 5: Road and Railway Engineering; Chapter 6: Bridge Engineering; Chapter 7: Structural Engineering, Strength and Dynamics; Chapter 8: Seismic Engineering; Chapter 9: Construction Technology; Chapter 10: Building Technology Science; Chapter 11: Building Environment and Equipment Engineering; Chapter 12: Construction and Building Materials Engineering; Chapter 13: Computational Mechanics, Biomechanics and Applied Mechanics; Chapter 14: Ventilation and Air Conditioning Works; Chapter 15: Energy Efficiency and Applications, Ecological and Energy Saving Building, Lighting; Chapter 16: Surveying Engineering, Cartography and Geographic Information Systems; Chapter 17: Disaster Prevention and Mitigation, Safety Engineering; Chapter 18: Project Management; Chapter 19: Engineering Management, Civil and Construction Industry Management, Infrastructure Demand and Supply, Engineering Education; Chapter 20: Architectural Design and Its Theory; Chapter 21: Outdoor and Indoor Decoration Design and Environment; Chapter 22: Urban and Regional Planning, Land Resources Planning; Chapter 23: Landscape Planning and Design; Chapter 24: Sustainable City and Regional Development; Chapter 25: Hydrology, Water Resources, Flood and Drought Management; Chapter 26: Environmental Engineering and Environmental Protection; Chapter 27: Transportation Planning, Traffic Control and Information Technology, Carrying Tools and

Operation Engineering; Chapter 28: Electricity Infrastructure and Power Transmission; Chapter 29: Computer Applications and Intelligent Algorithms

3666 pages, 2015 **US\$ 610.00/€ 550.00 /GBP 430.00**

Print (978-3-03835-358-4)  
eBook (978-3-03826-743-0)

<https://www.scientific.net/AMR.1065-1069/book>

### ■ Modern Technologies in Materials, Mechanics and Intelligent Systems

Edited by: X.Y. Huang, X.B. Zhu, K.L. Xu and J.H. Wu  
**Advanced Materials Research Vols. 1049-1050**

Volume is indexed by Thomson Reuters CPCI-S (WoS). Collection of selected, peer reviewed papers from the 2014 4th International Conference on Intelligent System and Applied Material (GSAM 2014), August 23-24, 2014, Taiyuan, China. The 462 papers are grouped as follows: Chapter 1: Advanced Material Science and Technologies, Chapter 2: Building Materials, Civil Engineering, Architecture and Construction Technologies, Chapter 3: Biomedical Engineering, Chapter 4: Energy and Power Systems, Electrical and Electronic Engineering, Chapter 5: Designing of Machines, Manufacturing Technologies, Automation and Control in Mechanical Engineering, Chapter 6: Measurements and Monitoring, Chapter 7: Applied Mathematics, Processing of Data and Signal, Data Mining and Computational Procedures, Chapter 8: Theory and Practice of Information Technologies and Communications.

2220 pages, 2014 **US\$ 445.00/€ 400.00 /GBP 310.00**

Print (978-3-03835-314-0)  
eBook (978-3-03826-698-3)

<https://www.scientific.net/AMR.1049-1050/book>

### ■ Research in Materials and Manufacturing Technologies IV

Edited by: Prasad Yarlagadda and Yun-Hae Kim

**Advanced Materials Research Vols. 1061-1062**

Collection of selected, peer reviewed papers from the 4th International Conference on Materials and Products Manufacturing Technology (ICMPMT 2014), September 18-19, 2014, Chongqing, China. The 248 papers are grouped as follows: Chapter 1: Metals and Alloys; Chapter 2: Composite Materials and Applications; Chapter 3: Chemical Materials, Bio-Materials and Energy Materials; Chapter 4: Building Materials and Construction Technology; Chapter 5: Material Processing Technology; Chapter 6: Materials Testing and Analysis, Materials Wear Resistance and Strength; Chapter 7: Advanced Design and Advanced Manufacturing Technology; Chapter 8: Dynamics; Chapter 9: Vibration, Sound, Noise Analysis and Control; Chapter 10: CAD / CAM / CAE and Applications; Chapter 11: Mechatronics, Industrial Robots, Automation and Control; Chapter 12: Measurement Technology, Instruments and Sensors, Monitoring, Detection Technologies and Methodologies; Chapter 13: Power, Electronics, Circuit Technology; Chapter 14: Computer Applications and Mathematical Modeling, Numerical Methods, Intelligent Algorithms and Optimization; Chapter 15: Communication Technologies, Image, Video, Data Processing; Chapter 16: Industrial Engineering, Manufacturing Management, Production Quality

1350 pages, 2015 **US\$ 375.00/€ 340.00 /GBP 265.00**

Print (978-3-03835-349-2)

eBook (978-3-03826-734-8)

<https://www.scientific.net/AMR.1061-1062/book>

### ■ Frontiers of Energy, Materials and Information Engineering

Edited by: Jimmy (C.M.) Kao, Wen-Pei Sung and Ran Chen

**Advanced Materials Research Vols. 1044-1045**

Collection of Selected, Peer Reviewed Papers from the 2014 International Conference on Frontiers of Energy, Materials and Information Engineering (ICFMEI 2014), August 21-22, 2014, Hong Kong. The 411 papers are grouped as follows: Chapter 1: Materials and Chemical Engineering and Technologies, Chapter 2: Power, Energy and Thermal Engineering, Environmental and Safety Engineering, Chapter 3: Civil and Building Engineering, Structural and Geotechnical Engineering, Applied Mechanics,

Chapter 4: Mechatronics, Measurement and Detection, Control and Automation, Mechanics Applications, Chapter 5: Computer, Communication, Information, Algorithms and Numerical Methods of Data Processing Engineering, Chapter 6: Urban and City Development, Traffic and Transportation Engineering, Chapter 7: New Technologies in Education and Sports, Chapter 8: Engineering Management, Production Management, Business and Economics.

1960 pages, 2014 **US\$ 440.00/€ 395.00 /GBP 310.00**

Print (978-3-03835-277-8)

eBook (978-3-03826-661-7)

<https://www.scientific.net/AMR.1044-1045/book>

### ■ Residual Stresses IX

Edited by: M. François, G. Montay, B. Panicaud, D. Reirant and E. Rouhaud

**Advanced Materials Research Vol. 996**

Collection of selected, peer reviewed papers from the 9th European Conference on Residual Stresses, ECRS-9, July 7-10, 2014, Troyes, France. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 157 papers are grouped as follows: Chapter I. Measurement Methods, I.1. Local Scale Measurements, I.2. Diffraction at Grain Scale and Multiscale Diffraction, I.3. Diffraction: Gradients and Instrumental Developments, I.4. Mechanical Relaxation Methods, I.5. Acoustics and Electromagnetics Methods, Chapter II. Manufacturing and Materials Processing, II.1. Welding, II.2. Heat Treatment and Phase Transformation, II.3. Machining and Cold Work, Chapter III. Materials and Structures, III.1. Fatigue and Fracture, III.2. Films, Coatings and Oxides, III.3. Composites and Nano/Micro Structures

1010 pages, 2014 **US\$ 340.00/€ 305.00 /GBP 240.00**

Print (978-3-03835-153-5)

eBook (978-3-03826-536-8)

<https://www.scientific.net/AMR.996/book>

### ■ Advanced Materials and Manufacturing Processes

Edited by: Swami Naidu Gurugubelli and K Siva Prasad  
**Advanced Materials Research Vol. 1148**

Articles, collected in this volume, present the results of research in the fields of modern structural materials and technologies of their machining. The collection was created by the results of the

International Conference on Advanced Materials and Manufacturing Processes (ICAMMP 18).

224 pages, 2018 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1363-3)

eBook (978-3-0357-3363-1)

<https://www.scientific.net/AMR.1148/book>

### ■ Material Processing Technologies

Edited by: Dr. Rupinder Singh

**Advanced Materials Research Vol. 1137**

Material processing technologies under different manufacturing processes have been in evidence for the past many years and are being widely used in diverse areas. Among various manufacturing processes, casting, coating, welding, forging, non-traditional manufacturing processes etc are commercially used as manufacturing solutions. This special issue provides an overview of emerging technologies. Special issue on 'Material processing technologies' has original research papers, review papers, technical papers and case studies. This special issue is devoted to the development of important topics in manufacturing processes and has been published as special issue to compile selected papers from prominent researchers.

150 pages, 2016 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-0357-1039-7)

eBook (978-3-0357-3039-5)

<https://www.scientific.net/AMR.1137/book>

### ■ Advances in Abrasive Technology XVIII

Edited by: Hon-Zong Choi, Haedo Jeong, Xiping Xu and Hideki Aoyama

**Advanced Materials Research Vol. 1136**

Collection of selected, peer reviewed papers from the 18th International Symposium on Advances in Abrasive Technology (ISAAT 2015), October 4-7, 2015, Juju Island, Korea. The 114 papers are grouped as follows: Chapter 1: Grinding Chapter 2: Abrasive Jet Machining Chapter 3: Advanced Cutting Technology Chapter 4: Processing of Brittle Materials Chapter 5: Chemical Mechanical Polishing, Processing of Semiconductor Wafer Chapter 6: Electrical Discharge Machining, Ultrasonic and Beam Machining Chapter 7: Finishing, Lapping and Polishing Chapter 8: Surface and Subsurface Integrity and Materials Characterization Chapter 9: In-Process Measurement and Monitoring, Metrology Chapter 10: Machine Tools and Systems, Tooling Processing

718 pages, 2016 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-651-6)

eBook (978-3-0357-0132-6)

<https://www.scientific.net/AMR.1136/book>

### ■ Adaptive Materials Research for Architecture

Edited by: Dr. Santina Di Salvo

**Advanced Materials Research Vol. 1149**

The volume "Adaptive Materials Research for Architecture" is a Special Issue of the journal "Advanced Material Research". The goal of this volume is to spread knowledge on studies, analyses and results of scientific research carried out by academics, researchers, and scientists regarding the soundest issues related to smart materials, innovative technologies and ongoing researches in the field of adaptive materials in past and current architectural practice.

130 pages, 2018 US\$ 140.00/€ 130.00 /GBP 100.00

Print (978-3-0357-1428-9)

eBook (978-3-0357-3428-7)

<https://www.scientific.net/AMR.1149/book>

### ■ Advanced Materials in Aerospace Engineering

Edited by: Prof. José Divo Bressan,

Prof. Maurício Vicente Donadon

**Advanced Materials Research Vol. 1135**

The goal of this special issue is to present the latest findings and promote further research in the areas of advanced materials in aerospace engineering. Nowadays, two related imperatives are influencing the design of aeronautical structures:1.

Requirements for more efficient aircraft (use of advanced lightweight materials, reduction of life cycle costs and particularly operating costs),2.

Requirements to reduce the influence of aircraft on environmental, including the decreasing of gas pollution and noise.

276 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-594-6)

eBook (978-3-0357-0069-5)

<https://www.scientific.net/AMR.1135/book>

### ■ **Polymers in Concrete Towards Innovation, Productivity and Sustainability in the Built Environment**

Edited by: Wong Sook Fun, Tan Kang Hai and Ong Khim Chye Gary

#### **Advanced Materials Research Vol. 1129**

Collection of selected, peer reviewed papers from the 15th International Congress on Polymers in Concrete (ICPIC 2015), October 19-21, 2015, Singapore. The 80 papers are grouped as follows: Chapter 1 : Polymers in Concrete - Concrete Polymer Composite (C-PC) Chapter 2: Polymer Coatings and Polymer Reinforcement of Concrete Chapter 3: Use of Polymers to Enhance Concrete Performance Chapter 4: Polymers for Repair of Concrete Chapter 5: Use of Polymers in Green Building Materials Chapter 6: Use of Polymers in Sustainable Construction and Development

662 pages, 2015 **US\$ 225.00/€ 200.00 /GBP 155.00**

Print (978-3-03835-677-6)

eBook (978-3-0357-0159-3)

<https://www.scientific.net/AMR.1129/book>

### ■ **Materials and Technologies for Sustainable Development**

Edited by: Prof. Wole Soboyejo, Dr. Shola Odusunya, Dr. Zebaze Kana, Dr. Nicolas Anuku, Dr. Karen Malatesta and Dr. Mohammed Dauda

#### **Advanced Materials Research Vol. 1132**

Collection of selected, peer reviewed papers from the special topic volume with invited peer reviewed papers only. The 26 papers are grouped as follows: Section A – Biomaterials and Biomedical Technologies Section B – Materials and Technologies in Production of Solar Cell and Optoelectronics Section C – Multifunctional Materials for Infrastructure and in the Environmental Engineering

422 pages, 2016 **US\$ 290.00/€ 260.00 /GBP 205.00**

Print (978-3-03835-650-9)

eBook (978-3-0357-0131-9)

<https://www.scientific.net/AMR.1132/book>

### ■ **Advanced Technologies of Materials Processing**

Edited by: Daniel Munteanu and Mircea Horia Tierean

#### **Advanced Materials Research Vol. 1128**

Collection of selected, peer reviewed papers from the International Conference on Materials Science and Engineering, BraMat 2015, March 4-7, 2015, Brasov, Romania. The 51 papers are grouped as follows: Chapter 1: Materials and Technologies in Metallurgy; Chapter 2: Composites and Polymers; Chapter 3: Advanced Welding Technologies; Chapter 4: Mechanical Processing of Materials; Chapter 5: Heat Treatment and Surface Engineering; Chapter 6: Technological Machines and Equipments

420 pages, 2015 **US\$ 180.00/€ 165.00 /GBP 125.00**

Print (978-3-03835-637-0)

eBook (978-3-0357-0118-0)

<https://www.scientific.net/AMR.1128/book>

### ■ **Current Materials for Industrial Technologies and Engineering Practice**

Edited by: Rozana Mohd Dahan, Ahmad Zafir Romli, Dr. Mohd Rozi Ahmad and Dzaraini Kamarun

#### **Advanced Materials Research Vol. 1134**

Papers from the Industrial Technology and Engineering Symposium are presented in this book titled Current Materials for Industrial Technologies and Engineering Practice. The book offers the latest discussions and findings in the areas of functional polymeric materials and applications, textile science and functional materials, engineering composites and hybrid materials. It involves the development and improvement of equipments and tests, materials, analysis and synthesis, as well as mathematical modelling. It also includes physical analysis together with the principles and methods of industrial and engineering design to specify, predict and evaluate the results obtained for the embitterment of the technologies and materials corresponding to the need of the society.

272 pages, 2016 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-03835-734-6)

eBook (978-3-0357-0225-5)

<https://www.scientific.net/AMR.1134/book>

### ■ Biotechnologies in Mining Industry and Environmental Engineering

Edited by: M. Zaki Mubarak, Siti Khodijah Chaerun, Wahyudin Prawira Minwal, Fadhli Muhammad and Killang Pratama

#### **Advanced Materials Research Vol. 1130**

Collection of selected, peer reviewed papers from the International Biohydrometallurgy Symposium 2015 (IBS 2015), October 5-9, 2015, Bali, Indonesia. The 161 papers are grouped as follows: Chapter 1: Geomicrobiology, Biogeochemical Cycles, Genetics and Molecular Biology Chapter 2: Microbe-Mineral Interactions Chapter 3: Technologies of Bioleaching in Hydrometallurgy Chapter 4: Bioflotation, Biobeneficiation, Biosorption and Bioaccumulation Chapter 5: Bioremediation and Bio Recovery of Metals from Wastes, Impact of Mining Technologies on the Environment

736 pages, 2015 US\$ 290.00/€ 260.00 /GBP 205.00

Print (978-3-03835-678-3)

eBook (978-3-0357-0161-6)

<https://www.scientific.net/AMR.1130/book>

### ■ Thermophysics and Mass Transfer in Materials Science and Construction

Edited by: Igor Medved and Anton Trnik

#### **Advanced Materials Research Vol. 1126**

Collection of selected, peer reviewed papers from the 20th Thermophysics 2015, October 14-16, 2015, Terchova, Slovakia. The 30 papers reflect recent achievements on different problems of heat transfer in liquid, solid and gaseous substances and computational methods for their solving as well as methods of materials thermophysical properties measurements. Theoretical methods are illustrated with comprehensive examples from practical applications.

212 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-630-1)

eBook (978-3-0357-0111-1)

<https://www.scientific.net/AMR.1126/book>

### ■ Proceedings of the Conference on the Rehabilitation and Reconstruction of Buildings (CRRB 2014)

Edited by: Rostislav Drochytka, Jan Vaněrek and Anna Benešová

#### **Advanced Materials Research Vol. 1122**

Collection of selected, peer reviewed papers from the 16th Redevelopment and Rehabilitation of Buildings Conference (CRRB 2014), November 5-6, 2014, Brno, Czech Republic. The 59 papers are grouped as follows: Chapter 1: Protection and Remediation of Wood Structures; Chapter 2: Surface Treatment; Chapter 3: Restoration of Stone; Chapter 4: Redevelopment of Masonry; Chapter 5: Redevelopment of Concrete Structures; Chapter 6: Materials Properties and Measurements in Building; Chapter 7: Static and Dynamic Analysis of Buildings and Constructions

300 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-506-9)

eBook (978-3-03826-976-2)

<https://www.scientific.net/AMR.1122/book>

### ■ Current Micro-Nano Science and Technology

Edited by: Hailin Cong, Bing Yu and Xing Lu

#### **Advanced Materials Research Vol. 1118**

Collection of selected, peer reviewed papers from the 13th China International Nanoscience and Technology Symposium, October 26-30, 2014, Chengdu, China. The 46 papers are grouped as follows: Chapter 1: Synthesis and Preparation of Nanomaterials; Chapter 2: Nanotechnologies and Nanomaterials: Frontiers of Application and Properties; Chapter 3: Frontiers of Micro-Materials and Technologies, Applications

312 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-464-2)

eBook (978-3-03826-926-7)

<https://www.scientific.net/AMR.1118/book>

### ■ Recent Advances in Renewable Energy Research

Edited by: Amir Al-Ahmed, Mohammad Kamal Hossain, Mohammad Afzaal and Haitham M. Bahaidarah

#### **Advanced Materials Research Vol. 1116**

The renewable energy sector has been the focus of worldwide effort to find sustainable and environmentally friendly technologies for continuously increasing energy demands at low costs. Contributors of this book have extensive experience at various facets of renewable energy including materials chemistry, polymer physics, device fabrication, and nanotechnology. The book has fourteen high quality articles covering general aspects of renewable energy, regional policies, thin film solar cells, solar thermal, hydrogen production, energy conversion and storage. This book is a result of collaborations between all contributing authors who agreed to share their research expertise as well as visions for the future technologies.

462 pages, 2015 **US\$ 295.00/€ 265.00 /GBP 210.00**

Print (978-3-03835-500-7)

eBook (978-3-03826-970-0)

<https://www.scientific.net/AMR.1116/book>

### ■ Advanced Materials Development & Performance

Edited by: Yun-Hae Kim

#### **Advanced Materials Research Vol. 1110**

Collection of selected, peer reviewed papers from the 2014 7th International Conference on Advanced Materials Development & Performance (AMDP 2014), July 17-20, 2014, Busan, Korea. The 61 papers are grouped as follows: Chapter 1: Composite and Polymers; Chapter 2: Properties and Processing Technologies of Metals and Alloys; Chapter 3: Materials for Electronics and Optoelectronics; Chapter 4: Non-metals and Building Materials; Chapter 5: Materials in Environmental and Biomedical Engineering

324 pages, 2015 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-03835-477-2)

eBook (978-3-03826-940-3)

<https://www.scientific.net/AMR.1110/book>

### ■ Advanced Materials Research and Production

Edited by: Ferry Iskandar, Satria Zulkarnaen Bisri, Prof. Mikrajuddin Abdullah, Prof. Khairurrijal and Prof. Kikuo Okuyama

#### **Advanced Materials Research Vol. 1112**

Collection of selected, peer reviewed papers from the Materials Research Society of Indonesia (MRS-id) Meeting 2014, September 26-28, 2014, Bali, Indonesia. The 124 papers are grouped as follows: Chapter 1: Optics, Magnetic and Strongly Correlated Electron Materials; Chapter 2: Nanostructured Materials and Nanotechnologies; Chapter 3: Catalysts, Adsorbents and Related Materials: Fundamentals and Applications; Chapter 4: Photovoltaics, Batteries and Fuel Cells: Emerging Materials and Devices; Chapter 5: Surfaces, Coatings and Hardening of Materials for Industrial Application; Chapter 6: Polymers and Composites: Synthesis and Properties; Chapter 7: Biomaterials and Biomedical Engineering; Chapter 8: Mining, Metallurgy and Chemical Engineering

592 pages, 2015 **US\$ 295.00/€ 265.00 /GBP 210.00**

Print (978-3-03835-491-8)

eBook (978-3-03826-958-0)

<https://www.scientific.net/AMR.1112/book>

### ■ Structural Integrity of Welded Structures XI

Edited by: Dr. Alin Constantin Murariu

#### **Advanced Materials Research Vol. 1111**

This volume includes selected papers presented at the 11th International Conference Structural Integrity of Welded Structures (ISCS15). The event brought together researchers from institutes and universities from different countries in order to discuss actual topics of structural integrity of welded and jointed structures from the practical point of view as well as that of the material testing specialists. A particular attention was given to practical problems coming from the industry. The volume includes 46 selected papers from the 54 full papers that were submitted. The authors highlight the results of their own research and development activity, carried out in the frame of their institutes and universities from Romania, Serbia, Bulgaria, Czech Republic and Israel.

298 pages, 2015 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-492-5)

eBook (978-3-03826-959-5)

<https://www.scientific.net/AMR.1111/book>

### ■ Nanoscience, Nanotechnology, and Nanoengineering: Fundamentals and Applications

Edited by: Mohamad Hafiz Mamat, Tetsuo Soga and Mohamad Rusop Mahmood

**Advanced Materials Research Vol. 1109**

These are a collection of 129 peer reviewed papers from the Malaysia-Japan International Conference on Nanoscience, Nanotechnology and Nanoengineering 2014 (NANO-SciTech 2014 and IC-NET 2014). The papers presented and reviewed in the conference are of up-to-date fundamental research, innovative top-down and bottom-up methods and technologies towards the development of nanomaterials and nanodevices. The effort to share and churned new knowledge in this field are geared towards enhancement and efficient energy conversion, conservation of natural resources, reduction of pollution and overall improvement in quality of life.

