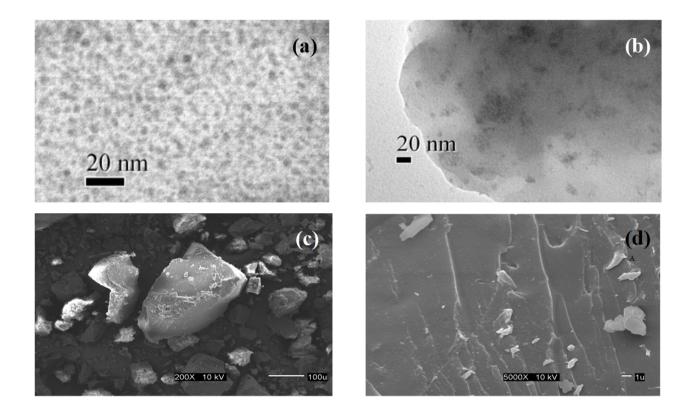


# **Materials Sciences and Applications**





www.scirp.org/journal/msa

# **Journal Editorial Board**

ISSN 2153-117X (Print) ISSN 2153-1188 (Online) http://www.scirp.org/journal/msa

# **Editor-in-Chief**

Prof. Young W. Kwon

Naval Postgraduate School, USA

# **Editorial Board**

Prof. Alaa S. Abd-El-Aziz Prof. Samir A. Abdel-Latif **Prof. Alexander Bagatur'yants Prof. Huan-Tsung Chang** Prof. Ram N. P. Choudhary Prof. Rob Krams Prof. Athanasios G. Mamalis Prof. Paolo Maria Mariano Prof. Mutlu Özcan Prof. Chunxu Pan **Prof. Su-Seng Pang** Prof. Alessandro Pegoretti Dr. Raj Pal Singh Prof. Anupam Srivastav Dr. Deepak Srivastava Prof. Gayle E. Woloschak **Prof. Dongfeng Xue** Dr. Raghvendra Singh Yadav Prof. Jory A. Yarmoff Dr. Fei Zhang

University of Prince Edward Island, Canada Helwan University, Egypt Russian Academy of Sciences, Russia National Taiwan University, Chinese Taipei IIT Kharagpur, India Imperial College, UK National Technical University of Athens, Greece University of Florence, Italy University of Zurich, Switzerland Wuhan University, China Louisiana State University, USA University of Trento, Italy National Chemical Laboratory, India Middle East College, India H. B. Technological Institute, India Northwestern University, USA Dalian University of Technology, China University of Allahabad, India University of California, USA Michigan State University, USA



### TABLE OF CONTENTS

Volume 4	Number 3	March 2013
	of Copper and Cooling Rates on the Microstructure, Defect For ical Properties of Al-Si-Mg Alloys	rmations
S. Seifeddine	e, E. Sjölander, T. Bogdanoff	
Novel EPS/T	<b>TiO2 Nanocomposite Prepared from Recycled Polystyrene</b>	
G. M. Herrer	ra-Sandoval, D. B. Baez-Angarita, S. N. Correa-Torres, O. M. Primera-Pedrozo	o, S. P. Hernández-Rivera179
Electrospark	k Coatings Based on WC-Co Alloys with Aluminium Oxide and	Carbon Additives
S. A. Pyachir	n, S. V. Nikolenko, A. A. Burkov, N. A. Suy	
Stress Analy	rsis on Single-Crystal Diamonds by Raman Spectroscopy 3D Ma	pping
E. J. Di Lisci	ia, F. Álvarez, E. Burgos, E. B. Halac, H. Huck, M. Reinoso	
The Influence Tank Weldee	ce of Welding Parameters on Brittle Fracture of Liquefied Natur d Joint	ral Gas Storage
A. El F. M. 1	Khourshid, M. A. Ghanem	

The figure on the front cover is from the article published in Materials Sciences and Applications, 2013, Vol. 4, No. 3, pp. 179-185 by G. M. Herrera-Sandoval, *et al.* 

#### Materials Sciences and Applications (MSA)

#### **Journal Information**

#### SUBSCRIPTIONS

The *Materials Sciences and Applications* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$59 per issue. To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

#### SERVICES

Advertisements Advertisement Sales Department, E-mail: service@scirp.org

#### Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA. E-mail: sub@scirp.org

#### COPYRIGHT

Copyright©2013 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assumes no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

#### **PRODUCTION INFORMATION**

For manuscripts that have been accepted for publication, please contact: E-mail: msa@scirp.org



# Editor-in-Chief

Prof. Young W. Kwon

Prof. Alaa S. Abd-El-Aziz

Prof. Samir A. Abdel-Latif

Prof. Huan-Tsung Chang

Prof. Ram N. P. Choudhary

Prof. Athanasios G. Mamalis

**Prof. Alexander Bagatur'yants** 

Naval Postgraduate School, USA

### **Editorial Board**

Prof. Paolo Maria Mariano Prof. Mutlu Özcan Prof. Chunxu Pan Prof. Su-Seng Pang **Prof. Alessandro Pegoretti** Dr. Raj Pal Singh Prof. Anupam Srivastav

Dr. Deepak Srivastava Prof. Gayle E. Woloschak **Prof. Dongfeng Xue** Dr. Raghvendra Singh Yadav Prof. Jory A. Yarmoff Dr. Fei Zhang

### Subject Coverage

Prof. Rob Krams

This journal invites original research and review papers that address the following issues in materials sciences and applications. Topics of interest include, but are not limited to:

- Biological, Biomechanical and Biomedical Materials
- Composite Materials
- Electrical and Electronics Materials
- Fibers and Matrix Materials
- Functional Materials, including Shape Memory Materials, Self Healing Materials, etc.
- Light Emitting Material
- Magnetic Material
- Materials Chemistry
- Metals and Alloys
- Nanocomposites

- Nanomaterials including Nanostructured and Nanoscale Materials
- Nanosensors
- Nanostructured Materials
- Organic Materials
- Physics, Chemistry, Mechanics and Applications in Materials Science
- Rubber/Elastomeric Materials
- Semiconductor Materials
- Textile Materials
- Thin Film and Coatings

We are also interested in: 1) Short Reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews-Comments and critiques.

## Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-Mail http://www.scirp.org/journal/msa

# Call for Papers

# **Materials Sciences and Applications**

ISSN 2153-117X (Print) ISSN 2153-1188 (Online) http://www.scirp.org/journal/msa

Materials Sciences and Applications (MSA) is an international refereed journal dedicated to the latest advancement of materials. The goal of this journal is to keep a record of the state-of-the-art research and promote the research work in these fast moving areas.