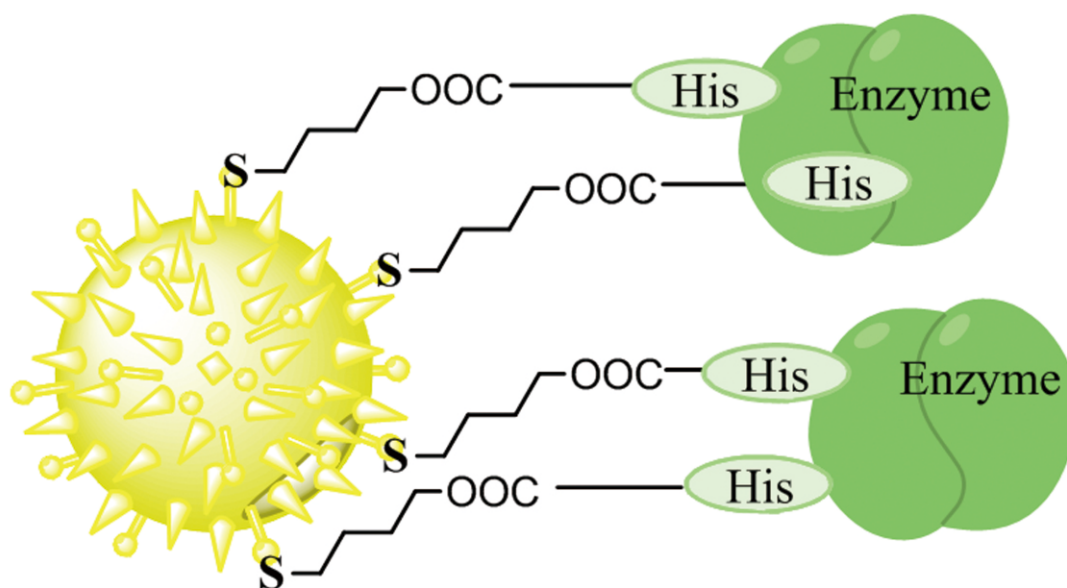


Materials Sciences and Applications



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

University of Prince Edward Island, Canada

Prof. Samir A. Abdel-Latif

Helwan University, Egypt

Prof. Nacer Badi

University of Houston, USA

Prof. Alexander Bagaturyants

Russian Academy of Sciences, Russia

Prof. Huan-Tsung Chang

National Taiwan University, Chinese Taipei

Prof. Ram N. P. Choudhary

SOA University, India

Dr. Henara Lillian Costa

Universidade Federal de Uberlandia, Brazil

Prof. Nasrallah M. Deraz

National Research Center, Egypt

Dr. Chu Chun Hung

The University of Hong Kong, China

Prof. Rob Krams

Imperial College, UK

Prof. Sergey Krasikov

Institute of Metallurgy of Ural Branch of the Russian
Academy of Sciences, Russia

Prof. Athanasios G. Mamalis

National Technical University of Athens, Greece

Prof. Paolo Maria Mariano

University of Florence, Italy

Prof. Mutlu Özcan

University of Zurich, Switzerland

Prof. Chunxu Pan

Wuhan University, China

Prof. Su-Seng Pang

Louisiana State University, USA

Dr. Alessandro Pegoretti

University of Trento, Italy

Dr. Raj Pal Singh

National Chemical Laboratory, India

Prof. Anupam Srivastav

Middle East College, India

Dr. Deepak Srivastava

H. B. Technological Institute, India

Prof. Gayle E. Woloschak

Northwestern University, USA

Prof. Dongfeng Xue

Dalian University of Technology, China

Dr. Raghvendra Singh Yadav

Brno University of Technology, Czech Republic

Prof. Jory A. Yarmoff

University of California, USA

Dr. Fei Zhang

Michigan State University, USA

Table of Contents

Volume 5 Number 10

August 2014

A Comparative Study of the Phase Distribution in Carbon-Silica Hybrid Fillers for Rubber Obtained by Different Methods

O. A. Al-Hartomy, A. A. Al-Ghamdi, S. A. F. Al-Said, N. Dishovsky, M. B. Ward, P. Malinova, M. Mihaylov.....685

UV/O₃ Preirradiated Cotton Fabric-Containing Chitosan for Effective Removal of Heavy Metals

A. Hebeish, Kh. Elnagar, M. H. Helal, M. S. Ragab, M. F. Shaaban.....698

Biopolymer Films and Coatings in Packaging Applications—A Review of Recent Developments

J. Vartiainen, M. Vähä-Nissi, A. Harlin.....708

Influence of Fe Content on Tool Galling in Ironing Aluminum Beverage Cans

A. V. Andrianov, E. G. Kandalova, E. V. Aryshensky.....719

Macrosegregation Quality Criteria and Mechanical Soft Reduction for Central Quality Problems in Continuous Casting of Steel

M. O. El-Bealy.....724

Determination of Five (5) Possible Contaminants in Recycled Cardboard Packages and Food Simulants Using Ultrasound Assisted Extraction Coupled to GC-MS

I.-E. Parigoridi, K. Akrida-Demertzi, P. G. Demertzis.....745

Nano-Sized Elements in Electrochemical Biosensors

J. Cabaj, J. Sołoducho.....752

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: \$89 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 AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:

Copyright © 2014 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

COPYRIGHT FOR INDIVIDUAL PAPERS OF THE JOURNAL:

Copyright © 2014 by author(s) and Scientific Research Publishing Inc.

REUSE RIGHTS FOR INDIVIDUAL PAPERS:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

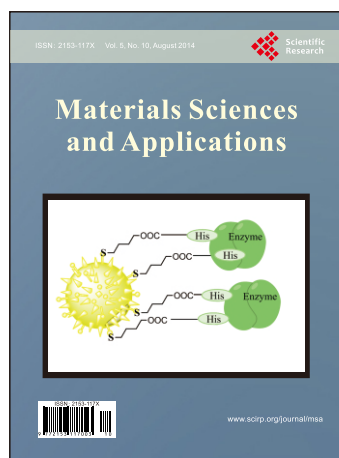
DISCLAIMER OF LIABILITY

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 assume 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



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.

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. Nacer Badi

Prof. Alexander Bagaturyants

Prof. Huan-Tsung Chang

Prof. Ram N. P. Choudhary

Dr. Henara Lillian Costa

Prof. Nasrallah M. Deraz

Dr. Chu Chun Hung

Prof. Rob Krams

Prof. Sergey Krasikov

Prof. Athanasios G. Mamalis

Prof. Paolo Maria Mariano

Prof. Mutlu Özcan

Prof. Chunxu Pan

Prof. Su-Seng Pang

Dr. 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

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>

E-mail: msa@scirp.org