670 pages, 2015 **US\$ 290.00/€ 260.00 /GBP 205.00**

Print (978-3-03835-455-0)

eBook (978-3-03826-916-8)

<https://www.scientific.net/AMR.1109/book>

### ■ Recent Advances in Solid State Science and Technology

Edited by: Jedol Dayou and Roslan Abd-Shukor

**Advanced Materials Research Vol. 1108**

This book contains 15 invited papers presented at the 27th Regional Conference on Solid State Science and Technology in Kota Kinabalu, Sabah, Malaysia. It reflects the recent advancement in Solid State Science and Technology especially in Malaysia. It covers all major aspects of research and investigations in the field.

100 pages, 2015 **US\$ 115.00/€ 100.00 /GBP 80.00**

Print (978-3-03835-449-9)

eBook (978-3-03826-907-6)

<https://www.scientific.net/AMR.1108/book>

### ■ SOLID STATE SCIENCE & TECHNOLOGY Towards an Immersive Breakthrough

Edited by: Jedol Dayou, Azhan Hashim, Walter Charles Primus, Fuei Pien Chee, Mohamad Deraman and Roslan Abd-Shukor

**Advanced Materials Research Vol. 1107**

Collection of selected, peer reviewed papers from the 27th Regional Conference on Solid State Science and Technology 2013 (RCSSST7), December 20-22, 2013, Kota Kinabalu, Sabah, Malaysia. The 121 papers are grouped as follows: Chapter 1: Advanced Ceramics; Chapter 2: Catalytic Materials; Chapter 3: Composites and Polymers; Chapter 4: Electrochemical; Chapter 5: Manganite and Magnetic Materials; Chapter 6: Nanomaterials and Nanotechnology; Chapter 7: Materials and Technologies in Waste Utilization and Environmental Engineering; Chapter 8: Technology of Glass; Chapter 9: Materials and Technologies in Electronics and Optoelectronics; Chapter 10: Superconductor Materials; Chapter 11: Materials and Technologies in Production of Thin Films; Chapter 12: Sensors and Techniques of Measurements in Materials Science and Production

800 pages, 2015 **US\$ 265.00/€ 240.00 /GBP 185.00**

Print (978-3-03835-448-2)

eBook (978-3-03826-906-9)

<https://www.scientific.net/AMR.1107/book>

### ■ Advanced Materials Research V

Edited by: Hao Gong and K.M. Gupta

**Advanced Materials Research Vol. 1105**

Collection of selected, peer reviewed papers from the 2015 5th International Conference on Advanced Materials Research (ICAMR 2015), January 7-8, 2015, Doha, Qatar. The 69 papers are grouped as follows: Chapter 1: Composites and Specialized Composites; Chapter 2: Intelligent and Electronic Materials, Magnetic Materials; Chapter 3: Optics and Solar Materials; Chapter 4: Novel Researches on Machining and Processing of Materials; Chapter 5: Synthesis and Characterization of Materials; Chapter 6: Nanotechnologies: Nanofluids, Nanoribbon, Nano Thin Films; Chapter 7: Researches on Materials Science and Technology

400 pages, 2015 **US\$ 210.00/€ 190.00 /GBP 150.00**

Print (978-3-03835-472-7)

eBook (978-3-03826-934-2)

<https://www.scientific.net/AMR.1105/book>

### ■ **Micro- and Nanotechnologies for Sustainable Development**

Edited by: Puangrat Kajitvichyanukul, Suwit Kiravittaya and Tawatchai Charinpanitkul

**Advanced Materials Research Vol. 1103**

Safe and sustainable nanotechnology, a theme of this collection, is a challenging issue that needs to be discussed in a view of frontier technology for the future. Nanotechnology applications with safety concern are a key to sustainable development. The volume contains 19 peer reviewed papers covering the multiple meanings of the term advanced materials in micro and nanoscale for future sustainability. We hope the reader will both enjoy and find valuable up-to-date information on the topic at hand.

154 pages, 2015 **US\$ 115.00/€ 100.00 /GBP 80.00**

Print (978-3-03835-467-3)

eBook (978-3-03826-929-8)

<https://www.scientific.net/AMR.1103/book>

### ■ **Metal, Ceramic and Composite Materials**

Edited by: Christian Coddet

**Advanced Materials Research Vol. 1102**

Collection of selected, peer reviewed papers from the 2015 International Conference on Metal, Ceramic and Composite Materials (ICCCM-2015), January 24-25, 2015, Shanghai, China. The 34 papers are grouped as follows: Chapter 1: Metal Materials, Alloys and Heat Treatment of Metals; Chapter 2: Ceramic Materials and Processing of Ceramics; Chapter 3: Composites, Advanced Materials and Nano Materials; Chapter 4: Mechanical Behavior and Characterization of Materials, Technologies in Materials Engineering

198 pages, 2015 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-461-1)

eBook (978-3-03826-922-9)

<https://www.scientific.net/AMR.1102/book>

### ■ **Material Science and Engineering Technology III**

Edited by: Prof. Osman Adiguzel

**Advanced Materials Research Vol. 1101**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Material Science and Engineering Technology (ICMSET 2014), October 24-26, 2014, Beijing, China. The 93 papers are grouped as follows: Chapter 1: Advanced Composites,

Special Materials and Technologies, Applied Materials; Chapter 2: Solid State Materials, Alloys, Reinforced and Functional Materials; Chapter 3: Chemical and Biomaterials; Chapter 4: Earth, Building and Construction Materials; Chapter 5: Materials Processing Engineering, Surface and Coating; Chapter 6: Modelling Analysis and Simulation for Materials

504 pages, 2015 **US\$ 290.00/€ 260.00 /GBP 205.00**

Print (978-3-03835-453-6)

eBook (978-3-03826-914-4)

<https://www.scientific.net/AMR.1101/book>

### ■ **Binders, Materials and Technologies in Modern Construction**

Edited by: Dr. Karel Dvořák, Dominik Gazdič, Vít Petranek, Iveta Hájková and Radek Magrla

**Advanced Materials Research Vol. 1100**

Collection of selected, peer reviewed papers from the 13th Conference Silicate Binders 2014 (ICBM 2014), December 4, 2014, Brno, Czech Republic. The 44 papers are grouped as follows: Chapter 1: Cement and Binders Based on Cement; Chapter 2: Inorganic Binders; Chapter 3: Silicate Materials; Chapter 4: Research and Assessment Properties of Building Materials

230 pages, 2015 **US\$ 135.00/€ 120.00 /GBP 95.00**

Print (978-3-03835-452-9)

eBook (978-3-03826-913-7)

<https://www.scientific.net/AMR.1100/book>

### ■ **Advances in Materials and Materials Processing V**

Edited by: Zhengyi Jiang and Xianghua Liu

**Advanced Materials Research Vol. 1095**

Collection of selected, peer reviewed papers from the 2014 5th International Conference on Advances in Materials and Manufacturing (ICAMMP 2014), December 20-21, 2014, Fuzhou, China. The 192 papers are grouped as follows: Chapter 1: Composites; Chapter 2: Low-dimensional and Nano-Materials; Chapter 3: Metal-based Materials and Alloys; Chapter 4: Building and Construction Materials; Chapter 5: Biomaterials and Technologies; Chapter 6: Chemical Materials and Technologies; Chapter 7: Material Testing, Characterization and Applications; Chapter

8: Surface Engineering and Coating Technology;  
Chapter 9: Materials Processing Technology and  
Applied Research

1000 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-431-4)

eBook (978-3-03826-817-8)

<https://www.scientific.net/AMR.1095/book>

### ■ Modeling and Optimization of Materials and Structures

Edited by: M. Karama, H. Borouchaki, A. Cherouat  
and A. EL Hami

**Advanced Materials Research Vol. 1099**

The main objectives of this special issue (consisting mainly of a selection of extended papers presented at 5th International Symposium on AirCraft Materials ACMA 2014) are to push the current limits in modeling and computation in response to industrial and society challenges. It is also to control the calculations and models in a framework that takes into account the major sources of uncertainty to optimize materials and structures. Particular attention is given to the modeling and validation of composite materials and structures.

162 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-424-6)

eBook (978-3-03826-810-9)

<https://www.scientific.net/AMR.1099/book>

### ■ Engineering Researches and Decisions in Materials Science

Edited by: Guohui Yang

**Advanced Materials Research Vol. 1098**

These are the proceedings of the 2014 2nd International Conference on Materials and Manufacturing Research (ICMMR 2014) were held on November 17-18, 2014 held in Bangkok, Thailand. In this collection, forefront research on various aspects of evolution of Materials Science and Technologies is illustrated by 27 selected peer-reviewed papers out of a large number of papers received for the conference.

143 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-459-8)

eBook (978-3-03826-920-5)

<https://www.scientific.net/AMR.1098/book>

### ■ Research in Area of Materials Science

Edited by: Zou Jianxin

**Advanced Materials Research Vol. 1096**

Collection of selected, peer reviewed papers from the Asia-Pacific Materials Science and Information Technology Conference (APMSIT 2014), December 13-14, 2014, Shanghai, China. The 104 papers are grouped as follows: Chapter 1: Research in Area of Applied Materials; Chapter 2: Films, Glasses and Surface of Materials, Technologies of Coatings; Chapter 3: Metal Alloys and Steel; Chapter 4: Biomaterials and Chemical Materials; Chapter 5: Materials Science and Processing Technologies, Mechanics of Materials; Chapter 6: Polymers and Reinforced Composites; Chapter 7: Nanomaterials, Microelectronic Materials and New Functional Materials; Chapter 8: Construction and Building Materials.

616 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-419-2)

eBook (978-3-03826-805-5)

<https://www.scientific.net/AMR.1096/book>

### ■ Chemical, Material and Metallurgical Engineering IV

Edited by: Yun-Hae Kim

**Advanced Materials Research Vol. 1094**

International Conference on Chemical, Material and Metallurgical Engineering (ICMME 2014), December 30-31, 2014, Shenzhen, China. The 101 papers are grouped as follows: Chapter 1: Chemical Materials and Technologies; Chapter 2: Chemical Technologies in Energy; Chapter 3: Properties and Performance of Materials; Chapter 4: Semiconductors and Other Materials and Technologies for Solar Cells, Power Sources and Electronics; Chapter 5: Preparation, Properties and Performance of Building Materials; Chapter 6: Properties and Performance of Cast Iron, Steels and Alloys; Chapter 7: Developing and Researching of Technologies of Material Processing; Chapter 8: Technologies in Mining and Mineral Processing; Chapter 9: Material Strength and Structural Design

538 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-429-1)

eBook (978-3-03826-815-4)

<https://www.scientific.net/AMR.1094/book>

## ■ Future Materials and Manufacturing Materials Processing

Edited by: Barry Tan and Mont Kumpugdee Vollrath  
**Advanced Materials Research Vol. 1091**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Future Materials Engineering and Industry Application (ICFMEIA 2014), December 10-11, 2014, Hong Kong. The 21 papers are grouped as follows: Chapter 1: New Materials and Advanced Materials; Chapter 2: Materials Processing, Manufacturing Processes and Systems, Applied Mechanics

166 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-430-7)

eBook (978-3-03826-816-1)

<https://www.scientific.net/AMR.1091/book>

## ■ Energy and Materials Research for the Future

Edited by: Mustafa I. Fadhel and Yijin Wu  
**Advanced Materials Research Vol. 1090**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Future Energy & Materials Research (FEMR 2014), December 24-25, 2014, Wuhan, China. The 42 papers are grouped as follows: Chapter 1: Materials Engineering; Chapter 2: Metals, Steel and Alloys; Chapter 3: Building Materials; Chapter 4: Biochemistry Materials and Engineering; Chapter 5: Energy Materials Engineering; Chapter 6: Manufacturing Materials and Engineering, Applied Materials

284 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-426-0)

eBook (978-3-03826-812-3)

<https://www.scientific.net/AMR.1090/book>

## ■ Advanced Manufacturing Technology and Materials

Edited by: Seung-Bok Choi and Yun-Hae Kim  
**Advanced Materials Research Vol. 1089**

Collection of selected, peer reviewed papers from the 2014 International Conference on Advanced Manufacturing Technology and Materials (ICAMTM 2014), November 25-26, 2014, Zhuhai, China. The 75 papers are grouped as follows: Chapter 1: Composite Materials, Polymer Materials and Fabric Materials; Chapter 2: Metals, Alloys and Metallurgical Technology; Chapter 3: Chemical Materials and

Technologies; Chapter 4: Biomaterials and Biotechnologies; Chapter 5: Films and Surface Engineering; Chapter 6: Building Materials and Construction Techniques; Chapter 7: Materials Processing Technology.

398 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-408-6)

eBook (978-3-03826-793-5)

<https://www.scientific.net/AMR.1089/book>

## ■ Advances in Materials Science

Edited by: Zou Jianxin

**Advanced Materials Research Vol. 1088**

Collection of selected, peer reviewed papers from the International Conference on Advances in Materials (ICAM 2014), December 13-14, 2014, Shanghai, China. The 167 papers are grouped as follows: Chapter 1: Nanomaterials and Nanotechnologies; Chapter 2: Thin Films; Chapter 3: Metal-Based Materials, Alloys and Metallurgical Technology; Chapter 4: Crystallography, Chemical and Cathode Materials; Chapter 5: Polymers and Composite Materials; Chapter 6: Biomaterials and Biotechnologies; Chapter 7: Materials and Technologies in Environmental Engineering; Chapter 8: Building Materials and Technologies; Chapter 9: Research in Area of Applied Materials; Chapter 10: Processing Technologies and Computational Methods in Area of Materials Science

894 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-402-4)

eBook (978-3-03826-788-1)

<https://www.scientific.net/AMR.1088/book>

## ■ Current Material Research Using X-Rays & Related Techniques

Edited by: Hasan Zuhudi Abdullah, Rosniza Hussin, Mas Fawzi Mohd Ali, Hariati Mohd Taib, Suzifar Ahmad, Ainun Rahmahwati Aiuuddin, Hamimah Abdul Rahman, Mohamed Nasrul Mohd Hatta, Wan Nur Azrina Wan Muhammad, Shahrudin Mahzan, Maizlinda Izwana Idris et al.  
**Advanced Materials Research Vol. 1087**

As we have known, X-ray and related techniques are mainly used for quality control and materials characterization study. Most of the equipment used in these activities has contributed a lot to the advancement of materials science, solid state physics, chemistry, medical and other fields. In

recent years, there have been a lot of improvements that includes the introduction of an array of software including instrument control, data interpretation and standard data that may provide quick results with enhanced efficiency. IXCRI 2014 aims to exchange and share experiences and research findings in all aspects of X-rays and related techniques among academics, researchers and the industry. Not only that, ICXRI 2014 includes a workshop session, which allows participants to gain a hands-on experience in learning fundamental understanding on X-ray applications. Due to this unique conference-workshop combination, I strongly believe that this conference will have a huge impact and will lead to future innovations and strong linkages among the participants. This is reflected in the number of participants, which amounts to a total of nearly 100 papers being presented here in this conference.

540 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-409-3)

eBook (978-3-03826-794-2)

<https://www.scientific.net/AMR.1087/book>

### ■ Convergent Nanotechnologies

Edited by: Dr. Stanislav Kolisnychenko

**Advanced Materials Research Vol. 1086**

As an integral part of the NBIC technologies paradigm, nanotechnologies in their turn are rather convergent. Convergence of nanotechnologies leads to creation of new materials and technologies which are needed in almost all fields of human activity. A vivid example of the convergence of nanotechnology is this collection of papers, which includes materials of scientific and experimental research from different disciplines, but which are united by one concept –convergent nanotechnologies.

300 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-076-7)

eBook (978-3-03826-457-6)

<https://www.scientific.net/AMR.1086/book>

### ■ Advanced Materials and Engineering Materials IV

Edited by: Katsuyuki Kida

**Advanced Materials Research Vol. 1082**

Collection of selected, peer reviewed papers from the 2014 4th International Conference on Advanced Materials and Engineering Materials (4th ICAMEM2014), October 16-17, 2014, Ningbo, China

and October 19-20, Hong Kong, China. The 115 papers are grouped as follows: Chapter 1: Behavior and Characterization of Materials, Chapter 2: Material Processing, Chapter 3: Heat Treatment of Metals, Chapter 4: Concrete, Rock, Civil Engineering, Chapter 5: Fluid Mechanics, Heat Transfer, Chapter 6: Strength of Materials, Accidents, Corrosion, Chapter 7: Films, Surface Analysis, FPGA and ROM, Chapter 8: Machine Parts and Mechanisms of Technological Equipment, Control and Automation, Chapter 9: Sensors and Measurement.

598 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-367-6)

eBook (978-3-03826-752-2)

<https://www.scientific.net/AMR.1082/book>

### ■ Radiation and Nuclear Techniques in Material Science

Edited by: Oleg Y. Dolmatov, Igor B. Stepanov and Sergey N. Liventsov

**Advanced Materials Research Vol. 1084**

Collection of selected, peer reviewed papers from the Conference on Physical-Technical Problems of Nuclear Science, Energy Generation and Power Industry, (PTPAI-2014), June 5-7, 2014, Tomsk, Russia. The 151 papers are grouped as follows: Chapter 1: Materials Science and Technologies; Chapter 2: Plasma, Microwave, Ion, Electron and Isotope Technologies; Chapter 3: Nuclear Engineering and Fuel Cycles; Chapter 4: Radiation Technologies in Medicine; Chapter 5: Computation, Automation, Information Technologies and Safety Systems in Nuclear Industry

776 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-376-8)

eBook (978-3-03826-761-4)

<https://www.scientific.net/AMR.1084/book>

### ■ Advanced Measurement and Test IV

Edited by: Ankndrew Parvel and Andy Wu

**Advanced Materials Research Vol. 1083**

Collection of selected, peer reviewed papers from the 2014 4th International Conference on Advanced Measurement and Test, (AMT 2014), November 1-2, 2014, Wuhan, China. The 37 papers are grouped as follows: Chapter 1: Materials Science; Chapter 2:

Material Processing and Testing Technology; Chapter 3: Monitoring, Detection, Testing and Measurement Systems and Technologies

230 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-374-4)

eBook (978-3-03826-759-1)

<https://www.scientific.net/AMR.1083/book>

### ■ Materials Science and Advanced Technologies in Manufacturing II

Edited by: X. Q. Liu, Ali I. Al-Mosawi and B. Li

**Advanced Materials Research Vol. 1081**

Collection of selected, peer reviewed papers from the 4th International Conference on Materials Science and Engineering (ICMSE2014), December 27-28, 2014, Jiujiang, China. The 71 papers are grouped as follows: Chapter 1: Materials Science and Technologies; Chapter 2: Nanomaterials and Technologies; Chapter 3: Metal Materials and Alloys; Chapter 4: Polymer Materials; Chapter 5: Composites and Construction Materials; Chapter 6: Physical Properties of Materials

380 pages, 2015 US\$ 180.00/€ 165.00 /GBP 125.00

Print (978-3-03835-371-3)

eBook (978-3-03826-756-0)

<https://www.scientific.net/AMR.1081/book>

### ■ Materials Science and Technology

Edited by: Ping He and Jongee Park

**Advanced Materials Research Vol. 1064**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Advances in Materials Science and Engineering (AMSE 2014), October 1-2, 2014, Dubai, UAE. The 37 papers are grouped as follows: Chapter 1: Materials Science and Technology; Chapter 2: Applied Mechanics; Chapter 3: Materials Processing and Manufacturing, Coating Engineering; Chapter 4: Advanced Materials and Manufacturing Design, Modelling, Simulation Technologies

238 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-346-1)

eBook (978-3-03826-731-7)

<https://www.scientific.net/AMR.1064/book>

### ■ Advanced Research in Material Engineering, Machinery and Applied Technologies

Edited by: Helen Zhang, M. Han and X.J. Zhao

**Advanced Materials Research Vol. 1078**

Collection of selected, peer reviewed papers from the 2014 International Conference on Material Engineering, Energy and Applied Technology (MEEA 2014), November 29-30, 2014, Hefei, China. The 99 papers are grouped as follows: Chapter 1: Materials Science, Chemical Materials and Chemical Technologies, Chapter 2: Processing of Natural Resources, Environmental Engineering and Construction, Chapter 3: Advanced Technologies in Machinery, Mechatronics, Automation and Control, Chapter 4: Communication, Networks, Applied Information Technologies, Algorithms and Data Processing.

466 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-368-3)

eBook (978-3-03826-753-9)

<https://www.scientific.net/AMR.1078/book>

### ■ Advanced Engineering and Materials

Edited by: Wen Jin and Chao-Ming Lin

**Advanced Materials Research Vol. 1077**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Mechanical Engineering and Materials (ICMEM 2014), November 5-6, 2014, Singapore. The 46 papers are grouped as follows: Chapter 1: Engineering Materials; Chapter 2: Technologies and Systems of Materials Processing; Chapter 3: Building Materials and Technologies; Chapter 4: Designing and Researching of Machines and Mechanisms, Control and Automation; Chapter 5: Signal and Data Processing, Computer Algorithms; Chapter 6: Engineering Management in Industry

290 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-369-0)

eBook (978-3-03826-754-6)

<https://www.scientific.net/AMR.1077/book>

## ■ **Pharmaceutical Formulation and Development**

Edited by: Pornsak Sriamornsak,  
Sontaya Limmatvapirat and Suchada Piriyaprasart

**Advanced Materials Research Vol. 1060**

Collection of selected, peer reviewed papers from the 3rd International Conference and Exhibition on Pharmaceutical, Nutraceutical and Cosmeceutical Technology (PharmaTech 2014), December 1-2, 2014, Bangkok, Thailand. The 56 papers are grouped as follows: Chapter 1: Formulation, Manufacture and Fabrication, Characterization and Evaluation of Materials and Dosage Forms; Chapter 2: Drug and Material Design, Synthesis and Process Technologies; Chapter 3: Biomedical and Health Applications

254 pages, 2015 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-340-9)

eBook (978-3-03826-725-6)

<https://www.scientific.net/AMR.1060/book>

## ■ **Materials, Technologies and Quality Assurance II**

Edited by: Zdenko Tkáč, Štefan Pogran,  
Jozef Žarnovský and Róbert Driľčka

**Advanced Materials Research Vol. 1059**

The presented collection of scientific papers focuses on materials, technologies and quality assurance in the field of machines and equipment. These topics are among the fundamental research fields at the Faculty of Engineering of the Slovak University of Agriculture in Nitra.

150 pages, 2014 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-336-2)

eBook (978-3-03826-720-1)

<https://www.scientific.net/AMR.1059/book>

## ■ **Machine, Manufacturing, Materials and Information Technology II**

Edited by: B. Xu and H.Y. Li

**Advanced Materials Research Vol. 1056**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Material Engineering and Manufacturing Engineering (ICMEME 2014), October 25-26, 2014, Beijing, China. The 54 papers are grouped as follows: Chapter 1: Material Science and Chemical Engineering, Chapter 2: Manufacturing and Production Processing, Evaluation and Management Applications, Chapter 3:

Energy Saving and Construction Engineering, Chapter 4: Machinery, Automation and Control, Industry Development Applications, Chapter 5: Communication, Signal and Data Processing, Computational Algorithms and Applied Information Technology.

272 pages, 2014 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-327-0)

eBook (978-3-03826-711-9)

<https://www.scientific.net/AMR.1056/book>

## ■ **Dianchi Advanced Materials Forum 2014**

Edited by: Jin Hu and Cheng Zhang

**Advanced Materials Research Vol. 1058**

Collection of selected, peer reviewed papers from the 2014 Dianchi Advanced Materials Forum, July 16-18, 2014, Kunming, China. The 71 papers are grouped as follows: Chapter 1: Materials Synthesis and Preparation, Chapter 2: Material Properties, Characterisation and Application, Chapter 3: Composites and Ceramics, Chapter 4: Films and Coatings, Chapter 5: Cathode Materials Research, Chapter 6: Biomedical Material Research.

352 pages, 2014 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-334-8)

eBook (978-3-03826-718-8)

<https://www.scientific.net/AMR.1058/book>

## ■ **Advanced Building Construction and Materials II**

Edited by: Milan Palko

**Advanced Materials Research Vol. 1057**

Collection of selected, peer reviewed papers from the Special topic volume with invited peer reviewed papers only. The 28 papers are grouped as follows: Chapter 1: Energy Saving and Ecological Buildings, Chapter 2: Thermal Performance of Building Materials and Constructions, Chapter 3: Aerodynamic Characteristics of Buildings and Construction, Chapter 4: Fire Safety Materials, Spaces and Construction, Chapter 5: Noise Protection and Daylight Conditions.

248 pages, 2014 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-315-7)

eBook (978-3-03826-699-0)

<https://www.scientific.net/AMR.1057/book>

### ■ Mechanical Science and Engineering V

Edited by: Zhenling Liu and Hao Wang

**Advanced Materials Research Vol. 1055**

Collection of selected, peer reviewed papers from the 5th International Conference on Mechanical Science and Engineering (ICMSE2014), November 14-16, 2014, Xi'an, Shanxi, China. The 82 papers are grouped as follows: Chapter 1: Materials Science, Technology and Application, Chapter 2: Applied Mechanics, Measurements, Detection, Electrical, Mechanical and Construction Engineering, Chapter 3: Products and Systems Design, Modeling, Simulation and Control.

424 pages, 2014 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-321-8)

eBook (978-3-03826-705-8)

<https://www.scientific.net/AMR.1055/book>

### ■ Special Concrete and Composites 2014

Edited by: Pavel Reiterman

**Advanced Materials Research Vol. 1054**

Volume is indexed by Thomson Reuters CPCI-S (WoS). These are the proceedings of "Special concrete and composites 2014" conference, which is the most powerful meeting for experts in the field of concrete and composite research in the Czech Republic. The venue celebrated its 22th anniversary this year. The conference is international focused with over 60 experts from Czech Republic, Slovakia, Poland and United States of America. The 50 peer reviewed paper cover the current knowledge in the field of concrete.

282 pages, 2014 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-317-1)

eBook (978-3-03826-701-0)

<https://www.scientific.net/AMR.1054/book>

### ■ Current Research on Functional Materials

Edited by: Yuxun Wang, Guichun Huang and Ling Zhou

**Advanced Materials Research Vol. 1053**

The development of functional materials is at the heart of technological needs and the forefront of materials research. This book provides a comprehensive and up-to-date collection of peer reviewed reports on functional materials. The 76 papers are grouped as follows: Chapter 1: Metallic, Magnetic, Electric and Photoelectric Functional Materials; Chapter 2: Nano and Inorganic Functional Materials; Chapter 3: Organic and Polymer Functional Materials; Chapter 4: Thin Film,

Membrane and Coating Materials; Chapter 5: Biological and Environment Functional Materials.

526 pages, 2014 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-263-1)

eBook (978-3-03826-647-1)

<https://www.scientific.net/AMR.1053/book>

### ■ Trends in Condensed Matter and Materials Science

Edited by: Mahendra Aynyas, Prafulla K. Jha and Sankar P. Sanyal

**Advanced Materials Research Vol. 1047**

Volume is indexed by Thomson Reuters CPCI-S (WoS). NTPMS – 13, National Conference on New Trends in Physics and Material Science, a conference of national level focuses mainly on the materials science aspect with some other area of physics such as space and atmospheric physics.

191 pages, 2014 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-295-2)

eBook (978-3-03826-679-2)

<https://www.scientific.net/AMR.1047/book>

### ■ Materials Science and Intelligent Technologies Applications

Edited by: Khanittha Wongseedakaew and Qi Luo

**Advanced Materials Research Vol. 1042**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Key Engineering Materials and Computer Science (KEMCS 2014), August 5-6, 2014, Singapore. The 57 papers are grouped as follows: Chapter 1: Materials Science and Materials Engineering, Chapter 2: Artificial Intelligence and Data Mining, Data, Image and Signal Processing, Intelligent Automation and Control, Chapter 3: Computer Science and Information Technologies, Chapter 4: Electrical and Magnetoelectric Applications, Chapter 5: Advanced Technologies in Social, Education, Economics, Statistics and Management Applications.

338 pages, 2014 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-284-6)

eBook (978-3-03826-668-6)

<https://www.scientific.net/AMR.1042/book>

## ■ Development of Applied Engineering Sciences

Edited by: L.Q. Yu and Q. Xu

### **Advanced Materials Research Vol. 1037**

Collection of selected, peer reviewed papers from the 2014 5th International Conference on Computing, Control and Industrial Engineering (CCIE 2014), October 25-26, 2014, Wuhan, Hubei, China. The 122 papers are grouped as follows: Chapter 1: Applied Material Science, Chapter 2: Engineering Solutions and Designing in Machinery, Chapter 3: Technologies and Tools of Measurements, Detection and Diagnosis, Chapter 4: Mechatronics, Control and Automation, Chapter 5: Applied Computational Procedure and Algorithms in Engineering Practice, Chapter 6: Applied Information Technologies in Design and Research, Chapter 7: Engineering Provision and Production Management.

582 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-268-6)

eBook (978-3-03826-652-5)

<https://www.scientific.net/AMR.1037/book>

## ■ Modern Technologies in Industrial Engineering II

Edited by: Constantin Carausu, Andrzej Wróbel, Emil Oanta, Alexei Toca, Alexander Mikhaylov and Dumitru Nedelcu

### **Advanced Materials Research Vol. 1036**

Collection of selected, peer reviewed papers from the Modern Technologies in Industrial Engineering, July 13-16, Gliwice, Poland. The 189 papers are grouped as follows: Chapter 1: Applied Materials and Technologies, Chapter 2: Tools and Technologies for Materials Processing, Chapter 3: Parts and Components of Industrial Equipment, Chapter 4: Industrial Robotics, Chapter 5: Flexible and Integrated Manufacturing Systems, Chapter 6: Maritime Engineering and Technologies, Chapter 7: Modern Technologies in Product Design, Chapter 8: Engineering Management of Manufacturing Systems.

1124 pages, 2014 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-255-6)

eBook (978-3-03826-639-6)

<https://www.scientific.net/AMR.1036/book>

## ■ Innovative Technologies for Joining Advanced Materials

Edited by: Dr. Alin Constantin Murariu

### **Advanced Materials Research Vol. 1029**

Collection of selected, peer reviewed papers from the 7th International Conference on Innovative Technologies for Joining Advanced Materials (TIMA 14), June 19-20, 2014, Timisoara, Romania.

252 pages, 2014 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-240-2)

eBook (978-3-03826-624-2)

<https://www.scientific.net/AMR.1029/book>

## ■ Ultra-Precision Machining Process and Surface Finishing Technology

Edited by: Bo Zhao, Guofu Gao, Hang Gao and Yanyan Yan

### **Advanced Materials Research Vol. 1027**

Collection of selected, peer reviewed papers from the 10th CHINA-JAPAN International Conference on Ultra-Precision Machining Process (10th CJUMP) and 2014 International Conference on Surface Finishing Technology (ICSFT 2014), October 17-19, 2014, Jiaozuo, China. The 76 papers are grouped as follows: Chapter 1: Ultra-Precision Machining Process and Instrumentation, Chapter 2: Surface Finishing Technology, Chapter 3: Design, Fabrication and Analysis of Devices and Materials for the Applications of Machining Technologies.

368 pages, 2014 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-249-5)

eBook (978-3-03826-633-4)

<https://www.scientific.net/AMR.1027/book>

## ■ Advancement of Materials and Nanotechnology III

Edited by: Kuan Yew Cheong, Zainovia Lockman, Zuhailawati Hussain, Norlida Kamarulzaman, Mariatti Jaafar and Khairunisak Abdul Razak

### **Advanced Materials Research Vol. 1024**

Collection of selected, peer reviewed papers from the 3rd International Conference on the Advancement of Materials and Nanotechnology 2013 (ICAMN III 2013), November 19-21, 2013, Penang. The 94 papers are grouped as follows: Chapter 1: Nanomaterial Research and Application, Chapter 2: Polymer Materials and Composites, Chapter 3: Functional and Structural Materials, Material Processing Technologies, Chapter 4: Micro/Nano Materials for

Bio/Medical Application, Chapter 5: Materials and Technologies for Electric and Electronic Application

426 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-213-6)

eBook (978-3-03826-596-2)

<https://www.scientific.net/AMR.1024/book>

Chemo-Mechanical Polishing, Chapter 14: Non-Traditional Machining

850 pages, 2014 US\$ 370.00/€ 335.00 /GBP 260.00

Print (978-3-03835-221-1)

eBook (978-3-03826-604-4)

<https://www.scientific.net/AMR.1017/book>

### ■ Contemporary Problems in Architecture and Construction

Edited by: Darja Kubečková

#### Advanced Materials Research Vol. 1020

Collection of selected, peer reviewed papers from the 6th International Conference on Contemporary Problems of Architecture and Construction, June 24-27, 2014, Ostrava, Czech Republic. The 161 papers are grouped as follows: Chapter 1: Materials and Technologies in Civil and Building Engineering, Chapter 2: Structural Mechanics and Analysis, Applied Mechanics, Constructions and Civil Engineering Applications, Chapter 3: Geotechnologies and Geology, Tunneling and Subways, Seismology, Chapter 4: Environmental Engineering, Green, Energy and Thermal Engineering in Building, Chapter 5: Architectural Culture and Design, Urban and Transport Planning and Problems, Chapter 6: Municipal Engineering, Water Systems and Resources, Management and Economics, Forensic Sciences, Chapter 7: Education Engineering

950 pages, 2014 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-237-2)

eBook (978-3-03826-621-1)

<https://www.scientific.net/AMR.1020/book>

### ■ Advances in Abrasive Technology XVII

Edited by: Akinori Yui, Jiwang Yan and Hideki Aoyama

#### Advanced Materials Research Vol. 1017

Collection of selected, peer reviewed papers from the 17th International Symposium on Advances in Abrasive Technology (ISAAT 2014), September 22-25, 2014, Hawaii, USA. The 138 papers are grouped as follows: Chapter 1: Abrasive Machining, Chapter 2: Surface Quality, Chapter 3: Brittle Material Machining, Chapter 4: Grinding Wheel, Chapter 5: High Efficiency Machining, Chapter 6: Cutting Technology, Chapter 7: Tribology in Manufacturing, Chapter 8: Micro/Nano Machining, Chapter 9: Finishing/Lapping/Polishing, Chapter 10: System Development, Chapter 11: Monitoring & Analysis, Chapter 12: Metrology & Evaluation, Chapter 13:



# Engineering Research

---

Current Books 2019

Best Selling Books



## Current Books 2019

### ■ **Studies on Conversion of FA's and FFA's to Alkyl Esters Using WCO's of Different Origin**

Edited by: Dr. Susarla Venkata Ananta Rama Sastry and Prof. K.V. Rao

#### **Foundations of Materials Science and Engineering Vol. 97**

This study examines the biodiesel production from waste cooking oils of different origin by conversion of fatty acids and free fatty acids to alkyl esters.

80 pages, 2019 **US\$ 200.00/€ 180.00 /GBP 140.00**

Print (978-3-0357-1572-9)

eBook (978-3-0357-3572-7)

<https://www.scientific.net/FoMSE.97/book>

### ■ **International Conference on Machining, Materials and Mechanical Technologies - Supplement book**

Edited by: Huy Bich Nguyen

#### **Applied Mechanics and Materials Vol. 894**

This volume contains the selected papers presented at the 2018 International Conference on Machining, Materials and Mechanical Technologies (IC3MT 2018), which was held in Ho Chi Minh City, Vietnam on 19th-22nd of September 2018. We hope this collection will be interesting and useful for many researchers and engineers from various fields of materials science and mechanical engineering.

2019 **US\$ 200.00/€ 180.00 /GBP 140.00**

Print (978-3-0357-1275-9)

eBook (978-3-0357-3275-7)

<https://www.scientific.net/AMM.894/book>

### ■ **Engineering Technology: Properties and Technologies**

Edited by: Prof. Jong Wan Hu

#### **Applied Mechanics and Materials Vol. 893**

The objective of 3rd International Conference on Material Science and Engineering Technology (ICMSET 2019) is to bring together academics, scientists, engineers, postgraduates and other professionals in the area of material science and engineering technology from all over the world. It provides a high-standard international forum to introduce, to exchange and to discuss recent advances novel and practical techniques or application in the field of material engineering and application. The proceedings introduce to the readers with newest researches results and findings in the field of Material Property and Testing, Material Application and Design, Material Simulation and Analysis and Material Manufacturing and Process.

132 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1326-8)

eBook (978-3-0357-3326-6)

<https://www.scientific.net/AMM.893/book>

### ■ **Computational Science and Engineering**

Edited by: Rayner Alfred, Ag. Asri Ag Ibrahim, Joe Henry Obi, Raymond Alfred and Kim On Chin

#### **Applied Mechanics and Materials Vol. 892**

This book is the proceedings of the Third International Conference on Computational Science and Engineering (ICCSE2018, August 29-30, 2018, Kota Kinabalu, Sabah, Malaysia) and contains the selected peer-reviewed papers which reflect recent achievements in the field of application of the computational methods and algorithms in scientific research and engineering design. We hope that this volume of the journal will be useful, interesting and informative for a wide range of scientists, engineers, and students.

310 pages, 2019 **US\$ 230.00/€ 210.00 /GBP 165.00**

Print (978-3-0357-1401-2)

eBook (978-3-0357-3401-0)

<https://www.scientific.net/AMM.892/book>

## ■ Technological Innovation for Sustainable Development

Edited by: Noppakun Sanpo, Jirasak Tharajak and Paisan Kanthang

### Applied Mechanics and Materials Vol. 891

This volume contains papers from the 9th RMUTP International Conference on Science, Technology and Innovation for Sustainable Development: Challenges towards the Digital Society 2018 (9th RMUTP ICON SCi-2018, 21-22 June 2018, Bangkok, Thailand) which present readers with results of the last researches in the field of phytochemistry and biotechnologies, materials science and mechanical engineering, environmental engineering and waste recycling.

318 pages, 2019 US\$ 250.00/€ 225.00 /GBP 175.00

Print (978-3-0357-1410-4)

eBook (978-3-0357-3410-2)

<https://www.scientific.net/AMM.891/book>

## ■ Direct Digital Manufacturing and Polymers

Edited by: Geoffrey Mitchell, Nuno Alves and Artur Jorge dos Mateus

### Applied Mechanics and Materials Vol. 890

This special issue contains selected papers presented at the 2nd International Conference on Direct Digital Manufacturing and Polymers (2nd CDDMAP 2017) held in Marinha Grande, Portugal. The presented papers consider some aspects of using the Direct Digital Manufacturing technologies in industry and biomedicine.

354 pages, 2019 US\$ 370.00/€ 335.00 /GBP 260.00

Print (978-3-0357-1243-8)

eBook (978-3-0357-3243-6)

<https://www.scientific.net/AMM.890/book>

## ■ Material, Machines and Methods for Sustainable Development

Edited by: Banh Tien Long, Hyung Sun Kim, Kozo Ishizaki, Nguyen Duc Toan and Nguyen Thi Hong Minh

### Applied Mechanics and Materials Vol. 889

This edition presents papers from the 1st International Conference on Material, Machines and Methods for Sustainable Development (MMMS 2018, 18-19 May 2018, Danang, Vietnam) that reflect the state-of-the-art in the field of materials sciences and mechanical engineering. The contents of manuscripts from authors representing universities, research

institutes, and industrial companies demonstrate the results of the very wide spectrum of research, from micro-nano material design and processing to the application material, the mechanical engineering technology in the industry. The largest number of the papers answer the vital question of how to obtain the advanced properties and technologies required of final task and products by the way of the verifications and selections of the process and control parameters. Other important problems of new special materials are also covered by several researchers. A large group of papers focuses on material modeling as well as the material technologies processes and mechanical manufacturing.

620 pages, 2019 US\$ 350.00/€ 315.00 /GBP 245.00

Print (978-3-0357-1364-0)

eBook (978-3-0357-3364-8)

<https://www.scientific.net/AMM.889/book>

## ■ Means and Methods for Measurement and Monitoring

Edited by: Osamu Hanaizumi

### Applied Mechanics and Materials Vol. 888

This special issue is the supplement book of proceedings of the 8th International Conference on Advanced Micro-Device Engineering (AMDE 2016) organized by the Human Resource Cultivation Center, Gunma University, held on 9 December 2016 in Kiryu, Japan. Thematic area of this volume is "Measurement and System technology"

108 pages, 2019 US\$ 140.00/€ 130.00 /GBP 100.00

Print (978-3-0357-1553-8)

eBook (978-3-0357-3553-6)

<https://www.scientific.net/AMM.888/book>

## ■ 12th EnviBuild – Buildings and Environment – From Research to Application

Edited by: Ulrich Pont, Matthias Schuss and Ardeshir Mahdavi

### Applied Mechanics and Materials Vol. 887

This collection of contributions is based on the results of the enviBUILD 2017 conference (Vienna, Austria, September 7-8, 2017) and presents for readers the variety of scientific and engineering approaches in the modern architecture, designing,

and planning of buildings and city environment used in the modern civil engineering.

700 pages, 2019 **US\$ 350.00/€ 315.00 /GBP 245.00**

Print (978-3-0357-1202-5)

eBook (978-3-0357-3202-3)

<https://www.scientific.net/AMM.887/book>

### ■ URU International Conference on Science and Technology 2018

Edited by: Ruangdet Wongla

#### Applied Mechanics and Materials Vol. 886

This is the book of collected articles presented at Uttaradit Rajabhat University International Conference on Science and Technology 2018 (URUICST2018) August 2-3, 2018, Uttaradit Thailand). The book covers a multitude of topics ranging over technologies in the food processing and agriculture, pharmacology and biotechnologies, technologies for the production of renewable energy, advanced materials, chemical technologies in the environmental engineering, designing in mechanical engineering and information technologies.

254 pages, 2019 **US\$ 170.00/€ 155.00 /GBP 120.00**

Print (978-3-0357-1414-2)

eBook (978-3-0357-3414-0)

<https://www.scientific.net/AMM.886/book>

### ■ Advanced Engineering Forum Vol. 34

Edited by: Mihai Demian

Volume 34 of Advanced Engineering Forum presents best full peer-reviewed papers from the 5th International Conference Advances in Engineering and Management (ADEM 2018) was held in November 2018 in Drobeta-Turnu Severin, Romania. The presented book is a scientific papers collection from various areas of modern engineering science and we hope that this collection will be useful for many specialists, researches and students.

2019 **US\$ 450.00/€ 405.00 /GBP 315.00**

Print (978-3-0357-1533-0)

eBook (978-3-0357-3533-8)

<https://www.scientific.net/AMM.890/book>

### ■ Advanced Engineering Forum Vol. 33

The 33rd volume of the journal "Advanced Engineering Forum" contains peer-reviewed manuscripts describing the results of engineering solutions and research dealing with actual problems in the area of micro-drilling of metal matrix composite, analysis of fatigue failure and cracking of aircraft fuselage, assessment of water quality in the industrial area, simulation of wi-fi signal propagation in the closed space and analysis of consumers' behavior in mobile shopping for the goal of design e-commerce objects. Published articles will be useful for professionals in the various branches of engineering, for students and academic staff concerned with the related specialties.

64 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1287-2)

eBook (978-3-0357-3287-0)

<https://www.scientific.net/AEF.33/book>

### ■ Advanced Engineering Forum Vol. 32

The 32nd volume of the journal "Advanced Engineering Forum" includes peer-reviewed manuscripts describing the results of engineering solutions and research dealing with actual problems of using in mechanical engineering methods of computational mechanics in design and numerical modeling, behavior of reinforced concrete in an aggressive environment, safety planning and management in industry and marketing research in telecommunication. Published articles will be useful for professionals in the various branches of engineering and for students and academic staff concerned with the related specialties.

92 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1063-2)

eBook (978-3-0357-3063-0)

<https://www.scientific.net/AEF.32/book>

### ■ **Advanced Engineering Forum Vol. 31**

The 31st volume of the journal "Advanced Engineering Forum" contains peer-reviewed manuscripts describing the results of engineering solutions and research dealing with actual problems in the area of strength of materials and structures, building materials, architecture, determination of optimal parameters for the technology of equal channel angular pressing and modeling for the multiple-criteria decision making in manufacturing environment. Published articles will be useful for professionals in the various branches of engineering and for students and academic staff concerned with the related specialties.

88 pages, 2019 **US\$ 145.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1174-5)  
eBook (978-3-0357-3174-3)

<https://www.scientific.net/AEF.31/book>

### ■ **International Journal of Engineering Research in Africa Vol. 44**

The 44th volume of International Journal of Engineering Research in Africa contains articles describing the research results in the fields of materials science, mechanical engineering, applied and computational mechanics, construction materials and technologies, technological processes and materials in the petroleum production, natural resources exploration and environmental engineering, robotics, renewable energy, power engineering and control, production management. The articles will be useful for many engineers as well as for academic teachers and students majoring in these fields of engineering science.

248 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1392-3)  
eBook (978-3-0357-3392-1)

<https://www.scientific.net/JERA.44/book>

### ■ **International Journal of Engineering Research in Africa Vol. 43**

We are glad to provide our readers with the 43rd volume of International Journal of Engineering Research in Africa. This volume contains articles describing the research results in the fields of materials science, mechanical engineering and control, communication and power supply in communication, construction materials and technologies, water treatment and biodiesel production, industrial engineering. The articles will

be useful for many engineers as well as for academic teachers and students majoring in these fields of engineering science.

186 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1058-8)  
eBook (978-3-0357-3058-6)

<https://www.scientific.net/JERA.43/book>

### ■ **International Journal of Engineering Research in Africa. Vol. 42**

We present our readers with the 42nd volume of "International Journal of Engineering Research in Africa". This volume contains articles describing the research results in the fields of materials science, applied mechanics, mechanical engineering, power distribution and power efficiency, construction materials and technologies, biodiesel production, information technologies, and industrial engineering. The articles will be useful for many engineers as well as for academic teachers and students majoring in these fields of engineering science.

196 pages, 2019 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-0357-1235-3)  
eBook (978-3-0357-3235-1)

<https://www.scientific.net/JERA.42/book>

### ■ **International Journal of Engineering Research in Africa Vol. 41**

The 41st volume of International Journal of Engineering Research in Africa contains articles describing the research results in the fields of materials science, mechanical engineering, control, wireless sensor networks, construction materials and technologies, technological processes and materials in the chemical production, freight transportation and structural analysis of production systems. The articles will be useful for many engineers as well as for academic teachers and students majoring in these fields of engineering science.

198 pages, 2019 **US\$ 145.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1083-0)  
eBook (978-3-0357-3083-8)

<https://www.scientific.net/JERA.41/book>

### ■ Journal of Biomimetics, Biomaterials and Biomedical Engineering Vol. 42

The 42nd volume of "Journal of Biomimetics, Biomaterials and Biomedical Engineering" contains papers that present to readers with the latest results of scientific research and engineering decisions in the fields of the biomechanics, utilization of modern biomaterials for implantation and in tissue engineering, biochemical methods and methods of processing the medical images for the early cancer diagnostic in the current medical practice. We hope that this volume will be useful for many researchers and engineers involved in different branches of modern biomedicine.

106 pages, 2019 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1013-7)

eBook (978-3-0357-3013-5)

<https://www.scientific.net/JBBBE.42/book>

### ■ Journal of Biomimetics, Biomaterials and Biomedical Engineering Vol. 41

In the 41st volume of "Journal of Biomimetics, Biomaterials and Biomedical Engineering" are collected papers that present readers with the latest results of scientific research and of some practical aspects in the fields of the biomechanics, utilization of modern biomaterials for implantation and in tissue engineering, processing of medical signals for the diagnostic equipment in the current medical practice. We hope that this volume will be useful for many researchers and engineers involved in different branches of modern biomedicine.

136 pages, 2019 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-0357-1171-4)

eBook (978-3-0357-3171-2)

<https://www.scientific.net/JBBBE.41/book>

### ■ Journal of Biomimetics, Biomaterials and Biomedical Engineering Vol. 40

In the 40th volume of Journal of Biomimetics, Biomaterials and Biomedical Engineering are collected papers which present readers with the latest results of scientific research and of some practical aspects in the fields of the sports biomechanics, dental implants mechanics, processing of medical signals and images for the diagnostic equipment, scaffold for the gingival recession therapy and pretreatment methods of the enamel surface. We hope that this volume will be useful for many researchers and engineers involved in different branches of modern biomedicine.

116 pages, 2019 US\$ 145.00/€ 135.00 /GBP 105.00

Print (978-3-0357-1062-5)

eBook (978-3-0357-3062-3)

<https://www.scientific.net/JBBBE.40/book>



# Best Selling Books



## ■ Membranes and Membrane Technologies

Edited by:  
Dr. Stanislav Kolisnychenko  
**Specialized Collections Vol. 8**

The topic collection “Membranes and Membrane Technologies” consists of papers published by Trans Tech Publications Inc. from 2012 up to 2017 and it covers a

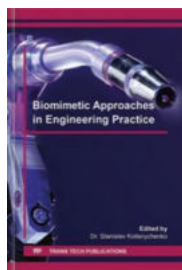
wide range of engineering solutions in the field of properties research, development, and production of various types of membranes and their use in the technologies for the treatment of the drink water and wastewater, gas separation, bioindustry, etc. We hope this collection will be useful and interesting to a broad audience of researchers and engineers.

2002 pages, 2019 **US\$ 700.00/€ 630.00 /GBP 490.00**

Print (978-3-0357-1422-7)

eBook (978-3-0357-3422-5)

<https://www.scientific.net/SC.8/book>



## ■ Biomimetic Approaches in Engineering Practice

Edited by:  
Dr. Stanislav Kolisnychenko  
**Specialized Collections Vol. 7**

Presented for your attention the special collection “Biomimetic Approaches in Engineering Practice” consists of papers published by Trans

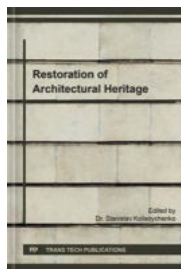
Tech Publications Inc. from 2010 up to 2016 and covers a wide range of engineering solutions in the fields of mechanical engineering, materials science, mechatronics, robotics, and architecture, where the principles of bionics were used in the design and research process.

1852 pages, 2018 **US\$ 360.00/€ 325.00 /GBP 255.00**

Print (978-3-0357-1445-6)

eBook (978-3-0357-3445-4)

<https://www.scientific.net/SC.7/book>



## ■ Restoration of Architectural Heritage

Edited by:  
Dr. Stanislav Kolisnychenko  
**Specialized Collections Vol. 6**

The conventional and unconventional materials, modern engineering methods and technologies employed in the restoration and reconstruction of

architectural heritage are the topics of the aggregated edition “Restoration of Architectural Heritage”. The book contains the scientific articles selected from the materials published by Trans Tech Publications Inc. from 2010 to 2016 inclusive. We hope this collection will be useful for many readers whose activity refers to the architectural heritage preservation sphere.

1630 pages, 2017 **US\$ 345.00/€ 310.00 /GBP 240.00**

Print (978-3-0357-1247-6)

eBook (978-3-0357-3247-4)

<https://www.scientific.net/SC.6/book>



## ■ Supercapacitors

Edited by:  
Dr. Stanislav Kolisnychenko  
**Specialized Collections Vol. 5**

Supercapacitors are widely used in tiny (MEMS) high-tech devices, as well as in advanced energy systems. Practical use of ultracapacitors opens up new horizons in the technology of

accumulation, storing and delivery of electrical energy. Modern materials and technologies which are used to create supercapacitors are results of the advanced achievements in the field of fundamental and applied physics and materials science. The special collection “Supercapacitors” consists of papers published by Trans Tech Publications Inc. from 2010 up to 2015 and covers a wide range of advanced achievements in the field of applied research of materials and technologies for manufacturing of supercapacitors and some of their application in different branches of engineering practice. Chapter 1: Materials and Technologies for Creating of Supercapacitors Chapter 2: Modeling and Measurements of Properties of Supercapacitors

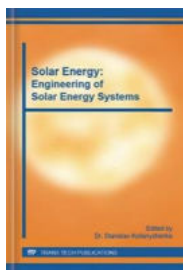
Chapter 3: Some Examples of Practical Application of Supercapacitors

856 pages, 2015 US\$ 210.00/€ 190.00 /GBP 150.00

Print (978-3-03835-904-3)

eBook (978-3-0357-0094-7)

<https://www.scientific.net/SC.5/book>



### ■ Solar Energy: Engineering of Solar Energy Systems

Edited by:  
Dr. Stanislav Kolisnychenko  
**Specialized Collections Vol. 2**

The main advantages of solar energy are inexhaustibility and wide accessibility, as well as the relative environmental friendliness of its

transformation into other forms of energy. The widespread use of solar energy requires the creation of functionally complete systems which convert solar energy into an element of a given technological process. The collection “Engineering of Solar Energy Systems” consists of papers published by Trans Tech Publications Inc. from 2010 to 2014 inclusive and covers a wide range of advanced achievements in the field of creating and designing systems for technological use of solar energy. The compiled scientific papers are presented in eight chapters: Chapter 1: Solar Systems for Heating, Cooling and Ventilation Chapter 2: Solar Energy in Environmental Treatment and Water Desalination Chapter 3: Solar Hydrogen Production Chapter 4: Systems for Electricity Supply Based on Solar Energy Chapter 5: Design of Components and Equipment for Solar Systems Chapter 6: Mechatronics, Control and Automation in Solar Energetics Chapter 7: Integration of Solar Technologies in the Architecture of Buildings Chapter 8: Engineering Management in Solar Energetics, which cover many aspects of scientific and engineering activities.

4628 pages, 2015 US\$ 760.00/€ 685.00 /GBP 530.00

Print (978-3-03835-901-2)

eBook (978-3-03826-942-7)

<https://www.scientific.net/SC.2/book>



### ■ Solar Cells: Research and Development of Solar Cells

Edited by:  
Dr. Stanislav Kolisnychenko  
**Specialized Collections Vol. 1**

Solar energy possesses enormous potential as a source of affordable and inexhaustible energy. Solar

energy is utilized with the help of various technologies and, in particular, photovoltaic technology, based on photovoltaic elements which provide direct conversion of solar energy into electricity. The compilation “Research and Development of Solar Cells” covers papers concerning various aspects of the design, research and manufacture of photovoltaic cells, as they have been selected from the library of Trans Tech Publications Inc. from 2010 to 2014 inclusive. All materials are presented in five chapters: Chapter 1: Silicon Based Solar Cells Chapter 2: Dye-Sensitized Cells Chapter 3: Other Types of Solar Cells Chapter 4: Technology of Quantum Dots Chapter 5: Engineering Support in Manufacturing of Solar Cells, which display a wide variety of challenges and achievements in the field of photovoltaic cells engineering.

3180 pages, 2015 US\$ 550.00/€ 495.00 /GBP 385.00

Print (978-3-03835-900-5)

eBook (978-3-03826-941-0)

<https://www.scientific.net/SC.1/book>



### ■ Structure and Properties of Building Materials

Edited by: Bolshakov V.I.,  
Dvorkin L.I.  
**Foundations of Materials Science and Engineering Vol. 91**

This book is intended for a wide readership and mostly for specialists - builders, as well as graduate and undergraduate students of engineering sciences in universities. In this book the Authors outline the general statement of structural theory and consider on its basis the interrelations of structure and properties of major groups of building materials. By generalizing the data of numerous studies, the

Authors refer to and analyze the results obtained by them in the Pridneprovsk Academy of Construction and Architecture and the National University of Water Management and Environmental Sciences (Ukraine).

220 pages, 2016 US\$ 160.00/€ 145.00 /GBP 115.00

Print (978-3-03835-717-9)

eBook (978-3-0357-0207-1)

<https://www.scientific.net/FoMSE.91/book>



### ■ Abrasive Blast Cleaning and Its Application

Edited by: Janette Brezinová, Anna Guzanová and Dagmar Draganovská  
**Materials Science Foundations Vol. 83**

Blasting is currently the technology with significant application in practice with a variety of materials used as

blasting media. The scientific-pedagogical team of Department of Mechanical Technology and Materials, Faculty of Mechanical Engineering, Technical University of Košice, Slovakia, focuses on the theoretical basics of blasting process in terms of cleaning and roughening effect focusing on wide range of metallic and non-metallic blasting media. The achieved results were obtained during the completion of a number of research tasks at different levels, completion of tasks for manufacturing practice as well as through dissertations and theses. Original findings contained in this monograph will contribute to expanding of the knowledge base of scientific researchers as well as to the transfer of the research results into practice. The monograph will serve as a source of scientific and technical information for scientific researchers, workers of technical institutes and the general scientific community.

112 pages, 2015 US\$ 120.00/€ 105.00 /GBP 85.00

Print (978-3-03835-995-1)

eBook (978-3-03826-775-1)

<https://www.scientific.net/MSFo.83/book>



### ■ Short-Term and Long-Term Behaviour of Reinforced Self-Compacting Concrete Structures

Edited by: Farhad Aslani  
**Materials Science Foundations Vol. 77**

Volume is indexed by Thomson Reuters BCI (WoS).

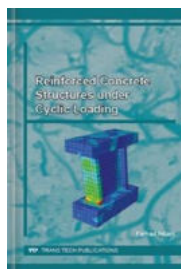
Self-Compacting Concrete (SCC) refers to a 'highly flow-able, non-segregating concrete that can be spread into place, fill the form work, and encapsulate the reinforcement without the aid of any mechanical consolidation. SCC is regarded as one of the most promising developments in concrete technology due to significant advantages over Conventional Concrete (CC). In this study cracking caused by external loads in reinforced SCC and FRSCC slabs is examined experimentally and analytically. The mechanisms associated with the flexural cracking due to the combined effects of constant sustained service loads and shrinkage are observed. One of the primary objectives of this study is to develop analytical models that accurately predict the hardened mechanical properties of SCC and FRSCC. Subsequently, these models have been successfully applied to simulate time-dependent cracking of SCC and FRSCC one-way slabs.

556 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-999-9)

eBook (978-3-03826-498-9)

<https://www.scientific.net/MSFo.77/book>



### ■ Reinforced Concrete Structures under Cyclic Loading

Edited by: Farhad Aslani  
**Materials Science Foundations Vol. 80**

Experimental programs in laboratories give real results to identify nonlinear behavior of reinforced concrete (RC)

structures but they are limited to knowledge of particular cases under restricted structural dimensions, sizes, shapes, loading and boundary conditions but the computational simulation approach has no limit to its application. Constitutive models are developed to simulate the dynamic nonlinear response of concrete and steel

reinforcement subjected to cyclic loading varying randomly in magnitude. The behavior of structural concrete under monotonic loading is affected by important material aspects including cracking, crushing, tension stiffening, compression softening and bond slip. Reversed cyclic loading introduces further complexities such as stiffness degradation in concrete and the Bauschinger effect in reinforcing steel. In this research the validity and reliability of some proposed constitutive models for concrete considering general loading i.e. cyclic, monotonic, partial, common point and transition loading are evaluated. Amongst many existing constitutive models, because of their simplicity and common usage in the finite element analysis of RC structures, only some common proposed models based on nonlinear elasticity-based approach are investigated. These models are verified against experimental data available in the literature and the results are discussed. In this study, also, a hysteretic stress-strain model is developed for unconfined concrete with the intention of providing efficient modeling for the structural behavior of concrete in seismic regions. The proposed model is based on the findings of previous experimental and analytical studies. The model for concrete subjected to monotonic and cyclic loading, comprises four components in compression and tension; an envelope curve (for monotonic and cyclic loading), an unloading curve, a reloading curve, and transition curve. Also presented are formulations for partial unloading and partial reloading curves. The proposed Constitutive model reliability is investigated by RC members non-linear finite element analysis (FEM) using by finite element software ABAQUS. Comparisons with test results showed that the proposed model provides a good fit to a wide range of experimentally established hysteresis loops.

284 pages, 2015 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-996-8)

eBook (978-3-03826-723-2)

<https://www.scientific.net/MSFo.80/book>



### ■ **Materials Processing for Engineering Manufacture**

Edited by: Zainul Huda  
**Foundations of Materials Science and Engineering Vol. 93**

"Manufacturing Technology and Materials Processing" is a core course for the

undergraduate program: "Mechanical Engineering - Engineering Materials - Industrial Manufacture" in all reputed universities. This volume is designed for readers who are either engineering-degree students or practicing engineers in industry. This volume comprises of 19 chapters that are organized by dividing into four parts. Part I introduces to the Fundamentals of Materials and Manufacturing. Part II discusses Basic and Conventional Manufacturing Processes. Part III deals with Advanced Manufacturing Processes and Systems. Finally, in Part IV are explained Economic aspects and aspects of Quality Assurance of the manufacturing.

462 pages, 2017 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-03835-721-6)

eBook (978-3-0357-0212-5)

<https://www.scientific.net/FoMSE.93/book>



### ■ **Membrane Fusion and Syncytial Neuronal Cytoplasmic Connection**

Edited by: O.S. Sotnikov and A.A. Laktionova  
**Foundations of Materials Science and Engineering Vol. 92**

In this monograph, for the first time, results of systematic studies of cytoplasmic syncytial connections in the vertebrate and invertebrate nervous system are presented. It has been shown that in the nervous system, apart from chemical synapses and electrical membranous contacts, the third type of interneuronal communications exists — the cytoplasmic syncytial connection. Absolute criteria are developed, which allow revealing syncytial connections in light microscopy preparations and in tissue culture plexuses, as well as in electron microscopy investigations. For the first time, the method of artificial syncytial fusion of mass of living neurons in experiment was developed. It was shown

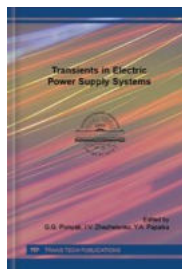
that neurons, like cells of all other types, are capable for the enucleation with formation of karyoplasts and cytoplasts. This book is of interest to neurophysiologists, neuromorphologists, and neuropathologists, as well as to lecturers in the corresponding general courses about the neuron.

168 pages, 2016 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1000-7)

eBook (978-3-0357-3000-5)

<https://www.scientific.net/FoMSE.92/book>



### ■ Transients in Electric Power Supply Systems

Edited by: Gennadiy Pivnyak, Igor V. Zhezhenenko and Yurii Papaika

#### Foundations of Materials Science and Engineering Vol. 90

The book consists of introduction and two parts. In

the first part electromagnetic transients caused by shorts, longitudinal and lateral asymmetry, technological process and conditions of electromagnetic compatibility are considered. The part two is devoted to electromechanical transients and to combined influence of the electromagnetic and electromechanical transients on power supply system operation stability.

392 pages, 2016 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-03835-773-5)

eBook (978-3-0357-0264-4)

<https://www.scientific.net/FoMSE.90/book>

### ■ Recent Tendency in Aerospace, Robotics, Manufacturing Systems, Energy and Mechanical Engineering

Edited by: Prof. Adrian Olaru

#### Applied Mechanics and Materials Vol. 841

The Organizing Committee warmly welcomes our distinguished delegates and guests to the 11th edition of the IACSIT/IACT/UASTRO International Conference on Aerospace, Robotics, Manufacturing Systems, Mechanical Engineering, Biomechanics and Neurorehabilitation (OPTIROB 2016), held on June 29 - July 2, 2016, Jupiter, Constanta, ROMANIA.

Presented collection will be useful for researchers and engineers from area of Material Processing,

General Mechanical Engineering, Aerospace Techniques, Energy, Mechatronics and Robotics.

406 pages, 2016 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-03835-668-4)

eBook (978-3-0357-0149-4)

<https://www.scientific.net/AMM.841/book>

### ■ Robotics and Automated Production Lines

Edited by: Thorsten Schüppstuhl, Kirsten Tracht, Jörg Franke

#### Applied Mechanics and Materials Vol. 840

Presented collection prepared by results of work the 1st MHI Colloquium (24.02 - 25.02.2016, Hamburg, Germany) and devoted to decision of many issues related with industrial robotics and automated production lines and manufactures. This volume will be useful for many scientists and engineers connected with automation of modern manufacturing processes.

152 pages, 2016 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-03835-759-9)

eBook (978-3-0357-0250-7)

<https://www.scientific.net/AMM.840/book>

### ■ Advanced Manufacturing Technologies

Edited by: Cristian Vasile Doicin, Dr. Nicolae Ionescu, Prof. Tom Savu and Eduard Nițu

#### Applied Mechanics and Materials Vol. 834

Selected, peer reviewed papers from 8th International Conference on Advanced Manufacturing Technologies (ICAMaT) 2015, 29th – 30th October 2015, Bucharest, Romania. The 38 papers are grouped as follows: Chapter 1: Integrated Product Development; Chapter 2: Technical and Technological Support of Flexible and Intelligent Manufacturing Systems; Chapter 3: Technological Measurements; Chapter 4: Materials in Modern Production; Chapter 5: Management, Production Planning and Quality; Chapter 6: Current Tendencies in Engineering Education.

260 pages, 2016 **US\$ 140.00/€ 125.00 /GBP 100.00**

Print (978-3-03835-607-3)

eBook (978-3-0357-0082-4)

<https://www.scientific.net/AMM.834/book>

## ■ **Advances in Mechanical and Energy Engineering**

Edited by: Slawomir Smoleń, Janusz T. Cieśliński, Jacek Kropiwnicki

### **Applied Mechanics and Materials Vol. 831**

This book includes high-quality articles within the framework of several projects and international collaborations, among them University of Applied Sciences Bremen and Gdańsk University of Technology. Some of the research presented in these articles was presented on international symposia and conferences, e.g. the XXII International Symposium Research-Education-Technology and 4th International Conference Low Temperature and Waste Heat Use on 24th to 25th September 2015 in Bremen. The articles cover current research of material science, mechanical engineering, energy technologies and nanofluids to supplement literature in these fields.

350 pages, 2016 **US\$ 210.00/€ 190.00 /GBP 150.00**

Print (978-3-03835-796-4)

eBook (978-3-0357-0287-3)

<https://www.scientific.net/AMM.831/book>

## ■ **Carbon Dioxide: Problems and Decisions**

Edited by: Ivani de Souza Bott, Jussara Lopes de Miranda, Ofelia de Queiroz Fernandes Araujo and Raimar van den Bylaardt

### **Applied Mechanics and Materials Vol. 830**

Present volume is dedicated solving the problems of capture, transportation, storage and reuse of the carbon dioxide in modern manufacturing of sustainable society.

160 pages, 2016 **US\$ 140.00/€ 125.00 /GBP 100.00**

Print (978-3-03835-765-0)

eBook (978-3-0357-0256-9)

<https://www.scientific.net/AMM.830/book>

## ■ **Advances in Mechanical Engineering**

Edited by: Dr. T. Rajmohan, Dr. S. Arumugam and Dr. K. Palanikumar

### **Applied Mechanics and Materials Vols. 813-814**

Collection of selected, peer reviewed papers from the International Conference on Mechanical and Manufacturing Engineering (ICMME-2015), April 2-3, 2015, Kanchipuram, India. The 210 papers are grouped as follows: Chapter 1: Materials Engineering Chapter 2: Technologies of Materials Processing in Manufacturing Engineering Chapter 3: Fluids and Thermal Engineering Chapter 4: Engines and Fuels

Chapter 5: Research and Design of Industrial Equipments and Machines Chapter 6: Industrial Engineering

1249 pages, 2015 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-03835-664-6)

eBook (978-3-0357-0145-6)

<https://www.scientific.net/AMM.813-814/book>

## ■ **Mechanical Engineering and Aeronautical Engineering**

Edited by: Christopher Chao, Matthew Parkinson

### **Applied Mechanics and Materials Vol. 829**

Collection of selected, peer reviewed papers from the 2015 International Conference on Mechanical and Aeronautical Engineering (ICMAE 2015), December 12-14, 2015, Singapore. The 24 papers are grouped as follows: Chapter 1: Aerodynamics, Heat and Mass Transfer; Chapter 2: Design, Machining and Equipment; Chapter 3: Modeling, Characteristics, Wear and Crack of Materials; Chapter 4: Control, Dynamics and Signal Processing;

156 pages, 2016 **US\$ 130.00/€ 115.00 /GBP 90.00**

Print (978-3-03835-695-0)

eBook (978-3-0357-0181-4)

<https://www.scientific.net/AMM.829/book>

## ■ **Composite Materials and Structures in Aerospace Engineering**

Edited by: Prof. Erasmo Carrera

### **Applied Mechanics and Materials Vol. 828**

Composite structures are massively exploited in many engineering fields. For instance, the state-of-the-art civil aircraft (B787 and A350) are mostly made of composite materials. The design of composites leads to challenging tasks since those competencies that stemmed from the adoption of metallic materials are often inadequate for composites. Insights on many different disciplines and tight academic/industrial cooperation are required to fully exploit composite structure capabilities.

248 pages, 2016 **US\$ 160.00/€ 145.00 /GBP 115.00**

Print (978-3-03835-746-9)

eBook (978-3-0357-0237-8)

<https://www.scientific.net/AMM.828/book>

### ■ **Advanced Engineering and Technology**

Edited by: Prof. Dong Keon Kim, Jong Wan Hu, Jong Won Jung and Jun Won Seo

#### **Applied Mechanics and Materials Vols. 752-753**

Collection of selected, peer reviewed papers from the International Conference on Advanced Engineering and Technology (ICAET 2014), December 19-21, 2014, Incheon, South Korea. The 260 papers are grouped as follows: Chapter 1: Metal and Alloy Materials and Technologies; Chapter 2: Advanced Materials Engineering, Technologies and Applications; Chapter 3: Material Testing, Analysis and Processing Technology; Chapter 4: Structural Engineering, Dynamics and Applied Mechanics, Building Materials and Building Management; Chapter 5: Mechanical Engineering and Design, Manufacturing Technologies; Chapter 6: Automation, Robotics and Control; Chapter 7: Measurement, Monitoring and Detection, Identification and Advanced Systems; Chapter 8: Communication, Graphic and Image Processing, Information Technologies Applications; Chapter 9: Energy Control and Power Systems, Electrical and Electronic Engineering; Chapter 10: Disaster Prevention and Mitigation Technology, Environmental Protection and Safety Management; Chapter 11: Industrial Engineering, Production Quality and Management

1500 pages, 2015 US\$ 335.00/€ 300.00 /GBP 235.00

Print (978-3-03835-442-0)

eBook (978-3-03826-903-8)

<https://www.scientific.net/AMM.752-753/book>

### ■ **Advances in Civil Engineering and Transportation IV**

Edited by: Xiangdong Zhang and Bin Zhang

#### **Applied Mechanics and Materials Vols. 744-746**

Collection of selected, peer reviewed papers from the 4th International Conference on Civil Engineering and Transportation (ICCET 2014), December 24-25, 2014, Xiamen, China. The 462 papers are grouped as follows: Chapter 1: Structural Engineering; Chapter 2: Geotechnical Engineering and Geological Engineering; Chapter 3: Bridge Engineering; Chapter 4: Earthquake Engineering; Chapter 5: Tunnel, Subway and Underground Facilities; Chapter 6: Hydraulic and Hydrodynamics Engineering, Water Supply and Drainage Engineering; Chapter 7: Coastal Engineering; Chapter 8: Roads and Railway Engineering; Chapter 9: Building Materials and Technology; Chapter 10: Building Technology and Science; Chapter 11: Computational Mechanics and

Mathematical Modeling; Chapter 12: Surveying Engineering, Cartography and Geographic Information Systems; Chapter 13: Disaster Prevention and Mitigation Engineering; Chapter 14: Transportation and Traffic Planning, Operation Organization and Management; Chapter 15: Modern Logistics Systems and Supply Chain; Chapter 16: Intelligent Transportation Theory and Application; Chapter 17: Transportation Control, Analysis, Monitoring, Applied Information Technology; Chapter 18: Public Transport Planning and Management; Chapter 19: Transportation and Economic Development, and Low Carbon Transportation; Chapter 20: Architectural Design and Theory; Chapter 21: Urban Planning and Design, Landscape Design, Sustainable City and Regional Development; Chapter 22: Ecological Architecture and Energy Consumption, Energy Saving, Heating, Ventilation and Air Conditioning Works; Chapter 23: Environmental Engineering, Ecological and Environmental Protection

2564 pages, 2015 US\$ 445.00/€ 400.00 /GBP 310.00

Print (978-3-03835-420-8)

eBook (978-3-03826-806-2)

<https://www.scientific.net/AMM.744-746/book>

### ■ **Sensors, Measurement, Intelligent Materials and Technologies III**

Edited by: Yun-Hae Kim and Prasad Yarlagadda

#### **Applied Mechanics and Materials Vols. 738-739**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Sensors, Measurement and Intelligent Materials (ICSMIM 2014), November 25-26, 2014, Zuhai, China. The 269 papers are grouped as follows: Chapter 1: Sensors and Materials for Sensors, their Applications; Chapter 2: Smart and Functional Materials and Technologies, Analysis, Design, Processing; Chapter 3: Remote Sensing and Telemetry Technology; Chapter 4: Intelligent Information and Expert Systems, Applications for Management and Product Design; Chapter 5: Algorithms, Computation Methods and their Applications; Chapter 6: Mathematical Methods and Modelling, Information Technologies in Industrial Engineering; Chapter 7: Data, Text, Sound, Image, Signal and Video Processing and Technologies, Data Acquisition, their Applications; Chapter 8: Testing, Detection, Measurement, Monitoring Technologies and Instruments; Chapter 9: Mechatronics, Industrial Robotics, Automation and Control Technology; Chapter 10: Computer Networks,

Communication Technology and E-Commerce;  
Chapter 11: Modern Electronic, Circuit Technology,  
Electrical and Power Engineering; Chapter 12:  
Software Applications and Development.

1400 pages, 2015 US\$ 445.00/€ 400.00 /GBP 310.00

Print (978-3-03835-405-5)

eBook (978-3-03826-791-1)

<https://www.scientific.net/AMM.738-739/book>

### ■ Materials and Engineering Technology

Edited by: Feng Liu

#### Applied Mechanics and Materials Vols. 719-720

Collection of selected, peer reviewed papers from the 2014 International Conference on Materials and Engineering Technology (MET 2014), October 24-26, 2014, Chicago, USA. The 215 papers are grouped as follows: Chapter 1: Material Science and Material Processing; Chapter 2: Materials and Technologies in Construction Industry; Chapter 3: Researching and Designing of Machines and Mechanisms for the Manufacturing Equipments; Chapter 4: Mechatronics, Automation and Control Engineering; Chapter 5: Embedded System; Chapter 6: Power Electronics and Electrical Engineering; Chapter 7: Communication and Information Technology; Chapter 8: Data, Signal and Image Processing, Applied Computational Technologies; Chapter 9: Engineering Management

1340 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-384-3)

eBook (978-3-03826-769-0)

<https://www.scientific.net/AMM.719-720/book>

### ■ Frontiers of Mechanical Engineering and Materials Engineering III

Edited by: Wen-Pei Sung and Jimmy (C.M.) Kao

#### Applied Mechanics and Materials Vols. 727-728

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Frontiers of Mechanical Engineering and Materials Engineering (MEME 2014), November 21-23, 2014, Xiamen, China. The 227 papers are grouped as follows: Chapter 1: Materials, Technologies for Processing and Chemical Engineering; Chapter 2: Researching and Designing of Machines and Technological Equipment; Chapter 3: Measurements, Mechatronics, Control and

Automation; Chapter 4: Communication, Information Technologies and Computational Algorithms

1066 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-390-4)

eBook (978-3-03826-776-8)

<https://www.scientific.net/AMM.727-728/book>

### ■ Mechanical Engineering and Materials Science

Edited by: M.R. Xue, K.M. Li, M.H. Lee and X.Y. Zhang  
**Applied Mechanics and Materials Vols. 716-717**

Collection of selected, peer reviewed papers from the 2014 International Conference on Intelligent Mechanics and Materials Engineering (ICIMME 2014), December 27-28, 2014, Shenzhen, China. The 378 papers are grouped as follows: Chapter 1: Materials Science and Processing Technologies, Chemical Processes and Biotechnologies; Chapter 2: Construction and Structural Engineering, Materials and Technologies; Chapter 3: General Mechanical Engineering, Applied Mechanics and Manufacturing, Equipment; Chapter 4: Measurements, Instrumentation, Testing, Monitoring, Analysis and Detection Technologies; Chapter 5: Electronics and Microelectronics, Embedded and Integrated Systems, Communications and Signal Processing, Power and Energy, Electric and Magnetic Systems; Chapter 6: Mechatronics, Robotics, Automation and Control

1788 pages, 2015 US\$ 445.00/€ 400.00 /GBP 310.00

Print (978-3-03835-386-7)

eBook (978-3-03826-771-3)

<https://www.scientific.net/AMM.716-717/book>

### ■ Manufacturing Technology, Electronics, Computer and Information Technology Applications

Edited by: Zhang Lin, Hongying Hu, Yajun Zhang, Jianguo Qiao and Jiamin Xu

#### Applied Mechanics and Materials Vols. 687-691

Collection of selected, peer reviewed papers from the 2014 International Conference on Manufacturing Technology and Electronics Applications (ICMTEA 2014), November 8-9, 2014, Taiyuan, Shanxi, China. The 1181 papers are grouped as follows: Chapter 1: Researching and Designing in Mechanical Engineering, Mechatronics, Automation and Control, Chapter 2: Measurement and Instrumentation, Monitoring, Testing and Detection Technologies, Chapter 3: Numerical Methods, Computation

Methods and Algorithms for Modeling, Simulation and Optimization, Data Mining and Data Processing, Chapter 4: Information Technologies, WEB and Networks Engineering, Information Security, Software Application and Development, E-Applications, Chapter 5: Electronics and Microelectronics, Embedded and Integrated Systems, Smart Grids, Power and Energy, Electric and Magnetic Systems, Chapter 6: Communication, Signal and Image Processing, Data Acquisition, Identification and Recognition Technologies, Chapter 7: Materials Science and Applications, Chapter 8: Advanced Information and Innovative Technologies for Management, Logistics, Economics, Marketing, Assessment.

5360 pages, 2014 US\$ 610.00/€ 550.00 /GBP 430.00

Print (978-3-03835-328-7)

eBook (978-3-03826-712-6)

<https://www.scientific.net/AMM.687-691/book>

### ■ Applied Mechanics, Materials and Manufacturing IV

Edited by: Huawu Liu, Shin-ichi Kuroda and Lajiu Zheng

**Applied Mechanics and Materials Vols. 670-671**

Collection of selected, peer reviewed papers from the 4th International Conference on Applied Mechanics, Materials and Manufacturing (ICA3M 2014, ICAMMM2014), August 23-24, 2014, Shenzhen, China. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 336 papers are grouped as follows:

Chapter 1: Nanomaterials Science and Technology; Chapter 2: Metals and Alloys; Chapter 3: Optical and Magnetic Materials, Semiconductors and Technology; Chapter 4: Composite Materials and Applications; Chapter 5: Chemical Materials and Technologies for Chemical Engineering; Chapter 6: Building Materials and Construction Technology; Chapter 7: Technologies of Material Processing; Chapter 8: Applied and Computational Mechanics in Designing and Research; Chapter 9: Industrial Equipment and Technology; Chapter 10: Mechanical Structural Strength, Reliability and Risk Analysis and Assessment; Chapter 11: Vibration, Sound, Noise Analysis and Control; Chapter 12: Measurement Technology, Instruments and Sensors, Monitoring, Detection Technologies and Methodologies; Chapter 13: Mechatronics, Industrial Robots, Automation and Control Technologies; Chapter 14: Electronics, Circuit Technology and Electrics; Chapter 15: Computer Applications and Mathematical Modeling, Intelligent

Algorithms and Optimization; Chapter 16: Industrial Engineering, Production Management, Operations, Quality and Control; Chapter 17: New Technologies in Engineering Education

1760 pages, 2014 US\$ 370.00/€ 335.00 /GBP 260.00

Print (978-3-03835-288-4)

eBook (978-3-03826-672-3)

<https://www.scientific.net/AMM.670-671/book>

### ■ Innovative Technology and Sustainable Engineering

Edited by: Noppakun Sanpo, Jirasak Tharajak and Paisan Kanthang

**Applied Mechanics and Materials Vol. 866**

The collection by results of the 7th RMUTP International Conference on Science, Technology and Innovation for Sustainable Development: Challenges towards the green innovative society (Bangkok, Thailand, 23-24 June 2016) presents the papers describing results of recent research and engineering developments in the field of materials and innovative technologies for Sustainable Development. We hope the collection will be useful for the wide audience of scientists and engineers from different areas of modern engineering sciences.

474 pages, 2017 US\$ 210.00/€ 190.00 /GBP 150.00

Print (978-3-0357-1102-8)

eBook (978-3-0357-3102-6)

<https://www.scientific.net/AMM.866/book>

### ■ Ocean Science and Coastal Engineering

Edited by: Suntoyo, PhD and Agro Wisudawan, MT

**Applied Mechanics and Materials Vol. 862**

ISOCEEN 2015 (the 3rd International Seminar on Ocean and Coastal Engineering, Environmental and Natural Disaster Management, Surabaya, Indonesia, December 10, 2015) was aimed at providing a discussions, for exchanging of knowledge, researches and of recent solutions for many researchers and experts in the field of Ocean, Offshore, Coastal engineering, Environmental and Disaster Management. The results of discussions are presented in this book. We hope this book will be interesting and useful for many engineers and

## Materials Science & Engineering

scientists whose activity related with researches of ocean and development of coastal areas.

354 pages, 2017 **US\$ 150.00/€ 135.00 /GBP 105.00**

Print (978-3-0357-1091-5)

eBook (978-3-0357-3091-3)

<https://www.scientific.net/AMM.862/book>

### ■ **Advanced Research in Area of Materials, Aerospace, Robotics and Modern Manufacturing Systems**

Edited by: Prof. Adrian Olaru

**Applied Mechanics and Materials Vol. 859**

The main objective of the 6th edition of the International Conference on Aerospace, Robotics, Manufacturing Systems, Mechanical Engineering, Biomechanics and Neurorehabilitation (IACSIT/IACST/UAstro ICMERA 2016, November 4-6, 2016, Bucharest, ROMANIA) was to bring together leading researchers, engineers and scientists from Romania and from around the world in order to provide a platform for exchange of latest experience and developments in the field of Aerospace Engineering, Robotics, Mechanical Engineering, Manufacturing Systems and Biomedical Engineering.

260 pages, 2017 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-667-7)

eBook (978-3-0357-0148-7)

<https://www.scientific.net/AMM.859/book>

### ■ **Civil, Architectural, Structural and Constructional Engineering**

Edited by: Prof. Dong Keon Kim

**Applied Mechanics and Materials Vol. 858**

The ICCASCE is an annual International Conference on Civil, Architectural, Structural and Constructional Engineering. The ICCASCE 2016 took place on July 15-17, 2016 in Busan, South Korea. Organized by the Dong-A University, ICCASCE 2016 continues to highlight the relationship between the fundamental and applied research, respectively the technological transfer in the fields of Civil, Architectural, Structural and Constructional Engineering. The aim of ICCASCE 2016 were the presentation of the latest research and results of scientists related to Civil, Architectural, Structural and Constructional Engineering topics. This conference provided opportunities for the delegates to exchange new ideas face-to-face, to establish business or research relations as well as to find global partners for future

collaborations. We hope that the conference results will lead to significant contributions to the knowledge in these up-to-date scientific fields.

394 pages, 2017 **US\$ 170.00/€ 155.00 /GBP 120.00**

Print (978-3-03835-726-1)

eBook (978-3-0357-0217-0)

<https://www.scientific.net/AMM.858/book>

### ■ **Innovations in Structural Engineering and Construction**

Edited by: Dr. Mini Mathew, Dr. Soney C. George

and Prof. George M. Varghese

**Applied Mechanics and Materials Vol. 857**

This edition published by results of "International Conference on Innovations in Structural Engineering and Construction" (icISEC, 29 - 30 July, 2016). The topics of edition include advancements in analysis, modeling and design of structures, structural stability and dynamics, structural monitoring, repair and strengthening, structural conservation, earthquake engineering, soil structure interaction, sustainable construction, advanced construction techniques and its management, recycling of concrete and new trends in concrete technology.

302 pages, 2017 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-743-8)

eBook (978-3-0357-0234-7)

<https://www.scientific.net/AMM.857/book>

### ■ **Mechanical Engineering Design**

Edited by: Dr. M. Selvaraj, Dr. M. S. Alphin,

Dr. M. Nalla Mohamed, Dr. G. Selvakumar

**Applied Mechanics and Materials Vol. 852**

The recent developments in the area of Mechanical Engineering Design is very encouraging and this book by results of International Conference on Mechanical Engineering Design (ICMED 2016, Chennai, TamilNadu, India, April 25-26, 2016) will provide an effective medium for the dissemination of recent advances and original works of industry professionals, academicians and research scholars from around the globe in Mechanical Engineering Design and its impact on the components manufacturing process in an integrated, highly focused and coherent format. We hope that the outcomes of this book will help in different working

situations, bridge research and practice and respond positively to emerging issues in various mechanical engineering designs.

900 pages, 2016 **US\$ 285.00/€ 260.00 /GBP 200.00**

Print (978-3-03835-777-3)

eBook (978-3-0357-0268-2)

<https://www.scientific.net/AMM.852/book>

### ■ **Materials and Technologies in Modern Mechanical Engineering**

Edited by: M. Mahardika

**Applied Mechanics and Materials Vol. 842**

The conference theme is Green Manufacturing. The green manufacturing is a method for manufacturing that minimizes waste and pollution. Therefore, the 8th RCMME and ICMME 2015 is a place for the discussion of optimizing mechanical and manufacturing processes by minimizing waste and pollution. The aim of the conference is to facilitate the exchange of experiences and research results in all aspects of Materials and Technologies in Modern Mechanical Engineering, especially in terms of green manufacturing.

500 pages, 2016 **US\$ 200.00/€ 180.00 /GBP 140.00**

Print (978-3-03835-645-5)

eBook (978-3-0357-0126-5)

<https://www.scientific.net/AMM.842/book>

### ■ **Engineering Design and Analysis**

Edited by: Prof. Kyle Jiang, Prof. Shinn-Liang Chang and Prof. Ruxu Du

**Applied Mechanics and Materials Vol. 826**

Collection of selected, peer reviewed papers from the 2015 International Conference on Mechanical Engineering and Automation Science (ICMEAS 2015), October 24-25, 2015, Hong Kong. The 27 papers are grouped as follows: Chapter 1: Advanced Engineering Design and Analysis; Chapter 2: Advanced Manufacturing Technology; Chapter 3: Robotics, Automation and Control; Chapter 4: Biomedical Devices and Systems.

172 pages, 2016 **US\$ 135.00/€ 120.00 /GBP 95.00**

Print (978-3-03835-659-2)

eBook (978-3-0357-0140-1)

<https://www.scientific.net/AMM.826/book>

### ■ **Engineering Mechanics 2015**

Edited by: Cyril Fischer

**Applied Mechanics and Materials Vol. 821**

The present Special Issue contains a selection of papers presented at the 22nd International Conference on Engineering Mechanics, which has been held in Svatka resort in Czech Republic under auspices of the Czech Society of Mechanics and being a part of IFTOMM (The International Federation for the Promotion of Mechanism and Machine Science) activities. As it corresponds with character of the conference, this Special Issue consists of several topic oriented parts: Linear and Nonlinear Dynamics and Stability, Aeroelasticity, Hydroelasticity and Fluid Mechanics, Biomechanics, Fracture Mechanics, Mechatronics, Reliability of Structures, Mechanics of Solids, Thermomechanics. The volume represents a well-balanced overview of theoretical, numerical and experimental work on fundamental and applied studies.

814 pages, 2016 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-03835-700-1)

eBook (978-3-0357-0188-3)

<https://www.scientific.net/AMM.821/book>

### ■ **Advanced Architectural Design and Construction**

Edited by: Milan Palko

**Applied Mechanics and Materials Vol. 820**

Development of the material-technological base in the field of architecture and construction is progressing faster than in the previous periods. Based on the potential of new materials and technologies, it is possible to create advanced architecture and engineering building systems. Integration of advanced materials, technologies and construction systems creates a high-quality architectural construction with optimum performance in the presence as well as in the future. Nevertheless, improper application of high-quality materials in the wrong environment may cause a defect.

496 pages, 2016 **US\$ 225.00/€ 200.00 /GBP 155.00**

Print (978-3-03835-689-9)

eBook (978-3-0357-0173-9)

<https://www.scientific.net/AMM.820/book>

## ■ Progress in Energy and Thermal Sciences

Edited by: Mazlan Abdul Wahid  
and Mohd Fairus Mohd Yasin

### Applied Mechanics and Materials Vol. 818

Collection of selected, peer reviewed papers from the International Conference on Energy and Thermal Sciences (ICETS 2014), October 1, 2014, Skudai, Malaysia. The 45 papers are grouped as follows: Chapter 1: Materials Engineering Chapter 2: Technologies of Materials Processing in Manufacturing Engineering Chapter 3: Fluids and Thermal Engineering Chapter 4: Engines and Fuels Chapter 5: Research and Design of Industrial Equipments and Machines Chapter 6: Industrial Engineering

322 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-669-1)

eBook (978-3-0357-0150-0)

<https://www.scientific.net/AMM.818/book>

## ■ Propulsion Systems, Mechatronics and Communication

Edited by: Zygmunt Kitowski, Jerzy Garus  
and Piotr Szymak

### Applied Mechanics and Materials Vol. 817

This volume presents selected papers of 2 Day Symposium on Mechatronics Systems, Mechanics and Materials 2015/V. The book is divided into three main chapters:- Engines, Propulsion Systems and Fuels;- Mechatronics, Robotics and Control;- Communication and Navigation Systems The main objective of this issue is the dissemination of the scientific knowledge to better understanding of modern problems and decisions in area of engine engineering, mechatronics as well as robotics, communication and navigation systems, especially for the marine applications. Moreover, the aim of the issue is to interconnect diverse scientific fields and exchange current views between scientists and researchers.

370 pages, 2016 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-595-3)

eBook (978-3-0357-0070-1)

<https://www.scientific.net/AMM.817/book>

## ■ Applied Mechanics and Mechatronics II

Edited by: František Trebuňa

### Applied Mechanics and Materials Vol. 816

Collection of selected, peer reviewed papers from the Special topic volume with invited peer reviewed papers only. The 79 papers are grouped as follows: Chapter 1: Design, Modeling and Research of Mechanical and Mechatronic Systems; Chapter 2: Development and Modification of Computational Methods and Algorithms; Chapter 3: Experimental Methods of Measurements and Analysis in Engineering Practice; Chapter 4: Industrial Engineering of Modern Production

598 pages, 2015 US\$ 235.00/€ 210.00 /GBP 165.00

Print (978-3-03835-602-8)

eBook (978-3-0357-0077-0)

<https://www.scientific.net/AMM.816/book>

## ■ Evolution of Green Energy and Vehicle Technology

Edited by: Dr. S. Saravanan

### Applied Mechanics and Materials Vol. 812

Collection of selected, peer reviewed papers from the National Conference on EVOLUTION OF GREEN ENERGY AND VEHICLE TECHNOLOGY, March 2-3, 2015, Sriperumbudur, India. The 20 papers are grouped as follows: Chapter 1: Engineering Decisions for Systems of Alternative Energy Chapter 2: Fuels and Engines Chapter 3: Engineering Decisions in Automotive Industry

166 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-661-5)

eBook (978-3-0357-0142-5)

<https://www.scientific.net/AMM.812/book>

## ■ Advanced Research in Aerospace Engineering, Robotics, Manufacturing Systems, Mechanical Engineering and Biomedicine

Edited by: Prof. Adrian Olaru

### Applied Mechanics and Materials Vol. 811

Collection of selected, peer reviewed papers from the ICMERA 2015 - International Conference on Smart Systems in the Fields of Aerospace, Robotics, Manufacturing Systems, Mechanical Engineering, October 29-31, 2015, Bucharest, Romania. The 63 papers are grouped as follows: Chapter 1: Science and Technology of Materials Chapter 2: Tools and Processing Technologies in Mechanical Engineering

## Materials Science & Engineering

Chapter 3: Designing, Modeling and Optimization of Manufacturing Machines and Mechanisms Chapter 4: Advanced Research of Aerospace and Astronautics Systems Chapter 5: Advanced Research of the Sensors, Measurement Technologies and Mechatronic Systems Chapter 6: Advanced Research in Robotics Chapter 7: Renewable and Unconventional Energy Chapter 8: Biomedical Engineering Chapter 9: Advanced Decisions in Engineering Management

432 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-662-2)

eBook (978-3-0357-0143-2)

<https://www.scientific.net/AMM.811/book>

### ■ Modern Technologies in Manufacturing

Edited by: Nicolae Balc

#### Applied Mechanics and Materials Vol. 808

Collection of selected, peer reviewed papers from the 12th International Conference on Modern Technologies in Manufacturing (MTeM) October 14-16, 2015, Cluj-Napoca, Romania. The 59 papers are grouped as follows: Chapter 1: Processes of Metal Machining Chapter 2: Metal Forming Chapter 3: Processing of Plastics and Composite Materials Chapter 4: Additive Manufacturing and Non-traditional Technologies Chapter 5: Computer Aided Design and Manufacturing Chapter 6: Automation of Manufacturing Systems and Assembly Chapter 7: Manufacturing Engineering

394 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-653-0)

eBook (978-3-0357-0134-0)

<https://www.scientific.net/AMM.808/book>

### ■ Acoustics & Vibration of Mechanical Structures II

Edited by: Nicolae Herisanu and Vasile Marinca

#### Applied Mechanics and Materials Vol. 801

Collection of selected, peer reviewed papers from the XIII International Symposium Acoustics & Vibration of Mechanical Structures (AVMS 2015), May 28-29, 2015, Timișoara, Romania. The 53 papers are grouped as follows: Chapter 1: Analytical Approaches to Nonlinear Problems; Chapter 2: Environmental and Occupational Noise; Chapter 3: Structural Vibration; Chapter 4: Vibration Problems

in Industrial Processes; Chapter 5: Biomechanics; Chapter 6: Measurements in Vibration Problems

350 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-628-8)

eBook (978-3-0357-0109-8)

<https://www.scientific.net/AMM.801/book>

### ■ Mechanical and Aerospace Engineering VI

Edited by: Prof. Dashnor Hoxha, Prof. Ian McAndrew and Prof. Anh Dung Ngo

#### Applied Mechanics and Materials Vol. 798

Collection of selected, peer reviewed papers from the 2015 6th International Conference on Mechanical and Aerospace Engineering (ICMAE 2015), July 16-17, 2015, Roma, Italy. The 109 papers are grouped as follows: Chapter 1: Designing and Manufacturing in Mechanical Engineering Chapter 2: Dynamics and Vibration of Machines and Mechanisms Chapter 3: Fluids and Thermal Engineering Chapter 4: Researching and Designing of Internal Combustion Engine Chapter 5: Instrumentation, Monitoring, Control Systems and Automatics Chapter 6: Materials and Materials Processing in Mechanical Engineering Chapter 7: Computational Techniques for Simulation and Numerical Analysis Chapter 8: Researching and Designing in Aerospace Engineering

655 pages, 2015 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-523-6)

eBook (978-3-03826-993-9)

<https://www.scientific.net/AMM.798/book>

### ■ Energy Systems, Materials and Designing in Mechanical Engineering

Edited by: Gurova Elena

#### Applied Mechanics and Materials Vol. 792

Collection of selected, peer reviewed papers from the International Conference for Young Scientists "ELECTRICAL ENGINEERING.

ELECTROTECHNOLOGY. ENERGY", June 9-12, 2015, Novosibirsk, Russia. The 108 papers are grouped as follows: Chapter 1: Electrical Machines, Electrical Drives and Electromechanical Systems; Chapter 2: Power Electronics; Chapter 3: Engineering of Industrial Electricity Systems; Chapter 4: Thermoenergetics Systems; Chapter 5: Engineering Management in Energy; Chapter 6: Electrotechnologies in Electrometallurgy; Chapter 7:

Mechatronics; Chapter 8: Researching and Designing in Mechanical Engineering

700 pages, 2015 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-548-9)

eBook (978-3-0357-0019-0)

<https://www.scientific.net/AMM.792/book>

## ■ Safety and Durability of Buildings and Structures

Edited by: Vladimír Křístek, Pavel Manas and Alexander N. Kravcov

**Applied Mechanics and Materials Vol. 796**

Collection of selected, peer reviewed papers from the International Conference on Building Safety and Secure 2015, August 10-12, 2015, Prague, Czech Republic. The book covers a wide range of topics: Durability of Composites, Prospective Materials, Construction Industry, Concrete Damage Evolution, Construction Ecological Requirements

166 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-617-2)

eBook (978-3-0357-0096-1)

<https://www.scientific.net/AMM.796/book>

## ■ Trends and Applications in Mechanical Engineering

Edited by: G.A. Quadir, K.S. Basaruddin, H. Idrus, M.S. Abdul Majid, M. Afendi, S.F. Khan and N.A.M. Amin

**Applied Mechanics and Materials Vol. 786**

The volume includes selected, peer reviewed papers from the International Conference on Applications and Design in Mechanical Engineering (ICADME 2015), March 30-31, 2015, Kuala Lumpur, Malaysia. It covers some of the most current knowhow in the field. The 77 papers are grouped as follows: Chapter 1: Applied Materials and their Applications Chapter 2: Noise and Vibration Analysis Chapter 3: Thermal Engineering, Fluids and Energy Chapter 4: Applied Mechanics, Design and Manufacturing

458 pages, 2015 US\$ 170.00/€ 155.00 /GBP 120.00

Print (978-3-03835-549-6)

eBook (978-3-0357-0020-6)

<https://www.scientific.net/AMM.786/book>

## ■ Advances in Mechatronics

Edited by: Alberto Borboni

**Applied Mechanics and Materials Vol. 783**

Various definitions of mechatronics have been developed over time, each of which emphasizes a slightly different origin and aim. One of the most accurate definition of mechatronics is given by Kyura and Oho. Mechatronics is the synergistic integration of mechanical engineering with electronics and intelligent computer control in the design and manufacturing of industrial products and processes. Mechatronics integrates mechanical systems (mechanical elements, components, machines), electronic systems (microelectronics, sensor and actuator technology) and information technology. In this manner, mechatronic systems are a complex integration of extremely advanced technological components able to perform tasks with high accuracy and flexibility. This special issue is devoted to exploit some advancements in the wide field of mechatronics. It cannot be conclusive or exhaustive but would be a stimulus for further research.

142 pages, 2015 US\$ 130.00/€ 115.00 /GBP 90.00

Print (978-3-03835-556-4)

eBook (978-3-0357-0027-5)

<https://www.scientific.net/AMM.783/book>

## ■ Engineering Trends: Materials Science, Mechanics and Kinematics

Edited by: Ford Lumban Gaol

and Keshav Narain Shrivastava

**Applied Mechanics and Materials Vol. 780**

These are the proceedings of the 2nd International Conference on Kinematics, Mechanics of Rigid Bodies, and Materials 2014 (KINEMATICS 2014), was held at the Sheraton Bandung, Bandung, West Java, Indonesia, on 29 – 30 November 2014. The conference is the premiere forum for the presentation of new advances and research results in the fields of Mechanical Engineering, Kinematics Sciences in the area of Material Sciences, Architecture and Civil Engineering.

127 pages, 2015 US\$ 105.00/€ 95.00 /GBP 75.00

Print (978-3-03835-507-6)

eBook (978-3-03826-977-9)

<https://www.scientific.net/AMM.780/book>

## ■ Recent Decisions in Technologies for Sustainable Development

Edited by: A. Ghurri, N.P.G. Suardana, N.N. Pujaniki, I.N. Arya Thanaya, A.A. Diah Parami Dewi, I.N. Budiarsa, I.W. Widhiada, I.P. Agung Bayupati and I.N. Satya Kumara

### **Applied Mechanics and Materials Vol. 776**

Collection of selected, peer reviewed papers from the 3rd International Conference on Sustainable Technology Development (ICSTD 2014), October 30-31, 2014, Bali, Indonesia. The 72 papers are grouped as follows: Chapter 1: Technologies of Sustainable Development in Civil Engineering, Transportation and Urban Planning; Chapter 2: Materials and Technologies for a Sustainable Development; Chapter 3: Advanced Decisions in Mechanical Engineering; Chapter 4: Application of Alternative Energy and Information Technologies

496 pages, 2015 US\$ 265.00/€ 240.00 /GBP 185.00

Print (978-3-03835-504-5)

eBook (978-3-03826-974-8)

<https://www.scientific.net/AMM.776/book>

## ■ Advanced Research in Aerospace, Robotics, Manufacturing Systems, Mechanical Engineering and Bioengineering

Edited by: Prof. Adrian Olaru

### **Applied Mechanics and Materials Vol. 772**

Collection of selected, peer reviewed papers from the OPTIROB 2015 - International Conference on Cyber Systems in the Fields of Aerospace, Robotics, Manufacturing Systems, Mechanical Engineering, June 27-30, 2015, Jupiter, Romania. The 109 papers are grouped as follows: Chapter 1: Materials Research and Application; Chapter 2: Design, Modelling and Simulation; Chapter 3: Manufacturing Systems and Tools; Chapter 4: Sensors and Mechanical Engineering; Chapter 5: Aerospace Engineering Research; Chapter 6: Robotics; Chapter 7: Power and Energy Engineering; Chapter 8: Bioengineering Research

666 pages, 2015 US\$ 305.00/€ 275.00 /GBP 215.00

Print (978-3-03835-502-1)

eBook (978-3-03826-972-4)

<https://www.scientific.net/AMM.772/book>

## ■ Instrumentation and Measurement Systems

Edited by: Khairurrijal, Kuwat Triyana and Shidqi Nur Hidayat

### **Applied Mechanics and Materials Vol. 771**

Collection of selected, peer reviewed papers from the 2014 International Seminar on Instrumentation, Measurement and Metrology, August 27-28, 2014, Yogyakarta, Indonesia. The 58 papers are grouped as follows: Chapter 1: Sensors and Instrumentation; Chapter 2: Methods of Measurement and Metrology

290 pages, 2015 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-494-9)

eBook (978-3-03826-961-8)

<https://www.scientific.net/AMM.771/book>

## ■ Mechanical Engineering, Industrial Materials and Industrial Technologies

Edited by: Dehuai Yang

### **Applied Mechanics and Materials Vol. 763**

Collection of selected, peer reviewed papers from the 2015 2nd International Conference on Mechanical Engineering, Industrial Materials and Industrial Electronics (MII 2015), March 14-15, 2015, London, UK. The 31 papers are grouped as follows: Chapter 1: Properties of Materials, Technologies of Production and Processing; Chapter 2: Design and Research of Machines and Mechanisms, Mechatronics and Control; Chapter 3: Safety and Reliability of Industrial Objects; Chapter 4: Signal and Data Processing, Computer Algorithms

210 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-457-4)

eBook (978-3-03826-918-2)

<https://www.scientific.net/AMM.763/book>

## ■ Mechatronics and Robotics

Edited by: Iulian Tabara, Luige Vladareanu, Cristian Doicin, Nicolae Ionescu, Prof. Tom Savu, Adrian Bruja, Constantin Ocnărescu and Constantin Gheorghe OPRAN

### **Applied Mechanics and Materials Vol. 762**

Collection of selected, peer reviewed papers from the 2014 International Conference on Robotics (ICAMaT & ROBOTICS 2014), joined with ICAMaT 2014 and POLCOM 2014, October 23-24, 2014, Bucharest, Romania. The 46 papers are grouped as follows:

Chapter 1: Mechatronics Systems Engineering;  
Chapter 2: Parallel Robots - Theory and Simulation;  
Chapter 3: Mobile Robots; Chapter 4: Designing and  
Applications of Industrial Robots

340 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-444-4)

eBook (978-3-03826-900-7)

<https://www.scientific.net/AMM.762/book>

### ■ Mechatronics, Robotics and Control

Edited by: Andrzej Kot

**Applied Mechanics and Materials Vol. 759**

The scope of the studies in this volume relate to issues ranging from theoretical considerations, ending with the application tests. The application uses are connected with biomedical engineering, vision systems application, and research on control algorithms. A wide field of research includes also work associated with the use of smart materials including, i.e. Shape Memory Alloys (SMA), piezoelectric or magnetorheological fluids.

102 pages, 2015 US\$ 115.00/€ 100.00 /GBP 80.00

Print (978-3-03835-466-6)

eBook (978-3-03826-928-1)

<https://www.scientific.net/AMM.759/book>

### ■ Mechanical Engineering and Applied Mechanics

Edited by: Sugeng Supriadi

**Applied Mechanics and Materials Vol. 758**

These are the proceedings of the 13th Indonesia Conference on Mechanical Engineering hosted by Universitas Indonesia (Jakarta, Indonesia) on October 15-16, 2014. The conference covers topics of fields applied mechanics, mechanical materials processing, dynamics, mechanical engineering. Among the submitted papers, conference committee selects 27 papers to be published in this collection covering current knowledge in material science and applied mechanics.

192 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-456-7)

eBook (978-3-03826-917-5)

<https://www.scientific.net/AMM.758/book>

### ■ Mechanical Engineering, Automation and Control Systems

Edited by: Anna Bogdan, Nikita Martyshev  
and Stepan Bogdan

**Applied Mechanics and Materials Vol. 756**

Collection of selected, peer reviewed papers from the International Conference on Mechanical Engineering, Automation and Control Systems 2014 (MEACS 2014), October 16-18, 2014, Tomsk, Russia. The 121 papers are grouped as follows: Chapter 1: Mechanical Engineering, Processing and Surface Engineering, Metals Treatment, Equipment and Tools; Chapter 2: Material Engineering and Technologies; Chapter 3: Modelling and Numerical Simulation, Algorithms and Mathematical Methods for Applied Problems; Chapter 4: Control and Automation Systems, Manufacturing Applications; Chapter 5: Image and Signal Processing, Recognition, Information Processing and Applied Technologies

740 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-407-9)

eBook (978-3-03826-792-8)

<https://www.scientific.net/AMM.756/book>

### ■ Materials and Manufacturing Engineering

Edited by: Anil K. Bhatnagar

**Applied Mechanics and Materials Vol. 749**

Collection of selected, peer reviewed papers from the 2015 International Conference on Intelligent Materials and Manufacturing Engineering (IMME 2015), January 16-17, 2015, Phuket Island, Thailand. The 92 papers are grouped as follows: Chapter 1: Materials, Chemical Processes and Technologies, Biotechnologies; Chapter 2: Nanomaterials and Nanotechnologies; Chapter 3: Composite Materials and Composite Properties of Materials; Chapter 4: Steel and Alloys; Chapter 5: Building Materials and Technologies in Construction; Chapter 6: Biomaterials and Biomedical Engineering

488 pages, 2015 US\$ 155.00/€ 140.00 /GBP 110.00

Print (978-3-03835-445-1)

eBook (978-3-03826-902-1)

<https://www.scientific.net/AMM.749/book>

### ■ Materials and Technologies for Flexible and Printed Electronics

Edited by: Liangliang Chen

#### Applied Mechanics and Materials Vol. 748

Flexible and printed electronics are rather new fields in China. In particular, the term of “printed electronics” was almost unheard of in China five years ago when Professor Cui setup the first research center dedicated to the R&D of this technology. The collection includes selected peer reviewed papers form the 5th International Conference on Flexible and Printed Electronics (ICFPE) was successfully held in Beijing on 21-23 October 2014. The 39 papers share the newest ideas in the fields of followed: Synthesis and characterization of organic and inorganic electronics materials for printed electronics; Ink formulation of nanomaterials and applications in printed electronics; Solution-processing and/or printing of organic and inorganic thin film transistors, solar cells and light emitting devices; Organic and inorganic flexible electronic devices and displays; Flexible and plastic sensors and their applications; Processes, techniques and equipment for printed electronics; Design of flexible and printable electronic systems; Manufacturing of printed circuit (PCB) boards and RFID antennas; Packaging and encapsulation of OLED/OPV and printed electronic devices.

230 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-436-9)

eBook (978-3-03826-892-5)

<https://www.scientific.net/AMM.748/book>

### ■ Sensors, Mechatronics and Automation II

Edited by: Prasad Yarlagadda

#### Applied Mechanics and Materials Vol. 742

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Sensors, Mechatronics and Automation (ICSMA 2014), December 28-29, 2014, Shenzhen, China. The 146 papers are grouped as follows: Chapter 1: Sensors and Their Applications; Chapter 2: Measurement Methods, Technologies and Systems of Testing, Detection and Monitoring; Chapter 3: Technologies and Methods of Processing Data, Images and Signals; Chapter 4: Artificial Intelligence and Expert Systems, Algorithms and Applied Computational Methods; Chapter 5: Mechatronics, Industrial Robotics and Control Technology; Chapter 6: Information Technologies, Computer Networks and Communication Technology in Automation; Chapter

7: Electronic Devices and Electrical Circuits for Mechatronics and Control Systems

812 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-423-9)

eBook (978-3-03826-809-3)

<https://www.scientific.net/AMM.742/book>

### ■ Engineering Solutions for Manufacturing Processes V

Edited by: Zhengyi Jiang and Xianghua Liu

#### Applied Mechanics and Materials Vol. 741

Collection of selected, peer reviewed papers from the 2014 5th International Conference on Advances in Materials and Manufacturing, (ICAMMP 2014), December 20-21, 2014, Fuzhou, China. The 168 papers are grouped as follows: Chapter 1: Designing and Dynamic Analysis of Machines and Mechanical Structures; Chapter 2: Mechanical Strength and Reliability; Chapter 3: Practice of Computer-Aided Designing and Modeling; Chapter 4: Measurements, Testing and Diagnosis, Processing of Image and Data; Chapter 5: Vibration and Noise in Engineering; Chapter 6: Thermal Conductivity and Thermal Analysis; Chapter 7: Engineering Machinery and Equipment; Chapter 8: Mechatronics, Industrial Robotics, Automation and Control Technology; Chapter 9: Advanced Numerical Control (NC) Technologies and Equipments; Chapter 10: Organization of the Production, Product Design, Production Planning and Scheduling

936 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-421-5)

eBook (978-3-03826-807-9)

<https://www.scientific.net/AMM.741/book>

### ■ Mechanical, Information and Industrial Engineering

Edited by: Li Wang

#### Applied Mechanics and Materials Vol. 740

Collection of selected, peer reviewed papers from the 3rd International Conference on Mechanical, Information and Industrial Engineering, November 21-22, 2014, Weihai, China. The 219 papers are grouped as follows: Chapter 1: Materials Science and Processing Technologies; Chapter 2: General Mechanical Engineering, Applied Mechanics and Dynamics; Chapter 3: Mechatronics, Robotics and Vehicle Engineering; Chapter 4: Control

Technologies, Automation, Design and Simulation of Manufacturing; Chapter 5: Electrical Engineering and Electric Power Machines; Chapter 6: Power System and Energy Engineering, its Applications; Chapter 7: Electronics and Integrated Circuits, Embedded Technology and Applications; Chapter 8: Measurements, Testing, Monitoring, Identification and Detection, Analysis and Methodology; Chapter 9: Signal and Image, Video Processing, Data Mining and Acquisition, Computational Mathematics and Algorithms; Chapter 10: Communication, Networks and Information Technologies; Chapter 11: Traffic, Transportation and Logistics; Chapter 12: Product Design, Planning, Projects Management and Industrial Engineering.

1070 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-410-9)

eBook (978-3-03826-796-6)

<https://www.scientific.net/AMM.740/book>

### ■ Applied Methods of the Analysis of Static and Dynamic Loads of Structures and Machines

Edited by: Pavel Polach

**Applied Mechanics and Materials Vol. 732**

Collection of selected, peer reviewed papers from the 52nd International Scientific Conference on Experimental Stress Analysis (EAN 2014), June 2-6, 2014, Mariánské Lázně, Czech Republic. The 88 papers are grouped as follows: Chapter 1: Residual Stresses - Measurement Methods and Analysis; Chapter 2: Development of Experimental Methods of Analysis in Mechanics of Materials; Chapter 3: Development of Experimental Methods of Analysis in Biomedical Engineering; Chapter 4: Methods and Means of Analysis the Static and Dynamic Loads of Mechanical Structures and Machines; Chapter 5: New Methods of Researching and Designing in Structural Mechanics and Mechanics of Constructions; Chapter 6: Innovation in Teaching of Applied Structural Mechanics

436 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-413-0)

eBook (978-3-03826-799-7)

<https://www.scientific.net/AMM.732/book>

### ■ Electronics, Automation and Engineering of Power Systems

Edited by: Rongqing Liang

**Applied Mechanics and Materials Vol. 734**

Collection of selected, peer reviewed papers from the International Forum on Electrical Engineering and Automation & the 2014 International Conference on Lighting Technology and Electronic Engineering (ICLTEE 2014), November 29-30, 2014, Guangzhou, China. The 191 papers are grouped as follows: Chapter 1: Sensors, Measurements, Systems of Monitoring, Detection and Diagnostics; Chapter 2: Mechatronics, Robotics, Control and Automation; Chapter 3: Technologies of Intelligent Systems; Chapter 4: Practice of Data Processing for Intelligent Systems; Chapter 5: Power Systems Engineering; Chapter 6: Photovoltaic Power Systems; Chapter 7: Power Electronics and Circuits, Electrical Machines and Equipments; Chapter 8: Modern Technology of Lighting

1070 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-414-7)

eBook (978-3-03826-800-0)

<https://www.scientific.net/AMM.734/book>

### ■ Advanced Printing and Packaging Materials and Technologies

Edited by: Ouyang Yun, Xu Min, Yang Li and Liu Xunting

**Applied Mechanics and Materials Vol. 731**

Collection of selected, peer reviewed papers from the 2014 3rd China Academic Conference on Printing and Packaging, October 24-25, 2014, Beijing, China. The 118 papers are grouped as follows: Chapter 1: Colour and Optical Science and Technology; Chapter 2: Image Processing Technology; Chapter 3: Applied Information Technologies in Digital Publishing; Chapter 4: Printing Engineering Technology; Chapter 5: Packaging Engineering Technology; Chapter 6: Food Packaging and Preservation; Chapter 7: Printing and Packaging Equipment; Chapter 8: Paper and Related Material Technology; Chapter 9: Ink and Related Material Technology; Chapter 10: Polymer-Based Materials and Related Technology

612 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-404-8)

eBook (978-3-03826-790-4)

<https://www.scientific.net/AMM.731/book>

### ■ Applied Energy and Environment Technologies and Materials

Edited by: Seung-Bok Choi

#### **Applied Mechanics and Materials Vol. 737**

Collection of selected, peer reviewed papers from the 2014 International Forum on Applied Energy and Environment (IFAAE 2014), November 28-29, 2014, Shenzhen, China. The 191 papers are grouped as follows: Chapter 1: Development and Utilization of Solar Energy, Biomass Energy, Wind Energy and other New Energies; Chapter 2: Energy Materials, Energy Chemical Engineering, Fuel Cells and Management, New Energy Vehicles and Electric Vehicles; Chapter 3: Green Building Materials, Ecological Buildings, Energy-Saving Buildings and Architectural Environment Analysis; Chapter 4: Power System and Automation; Chapter 5: High Voltage and Insulation Technology, and Power System Management; Chapter 6: Engineering Thermal Physics and Applied Thermal Engineering; Chapter 7: Environmental Chemistry, Biology and Materials, Biomedical Materials; Chapter 8: Environmental Safety and Health, Disaster Prevention and Mitigation; Chapter 9: Environmental Analysis, Monitoring and Protection; Chapter 10: Pollution Control Project (Air, Water, Solid); Chapter 11: Waste Disposal and Recycling; Chapter 12: Water Supply and Drainage; Chapter 13: Hydrology and Water Resources Engineering; Chapter 14: Soil and Water Conservation and Desertification Control; Chapter 15: Mineral, Oil and Gas Resources: Prospecting, Exploration, Mining and Process Engineering, Geoengineering Applications; Chapter 16: Urban and Regional Planning, and Sustainable Development; Chapter 17: Energy-Saving, Low-Carbon, Eco-Economy, Circular Economy, Environmental Protection and Economic Development

1028 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-401-7)

eBook (978-3-03826-787-4)

<https://www.scientific.net/AMM.737/book>

### ■ Materials, Mechanics and Information Engineering

Edited by: Khanittha Wongseedakaew and Qi Luo

#### **Applied Mechanics and Materials Vol. 729**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Chemical, Mechanical and Materials Engineering (CMME 2014),

October 24-25, 2014, Riga, Latvia. The 42 papers are grouped as follows: Chapter 1: Materials Science and Materials Engineering; Chapter 2: Applied Mechanics; Chapter 3: Manufacturing and Mechanical Engineering; Chapter 4: Computational Methods and Information Technologies

260 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-385-0)

eBook (978-3-03826-770-6)

<https://www.scientific.net/AMM.729/book>

### ■ Advanced Research in Civil Engineering, Materials, Machinery and Applied Technologies

Edited by: M. Han and X.S. Tai

#### **Applied Mechanics and Materials Vol. 730**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Civil Engineering and Material Engineering (CEME 2014), December 27-28, 2014, Changsha, China. The 71 papers are grouped as follows: Chapter 1: Construction Technologies, Architecture and Urban Planning; Chapter 2: Materials Science and Chemical Technologies; Chapter 3: Environmental Engineering, Biofuel and Biotechnology; Chapter 4: Control Engineering; Chapter 5: Engineering Management and Engineering Assessment

392 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-411-6)

eBook (978-3-03826-797-3)

<https://www.scientific.net/AMM.730/book>

### ■ Applied Mechanics and Materials III

Edited by: Seung-Bok Choi and Yun-Hae Kim

#### **Applied Mechanics and Materials Vol. 723**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Applied Mechanics and Materials (ICAMM 2014), November 15-16, 2014, Shenzhen, China. The 191 papers are grouped as follows: Chapter 1: Solid Mechanics and its Applications; Chapter 2: Fluid Mechanics and its Applications; Chapter 3: Computational Mechanics and its Applications; Chapter 4: Mechanics of Explosion and Technologies of Blasting; Chapter 5: Structural Mechanics, Geotechnical Mechanics and Infrastructure Construction; Chapter 6: Building Materials; Chapter 7: Composites; Chapter 8: Micro/Nano Materials; Chapter 9: Metals and Alloys;

# Materials Science & Engineering

Chapter 10: Chemical Materials and Processing Technology; Chapter 11: Biological and Environment-Friendly Materials; Chapter 12: Physics of Materials, Properties and Methods of Research; Chapter 13: Materials Processing Technology; Chapter 14: Surface Engineering, Materials and Technologies; Chapter 15: Thermal Analysis and Monitoring of Machines and Equipments

1042 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-387-4)

eBook (978-3-03826-772-0)

<https://www.scientific.net/AMM.723/book>

## ■ Structural Engineering, Vibration and Aerospace Engineering II

Edited by: Yun-Hae Kim

**Applied Mechanics and Materials Vol. 724**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Structural Engineering, Vibration and Aerospace Engineering (SEVAE 2014), November 15-16, 2014, Shenzhen, China. The 70 papers are grouped as follows: Chapter 1: Structural Engineering and Materials, Civil Engineering; Chapter 2: Vibration Engineering and Noise, Analysis and Dynamics; Chapter 3: Aerospace and Aircraft Engineering, Testing and Fault Diagnosis, Computational Methods; Chapter 4: Disaster Prevention and Mitigation

416 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-392-8)

eBook (978-3-03826-778-2)

<https://www.scientific.net/AMM.724/book>

## ■ Mechanical Engineering, Manufacturing and Automation Technologies

Edited by: X.R Chen and G.M Yu

**Applied Mechanics and Materials Vol. 722**

Collection of selected, peer reviewed papers from the 2nd International Conference on Mechanical Design, Manufacturing and Automation (ICMDMA2014), December 27-28, 2014, Huanggang, Hubei, China. The 91 papers are grouped as follows: Chapter 1: Advanced Materials Engineering and Materials Processing; Chapter 2: Applied Mechanics and Mechanical Engineering; Chapter 3: Manufacturing Technologies and Automation; Chapter 4: Measurement and Instrumentation, Monitoring Technologies, Recognition, Evaluation and

Algorithms; Chapter 5: Solutions in Industrial Engineering, Technology and Management.

466 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-398-0)

eBook (978-3-03826-784-3)

<https://www.scientific.net/AMM.722/book>

## ■ Vehicle, Mechanical and Electrical Engineering

Edited by: Dr. Zhi Gang Fang, Jian Jun Xu and Pin Wang  
**Applied Mechanics and Materials Vol. 721**

Collection of selected, peer reviewed papers from the 2014 International Conference on Vehicle, Mechanical and Electrical Engineering (ICVMEE 2014), November 29-30, 2014, Wuhan, China. The 187 papers are grouped as follows: Chapter 1: Vehicle Engineering and Design; Chapter 2: Traffic and Transport Engineering, Vehicle and Road Safety; Chapter 3: Mechanical and Dynamical Principles and Design, Machinery and Manufacturing Engineering; Chapter 4: System Modeling and Algorithms for Intelligent Automation and Control Systems; Chapter 5: System Test, Diagnosis, Detection and Monitoring, Instrumentation and Measurement, Optimization and Algorithms, Numerical Methods and Simulation; Chapter 6: Electrical and Electronic Technology, Power System Engineering; Chapter 7: Communication for Vehicles and Transportation, Signal Processing; Chapter 8: Information Technology and Networks Applications; Chapter 9: Recognition, Video and Image Processing; Chapter 10: Materials for Vehicles and Transportation, Civil Constructions, Fuel Cells and Energy Materials

866 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-383-6)

eBook (978-3-03826-768-3)

<https://www.scientific.net/AMM.721/book>

## ■ Computational Methods in Applied Sciences

Edited by: A. Szczotok, A. Gądek-Moszczak, J. Pietraszek, N. Radek and R. Dwornicka

**Applied Mechanics and Materials Vol. 712**

Collection of selected, peer reviewed papers from the International Conference on Computational Methods in Applied Sciences (CMAS 2014), December 17-18, 2014, Kraków, Poland. The 18 papers are grouped as follows: I. Computational Science as a Key Element of

Engineering Progress; II. Computational Methods and its Application; III. Applied Mechanics and Terotechnology; IV. Biotechnology Applications  
136 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-378-2)  
eBook (978-3-03826-763-8)

<https://www.scientific.net/AMM.712/book>

### ■ Research in Engineering and Management of Advanced Manufacturing Systems

Edited by: Vladimír Modrák, Pavol Semančo and Michal Balog

**Applied Mechanics and Materials Vol. 718**

Collection of selected, peer reviewed papers from the 4th International Conference on Management of Manufacturing Systems (MMS 2014), October 1-3, 2014, High Tatras, Slovakia. The 40 papers are grouped as follows: Chapter 1: Modern Trends in Manufacturing Management; Chapter 2: Machines and Equipments of Manufacturing Systems; Chapter 3: Logistics and RFID in Manufacturing Systems; Chapter 4: Researching and Designing of Industrial and Manufacturing Systems

250 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-377-5)  
eBook (978-3-03826-762-1)

<https://www.scientific.net/AMM.718/book>

### ■ Innovations in Material Science, Applied Mechanics, Control and Information Technologies

Edited by: Guohui Yan

**Applied Mechanics and Materials Vol. 710**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Materials Science, Machinery and Energy Engineering (MSMEE 2014), November 7-8, 2014, Hong Kong. The 21 papers are grouped as follows: Chapter 1: Materials Science; Chapter 2: Applied Mechanics, Modeling, Simulation and Control; Chapter 3: Data Processing and Information Technology

168 pages, 2015 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-380-5)  
eBook (978-3-03826-765-2)

<https://www.scientific.net/AMM.710/book>

### ■ Mechanical Engineering, Materials Science and Civil Engineering

Edited by: Jeremy (Zheng) Li

**Applied Mechanics and Materials Vol. 711**

Collection of selected, peer reviewed papers from the 2014 the 3rd International Conference on Mechanical Engineering, Materials Science and Civil Engineering (ICMEMSCE2014), October 25-26, 2014, Phuket, Thailand. The 120 papers are grouped as follows: Chapter 1: Computational Mechanics, Designing of Machine Parts and Mechanisms, Power Engineering; Chapter 2: Material Engineering and Processing Technologies; Chapter 3: Communication, Information Science and Data Processing, Mechatronics and Control; Chapter 4: Theory and Practice of Industrial and Civil Construction

630 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-372-0)  
eBook (978-3-03826-757-7)

<https://www.scientific.net/AMM.711/book>

### ■ Logistics Development

Edited by: Peter Kačmárý and Gabriel Fedorko

**Applied Mechanics and Materials Vol. 708**

Collection of selected, peer reviewed papers from the 4th Carpathian Logistics Congress (CLC 2014), September 24-26, 2014, Podbanske, High Tatras, Slovakia. The 55 papers are grouped as follows: Chapter 1: Logistics and SCM; Chapter 2: Logistics in Transportation, City Logistics; Chapter 3: Logistics Concepts of Enterprises and Production; Chapter 4: Finance and Management; Chapter 5: Logistics Applications

346 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-347-8)  
eBook (978-3-03826-732-4)

<https://www.scientific.net/AMM.708/book>

### ■ Advanced Research on Materials, Chemistry and Informatization IV

Edited by: Helen Zhang, M. Han and X.J. Zhao

**Applied Mechanics and Materials Vol. 707**

Collection of selected, peer reviewed papers from the 2014 4th International Conference on Material Engineering, Chemistry, Bioinformatics (MECB2014), November 29-30, 2014, Hefei, China. The 114 papers are grouped as follows: Chapter 1: Applied Chemistry

and Chemical Engineering, Chapter 2: Microbiology and Biomedical Engineering, Chapter 3: Environmental Engineering, Chapter 4: Geology and Mining, Chapter 5 : Machine Parts and Mechanisms, Mechatronics, Automation and Control, Chapter 6: Communication and Networks, Applied Information Technologies and Data Processing, Chapter 7: Engineering Management.

540 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-370-6)

eBook (978-3-03826-755-3)

<https://www.scientific.net/AMM.707/book>

### ■ Dynamics and Control of Technical Systems

Edited by: José M. Balthazar, Paulo B. Gonçalves, Stefan Kaczmarczyk, André Fenili, Marcos Silveira and Ignacio Herrera Navarro

**Applied Mechanics and Materials Vol. 706**

The main topics of this Special Issue are linear and, mainly, nonlinear dynamics, chaos and control of systems and structures and their applications in different field of science and engineering. According to the goal of the Special Issue, the selected contributions are divided into three major parts: “Vibration Problems in Vertical Transportation Systems”, “Nonlinear Dynamics, Chaos and Control of Elastic Structures” and “New Strategies and Challenges for Aerospace and Ocean Structures Dynamics and Control”. The discussion of real problems in aerospace and how these problems can be understood and solved in view of numerical, computational, theoretical and experimental approaches is an important field in engineering science. The contributions pertaining this class of problems and methods associated to aerospace structures are an important part of this special issue. The contributions cover mathematical modeling, nonlinear analysis, control theory, nonlinear state estimation, experimental analysis and related topics associated to artificial satellites, airplanes, rockets, space tethers, helicopters and related systems.

252 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-353-9)

eBook (978-3-03826-738-6)

<https://www.scientific.net/AMM.706/book>

### ■ Machinery Electronics and Control Engineering IV

Edited by: Lei Jia and Jinshou Yu

**Applied Mechanics and Materials Vol. 705**

Collection of selected, peer reviewed papers from the 2014 4th International Conference on Machinery Electronics and Control Engineering (ICMECE 2014), November 8-9, 2014, Qingdao, Shandong, China. The 69 papers are grouped as follows: Chapter 1: Advanced Materials Engineering and Processing Technologies; Chapter 2: Applied Mechanics, Mechanical Engineering and Manufacturing Technologies; Chapter 3: Electronic Technologies and Integrated Circuits; Chapter 4: Electrical Engineering and Electric Machines; Chapter 5: Power System and Energy Engineering, its Applications; Chapter 6: Automation and Control Systems

384 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-364-5)

eBook (978-3-03826-749-2)

<https://www.scientific.net/AMM.705/book>

### ■ Mechanics and Control Engineering III

Edited by: James Zhang, Guanghsu A. Chang and Steffen Marburg

**Applied Mechanics and Materials Vol. 704**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Mechanics and Control Engineering (ICMCE 2014), October 26-28, 2014, Asheville, North Carolina, USA. The 84 papers are grouped as follows: Chapter 1: Novel Materials and Processing Technologies; Chapter 2: General Mechanical Engineering and Applied Mechanics; Chapter 3: Power Engineering; Chapter 4: Modeling and Research of Electrical and Microstrip Circuits; Chapter 5: Sensors, Measurements and Monitoring; Chapter 6: Mechatronics Systems and Robotics; Chapter 7: Control and Automation Sciences; Chapter 8: Computational Mathematics and Applied Information Technologies; Chapter 9: New Technologies and Methods in Civil Engineering; Chapter 10: Innovative Technologies in Area of Industrial Engineering and Management

514 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-365-2)

eBook (978-3-03826-750-8)

<https://www.scientific.net/AMM.704/book>

### ■ Advanced Manufacturing Technology and Materials Engineering

Edited by: Shangsheng Wen and Nathan Bowen  
**Applied Mechanics and Materials Vol. 703**

Collection of selected, peer reviewed papers from the 2014 International Conference on Advanced Manufacturing Technology and Materials Engineering (AMTME 2014), October 25-26, 2014, Guangzhou, China. The 89 papers are grouped as follows: Chapter 1: New Materials and Advanced Materials; Chapter 2: Materials Machining and Processing Technology; Chapter 3: Surface Engineering and Forming Technology; Chapter 4: Modeling, Analysis and Simulation of Manufacturing Processes; Chapter 5: Manufacturing Systems, Control and Automation, Intelligent Design; Chapter 6: Applied Mechanics and Fault Diagnosis Analysis; Chapter 7: Manufacturing Machinery and Equipment

452 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-356-0)

eBook (978-3-03826-741-6)

<https://www.scientific.net/AMM.703/book>

### ■ Innovative Solutions in Materials Science and Engineering

Edited by: Y.N. Zhong and Z.J. Hu

**Applied Mechanics and Materials Vol. 697**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Mechanical, Material Engineering (ICMME2014), November 22-23, 2014, Shiyan, Hubei, China. The 111 papers are grouped as follows: Chapter 1: Materials Science and Technologies; Chapter 2: Applied Mechanics, Design and Manufacturing, Mechanical Engineering, Automation and Control; Chapter 3: Monitoring, Information and Communication Technologies; Chapter 4: Solutions in Industrial Engineering and Management.

562 pages, 2015 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-342-3)

eBook (978-3-03826-727-0)

<https://www.scientific.net/AMM.697/book>

### ■ Advances in Energy Materials and Environment Engineering

Edited by: Peijiang Zhou and Aragona Patty  
**Applied Mechanics and Materials Vol. 700**

Collection of selected, peer reviewed papers from the 2014 International Conference on Energy Materials and Environment Engineering (ICEMEE 2014), October 25-26, 2014, Guangzhou, China. The 142 papers are grouped as follows: Chapter 1: Engineering Decisions in Area of Renewable Energy; Chapter 2: Engineering Decisions in Area of Traditional Power Engineering; Chapter 3: Energy Materials and Technology; Chapter 4: Energy-Saving Technology; Chapter 5: Materials and Technologies of Environmental Engineering, Development and Protection of Bioresources; Chapter 6: Waste Disposal and Pollution Control Project; Chapter 7: Water Supply and Water Resource Engineering; Chapter 8: Mining and Mineral Processing; Chapter 9: Exploration and Mining of Oil and Gas Resources; Chapter 10: Machines and Equipments for Energy and Resource Processing; Chapter 11: Theory and Practice of Sustainable Development

782 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-355-3)

eBook (978-3-03826-740-9)

<https://www.scientific.net/AMM.700/book>

### ■ Innovative Development of Industrial Manufacturing

Edited by: Yoshinori Hayafuji and Xufeng Dong

**Applied Mechanics and Materials Vol. 696**

Collection of selected, peer reviewed papers from the 2014 International Conference on Mechanics, Mechatronics and Materials Research (ICM3R 2014), October 4-6, 2014, Nanjing, China. The 52 papers are grouped as follows: Chapter 1: Research and Designing in Mechanical Engineering; Chapter 2: Materials and Processing Technologies; Chapter 3: Measurements and Processing of Signal and Data; Chapter 4: Communication and Information Technologies; Chapter 5: Engineering Management

338 pages, 2015 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-341-6)

eBook (978-3-03826-726-3)

<https://www.scientific.net/AMM.696/book>

### ■ Sustainable Energy and Development, Advanced Materials

Edited by: Mohd Jailani Mohd Nor, Bashir Mohamad  
Bali Mohamad, Mariana Yusoff et al.

#### Applied Mechanics and Materials Vol. 699

Collection of selected, peer reviewed papers from the 3rd International Conference and Exhibition on Sustainable Energy and Advanced Materials (ICE-SEAM 2013), October 30-31, 2013, Melaka, Malaysia. The 43 papers are grouped as follows: Chapter 1: Advanced Materials and Processing Manufacturing Technologies, Chapter 2: Applied Materials and Applied Mechanics, Materials Development and Fabrication, Chapter 3 : Renewable Energy Engineering and Applications, Chapter 4: Diesel and Fuel, Engines and Combustion, Chapter 5: Resources Engineering and Applications, Chapter 6: Power and Electrical Engineering, Automation and Control, Chapter 7: Energy and Power Management, Energy Saving Technologies and Applications, Chapter 8: Instrumentation, Sensors, Detection Technologies, Measurement, Chapter 9: Environmental Engineering and Technologies, Health and Waste Management.

1076 pages, 2015 US\$ 290.00/€ 265.00 /GBP 205.00

Print (978-3-03835-319-5)

eBook (978-3-03826-703-4)

<https://www.scientific.net/AMM.699/book>

### ■ Proceedings of 2014 International Conference on Material Engineering and Environment Science

Edited by: Ping Chen

#### Applied Mechanics and Materials Vol. 692

Collection of selected, peer reviewed papers from the 2014 International Conference on Material Engineering and Environment Science (MEES 2014), September 13-14, 2014, Wuhan, China. The 91 papers are grouped as follows: Chapter 1: Environmental Science and Ecology, Chapter 2: Materials Physics and Chemistry, Chapter 3: Materials Engineering and Processing Materials.

530 pages, 2014 US\$ 180.00/€ 165.00 /GBP 125.00

Print (978-3-03835-330-0)

eBook (978-3-03826-714-0)

<https://www.scientific.net/AMM.692/book>

### ■ Information Technology for Manufacturing Systems V

Edited by: Khanittha Wongseedakaew

#### Applied Mechanics and Materials Vol. 686

Collection of selected, peer reviewed papers from the 2014 5th International Conference on Information Technology for Manufacturing Systems (ITMS 2014), September 16-17, 2014, Singapore. The 131 papers are grouped as follows: Chapter 1: Materials Sciences and Materials Processing, Chapter 2: Control Engineering, Chapter 3: Artificial Intelligence, Intelligence Automation, Information Technology and Software Applications, Chapter 4: Data Mining and Processing, Data Acquisition, Signal Processing, Algorithms, Chapter 5: Networks Engineering, Networks Security and Control, Chapter 6: Innovative Design Technologies, Modelling, Simulation and Numerical Methods in Manufacturing, Chapter 7: Power and Electronics Systems, Energy and Electric Vehicles Applications, Chapter 8: Building and Construction Engineering, Structure Stability, Eco and Environmental Applications, Chapter 9: Innovate Technologies in Management and Logistics

782 pages, 2014 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-326-3)

eBook (978-3-03826-710-2)

<https://www.scientific.net/AMM.686/book>

### ■ Advanced Research in Materials and Engineering Applications

Edited by: Nor Azwadi Che Sidik  
and Syahrullail Samion

#### Applied Mechanics and Materials Vol. 695

Collection of selected, peer reviewed papers from the World Virtual Conference on Advanced Research in Materials and Engineering Applications, September 22-26, 2014, Kuala Lumpur, Malaysia. The 196 papers are grouped as follows: Chapter 1: Material Science; Chapter 2: Thermo, Fluid and Flow Research; Chapter 3: Applied Mechanics, Mathematical Modelling, Algorithms, Numerical Methods and Simulation; Chapter 4: Power and Energy Applications, Electrical Research; Chapter 5: Detection, Measurement, Instrumentation, Assessment

890 pages, 2015 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-339-3)

eBook (978-3-03826-724-9)

<https://www.scientific.net/AMM.695/book>

### ■ Novel Trends in Production Devices and Systems II

Edited by: Daynier Rolando Delgado Sobrino, Karol Velišek and Peter Košťál

#### **Applied Mechanics and Materials Vol. 693**

Collection of selected, peer reviewed papers from the Special topic volume with invited peer reviewed papers only. The 80 papers are grouped as follows: Chapter 1: Novel Trends in Production Systems and Logistics (NTPS&L), Chapter 2: Novel Trends in Applied Mechanics and Materials (NTAM&M), Chapter 3: Information Technology and Software Development Applications in the Contexts of Production Systems, Logistics, Applied Mechanics and Materials (IT&SA), Chapter 4: Modern Management and Teaching Approaches in the Context of Production Systems, Logistics, Applied Mechanics and Materials (MM&TA).

514 pages, 2014 US\$ 300.00/€ 270.00 /GBP 210.00

Print (978-3-03835-313-3)

eBook (978-3-03826-697-6)

<https://www.scientific.net/AMM.693/book>

### ■ Proceedings of 2014 International Conference on Mechanics and Mechanical Engineering

Edited by: A. Mehran Shahhosseini

#### **Applied Mechanics and Materials Vol. 684**

Collection of selected, peer reviewed papers from the 2014 International Conference on Mechanics and Mechanical Engineering, (MME2014), September 13-14, 2014, Wuhan, China. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 68 papers are grouped as follows: Chapter 1: Applied Mechanics, Vibration and Acoustics, Chapter 2: Manufacturing and Measurement Technology, Chapter 3: Mechanical Engineering, Tools and Equipment, Chapter 4: Biomechanical Research

446 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-322-5)

eBook (978-3-03826-706-5)

<https://www.scientific.net/AMM.684/book>

### ■ Research, Production and Use of Steel Ropes, Conveyors and Hoisting Machines

Edited by: Vierošlav Molnár and Gabriel Fedorko

#### **Applied Mechanics and Materials Vol. 683**

Collection of selected, peer reviewed papers from the conference on Research, production and use of steel wire ropes, conveyors and hoisting machines (VVaPOL 2014), September 2014 Podbanske, High Tatras, Slovakia. The 44 papers are grouped as follows: I. Research, Production and Use of Steel Ropes, II. Research Production and Use of Conveyors, III. Research Production and Use of Hoisting Machines and Vertical Conveying.

262 pages, 2014 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-316-4)

eBook (978-3-03826-700-3)

<https://www.scientific.net/AMM.683/book>

### ■ Materials Science, Mechanical Structures and Engineering

Edited by: Salmah Husseinsyah

#### **Applied Mechanics and Materials Vol. 680**

Collection of selected, peer reviewed papers from the 2014 2nd International Conference on Mechanical Structures and Smart Materials (2nd ICMSSM 2014), August 16-17, 2014, Kuala Lumpur, Malaysia. The 120 papers are grouped as follows: Chapter 1: Materials Science, Chapter 2: Material Properties and Processing Technologies, Chapter 3: Applied Mechanic and Engineering Design, Chapter 4: Mechanical Engineering and Control Systems, Chapter 5: Researches of Transmission Line Construction, Chapter 6: Civil Engineering and Information Technologies.

590 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-298-3)

eBook (978-3-03826-682-2)

<https://www.scientific.net/AMM.680/book>

### ■ Advances in Computers, Electronics and Mechatronics

Edited by: Prasad Yarlagadda

#### **Applied Mechanics and Materials Vol. 667**

Collection of selected, peer reviewed papers from the 2014 International Forum on Computers, Electronics and Mechatronics (IFCEM 2014), August 27-28, 2014, Zhuhai, China. Volume is indexed by Thomson

Reuters CPCI-S (WoS). The 82 papers are grouped as follows: Chapter 1: Information Technologies and Intelligent Decision Making System in Industry, Management and Education; Chapter 2: Computer Networks, Communications Technology; Chapter 3: Software Development; Chapter 4: Technologies and Methods of Data and Signal Processing; Chapter 5: Sensors, Testing, Detection, Measurement and Monitoring Technologies; Chapter 6: Modern Technology in Electronics and Circuits; Chapter 7: Mechatronics, Industrial Robots, Automation and Control Technologies

472 pages, 2014 **US\$ 225.00/€ 200.00 /GBP 155.00**

Print (978-3-03835-290-7)

eBook (978-3-03826-674-7)

<https://www.scientific.net/AMM.667/book>

### ■ **Electronics, Mechatronics and Automation III**

Edited by: Maode Ma, Z. Afrasiabi and Amanda F. Wu  
**Applied Mechanics and Materials Vol. 666**

Collection of selected, peer reviewed papers from the 2014 3rd International Conference on Electronics, Mechatronics and Automation (ICEMA 2014), August 22-23, 2014, Dubai, UAE. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 72 papers are grouped as follows: Chapter 1: Advanced Materials Engineering and Processing Technologies, Chapter 2: Electronics and Integrated Circuits, Embedded Technology and Applications, Chapter 3: Power System, Heat And Energy Engineering, Its Applications, Chapter 4: Mechatronics, Control and Automation of Manufacturing, Chapter 5: Detection and Monitoring, Signal and Image Processing, Data Mining, Algorithms and Computational Mathematics, Chapter 6: Communication, Networks and Information Technologies, Chapter 7: Design, Modelling and Strategic Technologies in Industrial Engineering

422 pages, 2014 **US\$ 145.00/€ 130.00 /GBP 100.00**

Print (978-3-03835-297-6)

eBook (978-3-03826-681-5)

<https://www.scientific.net/AMM.666/book>

### ■ **Mechatronics and Mechanical Engineering I**

Edited by: He Rui, Puneet Tandon and Teresa T. Zhang  
**Applied Mechanics and Materials Vol. 664**

Collection of selected, peer reviewed papers from the 2014 International Conference on Mechatronics and Mechanical Engineering (ICMME 2014), September 6-8, 2014, Chengdu, China. The 78 papers are grouped as follows: Chapter 1: Advanced Materials Engineering and Processing Technologies; Chapter 2: Applied Mechanics and Mechanical Engineering; Chapter 3: Applied Thermal Research; Chapter 4: Instrumentation and Measurement Technologies; Chapter 5: Electrical and Electronic Engineering; Chapter 6: Mechatronics and Robotics; Chapter 7: Bio and Medical Research

458 pages, 2014 **US\$ 225.00/€ 200.00 /GBP 155.00**

Print (978-3-03835-292-1)

eBook (978-3-03826-676-1)

<https://www.scientific.net/AMM.664/book>

### ■ **Automotive Engineering and Mobility Research**

Edited by: Rozli Zulkifli, Shahrum Abdullah, Sallehuddin Mohamed Haris, Zulkifli Mohd Nopiah, Zambri Harun, Mohd Radzi Abu Mansor and Nor Kamaliana Khamis

**Applied Mechanics and Materials Vol. 663**

Collection of Selected, Peer Reviewed Papers from the 2nd International Conference on recent Advances in Automotive Engineering and Mobility Research (ReCAR 2013), December 16-18, 2013, Kuala Lumpur, Malaysia. The 120 papers are grouped as follows: Chapter 1: Biodiesel, Diesel and Gases Fuel, Chapter 2: Computational & Experimental Mechanics, Chapter 3: Dynamics, Control and Mechatronics, Chapter 4: Materials and Processing Technologies, Chapter 5: Engine Lubrication and Thermoengineering, Chapter 6: Internal Combustion Engine and Computational Fluid Mechanics, Chapter 7: Noise, Monitoring, Vibration and Harshness, Chapter 8: Design, Hybrid and Electric Vehicles, Chapter 9: Crash and Safety, Transportation and Ergonomics, Chapter 10: Manufacturing, Chapter 11: Magnetorheological Applications

730 pages, 2014 **US\$ 295.00/€ 265.00 /GBP 210.00**

Print (978-3-03835-261-7)

eBook (978-3-03826-645-7)

<https://www.scientific.net/AMM.663/book>

### ■ Applied Solutions of Engineering Science

Edited by: Azmi Mohamed Yusof

#### **Applied Mechanics and Materials Vol. 661**

Collection of selected, peer reviewed papers from the International Conference of Applied Physics and Engineering (ICAPE 2014), September 17-18, 2014, Park Royal Penang Resort, Malaysia. The 30 papers are grouped as follows: Chapter 1: Applied Materials, Chapter 2: Technologies of Environmental Engineering, Chapter 3: Building Materials and Civil Engineering, Chapter 4: Designing and Researching in Mechanical Engineering

218 pages, 2014 US\$ 150.00/€ 135.00 /GBP 105.00

Print (978-3-03835-273-0)

eBook (978-3-03826-657-0)

<https://www.scientific.net/AMM.661/book>

### ■ Advances in Mechanical, Materials and Manufacturing Engineering

Edited by: Amir Khalid, Bukhari Manshoor, Erween Abdul Rahim, Waluyo Adi Siswanto and Kamil Abdullah

#### **Applied Mechanics and Materials Vol. 660**

Collection of selected, peer reviewed papers from the 5th International Conference on Mechanical and Manufacturing Engineering 2014 (ICME 2014), October 29-30, 2014, Bandung, Indonesia. The 201 papers are grouped as follows: Chapter 1: Materials Science, Technologies of Production and Materials Processing, Chapter 2: Alternative Fuel and Engines, Chapter 3: Aeronautical Systems and Technology, Chapter 4: Acoustics and Vibration, Chapter 5: Fatigue and Fracture Mechanics, Chapter 6: Fluid Mechanics and Heat Transfer in Engineering Practice, Chapter 7: Researching and Designing of Parts and Assemblies of Machines and Mechanisms, Chapter 8: Mechatronics and Industrial Automation, Chapter 9: Biomechanics and Biomedical Engineering, Chapter 10: Industrial Engineering and Production Management

1126 pages, 2014 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-278-5)

eBook (978-3-03826-662-4)

<https://www.scientific.net/AMM.660/book>

### ■ Advanced Concepts in Mechanical Engineering II

Edited by: Ioan Doroftei, Cezar Oprisan and Aristotel Popescu

#### **Applied Mechanics and Materials Vol. 659**

Collection of selected, peer reviewed papers from the 6th International Conference on Advanced Concepts in Mechanical Engineering (ACME 2014), June 12-13, 2014, Iasi, Romania. The 104 papers are grouped as follows: Chapter 1: Science of Materials and Processing Technologies, Chapter 2: Design of Vehicles and Combustion Engines, Chapter 3: Applied Thermodynamics and Heat Transfer, Renewable Energy, Engineering of Thermal Systems, Chapter 4: Technologies and Machines in Agriculture and Food Processing, Chapter 5: Applied Computational Methods in Design and Modeling, Chapter 6: Engineering Management and Engineering Education

652 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-272-3)

eBook (978-3-03826-656-3)

<https://www.scientific.net/AMM.659/book>

### ■ Advanced Concepts in Mechanical Engineering I

Edited by: Ioan Doroftei, Cezar Oprisan and Aristotel Popescu

#### **Applied Mechanics and Materials Vol. 658**

Collection of selected, peer reviewed papers from the 6th International Conference on Advanced Concepts in Mechanical Engineering (ACME 2014), June 12-13, 2014, Iasi, Romania. The 123 papers are grouped as follows: Chapter 1: Design and Research of Mechanisms and Machines, Chapter 2: Mechanics of Deformable Bodies, Chapter 3: Structural Engineering, Chapter 4: Applied Tribology, Chapter 5: Biomechanics in Biomedical Engineering, Chapter 6: Mechatronics, Robotics and Automated Production Systems

768 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-271-6)

eBook (978-3-03826-655-6)

<https://www.scientific.net/AMM.658/book>

## ■ Engineering Solutions and Technologies in Manufacturing

Edited by: Laurentiu Slătineanu, Vasile Mercicaru, Gheorghe Nagîț, Margareta Coteață, Eugen Axinte, Petru Dușă, Gavril Muscă, Laurențiu Ghenghea, Florin Negoescu, Octavian Lupescu, Irina Țița and Oana Dodun

### Applied Mechanics and Materials Vol. 657

Collection of Selected, Peer Reviewed Papers from the Innovative Manufacturing Engineering Conference 2014 (IManE 2014), May 29-30, Chisinau, Republic of Moldova. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 213 papers are grouped as follows: Chapter 1: Advanced Machining Technologies and Surface Engineering, Chapter 2: Forming Technologies, Chapter 3: Electrophysical, Welding and Assembly Technologies in Manufacturing, Chapter 4: Advanced Materials, Chapter 5: Researching and Designing of Manufacturing Equipment, Machine Parts and Mechanisms, Chapter 6: CAD/CAM/CAE Technologies in Design and Manufacturing, Chapter 7: Flexible Manufacturing, Automation and Robotics in Technological Processes, Chapter 8: Production Management and Product Design, Chapter 9: Innovative Technologies in Engineering Education

1128 pages, 2014 US\$ 295.00/€ 265.00 /GBP 210.00

Print (978-3-03835-275-4)

eBook (978-3-03826-659-4)

<https://www.scientific.net/AMM.657/book>

## ■ Advances in Kinematics, Mechanics of Rigid Bodies, and Materials Sciences

Edited by: Ford Lumban Gaol, Marcus P. Rutner, Mehdi Setareh and Keshav Narain Shrivastava

### Applied Mechanics and Materials Vol. 534

Collection of selected, peer reviewed papers from the 2013 International Conference on Kinematics, Mechanics of Rigid Bodies, and Materials (KINEMATICS 2013), November 2-3, 2013, Jakarta, Indonesia. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 18 papers are grouped as follows: Chapter 1: Material Science, Chapter 2: Applied Mechanics and Engineering

162 pages, 2014 US\$ 135.00/€ 120.00 /GBP 95.00

Print (978-3-03835-038-5)

eBook (978-3-03826-419-4)

<https://www.scientific.net/AMM.534/book>

## ■ AEROTECH V: Progressive Aerospace Research

Edited by: R. Varatharajoo, F.I. Romli, K.A. Ahmad, D.L. Majid and F. Mustapha

### Applied Mechanics and Materials Vol. 629

Collection of selected, peer reviewed papers from the AEROTECH V Conference, October 29-30, 2014, Kuala Lumpur, Malaysia. The 83 papers are grouped as follows: Chapter 1: Aerodynamics, Chapter 2: Aerospace Structure, Chapter 3: Propulsion, Chapter 4: Aerospace Design, Chapter 5: Aerospace System Performance, Chapter 6: Space Systems, Chapter 7: Avionics and Flight Management, Chapter 8: Aerospace Reviews, Chapter 9: Supporting Technologies for Aerospace

541 pages, 2014 US\$ 225.00/€ 200.00 /GBP 155.00

Print (978-3-03835-232-7)

eBook (978-3-03826-616-7)

<https://www.scientific.net/AMM.629/book>

## ■ Aerospace and Mechanical Engineering

Edited by: Qi Luo

### Applied Mechanics and Materials Vol. 565

Collection of selected, peer reviewed papers from the 2014 Conference on Aerospace and Mechanical Engineering (AME 2014), April 13-14, 2014, Bangkok, Thailand. Volume is indexed by Thomson Reuters CPCI-S (WoS). The 45 papers are grouped as follows: Chapter 1: Materials Science and Materials Processing Technology, Chapter 2: Aerospace and Mechanical Engineering, Applied Mechanics, Chapter 3: Computation Methods and Information Technologies

288 pages, 2014 US\$ 145.00/€ 130.00 /GBP 100.00

Print (978-3-03835-118-4)

eBook (978-3-03826-500-9)

<https://www.scientific.net/AMM.565/book>

## ■ International Conference Machinery, Electronics and Control Simulation

Edited by: Li Wang

### Applied Mechanics and Materials Vol. 614

Collection of selected, peer reviewed papers from the International Conference on Machinery, Electronics and Control Simulation (ICMECS 2014), September 27-28, 2014, Weihai, Shandong Province, China. The 146 papers are grouped as follows: Chapter 1:

Dynamics and Mechanical Engineering, Applied Mechanics, Chapter 2: Materials Engineering and Processing, Chapter 3: Mine Engineering, Flow and Ventilation, Thermal Transfer and Effects, Chapter 4: Power and Electrical Engineering, Chapter 5: Control Systems, Mechatronics and Robotics, Chapter 6: Electronics, Embedded and Integrated Circuits, Smart Grid Technologies, Chapter 7: Measurements, Testing, Tracking, Detection and Monitoring, Evaluation, Chapter 8: Signal, Noise, Image Processing, Computational Mathematics and Methods, Chapter 9: Communication, Networks and Information Technologies, Chapter 10: Product Design, Manufacturing and Industrial Engineering, Chapter 11: Civil Engineering and Geoengineering, Chapter 12: Earth Science and Cosmology, Environmental Engineering

728 pages, 2014 **US\$ 300.00/€ 270.00 /GBP 210.00**

Print (978-3-03835-210-5)

eBook (978-3-03826-593-1)

<https://www.scientific.net/AMM.614/book>

### ■ Design, Testing and Characteristics of Mechatronic Devices

Edited by: Stanislav Fabian and Tibor Krenicky

**Applied Mechanics and Materials Vol. 460**

Volume is indexed by Thomson Reuters BCI (WoS). Design, Testing and Characteristics of Mechatronic Devices is a special topic volume of scientific papers. The topic belongs to the fundamental research fields that are solved at the Faculty of Manufacturing Technologies of Technical University of Košice with a seat in Prešov for long period of time. Dealing with such kind of research is necessarily associated with high theoretical demands, so authors would like to disseminate achieved knowledge in research, educational and entrepreneurial areas.

120 pages, 2014 **US\$ 135.00/€ 120.00 /GBP 95.00**

Print (978-3-03785-931-5)

eBook (978-3-03826-312-8)

<https://www.scientific.net/AMM.460/book>



# For Libraries: Electronic Resources

---

Our eBook programme includes **more than 4000 titles** across our subject areas and contains monographs, handbooks and proceedings (& subject Collections). Purchasing our eBook collections provide the most cost-effective acquisition option for gaining comprehensive access to this highly relevant body of scholarly content.

## Our publications are in disciplines such as:

- Materials Science
- Building Materials
- General Engineering
- Mechanical Engineering
- Bioscience & Medicine
- Manufacturing
- Electronics
- Construction
- Civil Engineering
- Mechanics
- Nanoscience
- Computer Science
- Information Technologies
- Industrial Engineering
- Environmental Engineering

## Benefits to libraries:

- Outright purchase
- Perpetual access rights
- Multiple concurrent users
- Long-time preservation
- COUNTER-compliant usage statistics
- Pick & Choose licensing options as well as package options

## Benefits to our library users:

- 24/7 access on [www.scientific.net](http://www.scientific.net)
- Freedom to use offline or print
- Advanced search options

The state-of-the-art platform Scientific.Net offers advanced search & retrieve options of our information both to librarians and readers/users.

If so required, physical carriers for archival purposes are also available (on request only).

For more information about our collections, title lists, license terms, please visit [insights.scientific.net/for-libraries/](http://insights.scientific.net/for-libraries/) where you can also ask for free trial periods (library only)

✉ Please contact TTP for all licensing options at [license@scientific.net](mailto:license@scientific.net)

# Order Form

Prices mentioned in the catalogue are exclusive of local tax or VAT and shipping.

Prices may be changed without notice. US dollar prices are given for US or Canadian customers only.

**Fill in this form and send to your local book supplier or to Trans Tech Publications Ltd**

**Trans Tech Publications Ltd**

www.scientific.net

Kapellweg 8  
CH-8806 Baech  
Switzerland

office@scientific.net  
accounting@scientific.net

Title	Type (Print/eBook)	Price
1.		
2.		
3.		
4.		
5.		
6.		

**Total: US\$/EUR/GBP**

First Name \* \_\_\_\_\_

Last Name \* \_\_\_\_\_

Street \* \_\_\_\_\_

City \* \_\_\_\_\_

Zip \* \_\_\_\_\_

Country \* \_\_\_\_\_

VAT (if available) \_\_\_\_\_

Tel. \_\_\_\_\_

Email \* \_\_\_\_\_

Organization \_\_\_\_\_

Signature: \_\_\_\_\_

Please Invoice me

CREDIT CARD payments (PayPal Invoice will be send to your email, 6% handling charges, minimum EUR 20,-)

Please inform me about new publications in \_\_\_\_\_ (topic)

Through TTP's monthly email of new and forthcoming books

### Why is it so easy to publish with Scientific.net?

- **Usability.** You can obtain all the information from our website. It is structured and competently organized, providing a functional and informative view for the readers and easy online accessibility for the authors.
- **Up-to-date.** You will be timely and duly notified the way the process moves on and what your next step is.
- **Transparency.** Your paper will be a subject of our rigorous and unbiased peer-review.
- **Reputation.** Our content is highly internationally recognized.
- **Sweet bonus.** Special offers for all our contributors are available!

Whether you are a prominent beginning scientist endeavoring to publish your standalone paper or a scholar taking part in a Conference – join us!

Uniting our strengths, we can advance science and world of innovations.



***Scientific.Net***

tel +41 (44) 922 10 22

fax +41 (44) 922 10 33

office@scientific.net

**www.scientific.net**

**insights.scientific.net**

Kapellweg 8  
CH-8806 Baech  
Switzerland