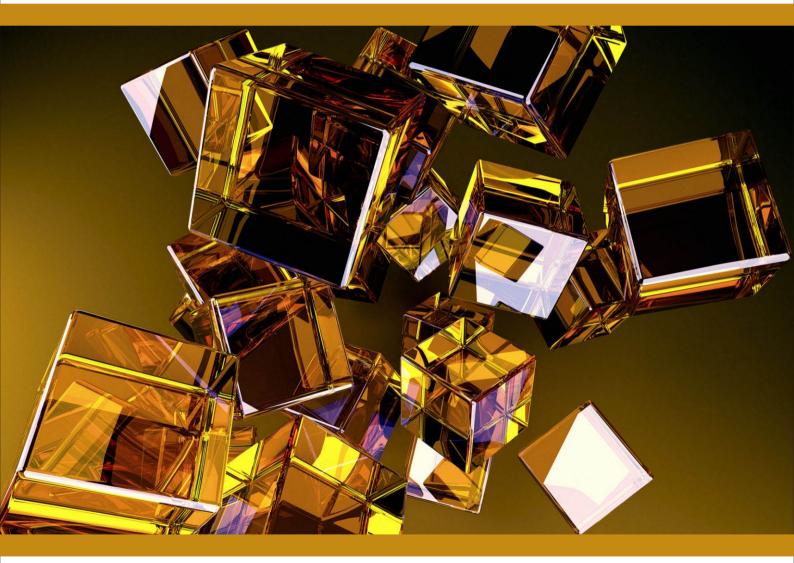




# Materials Sciences and Applications

**Electrochemical Materials** 





## **Journal Editorial Board**

http://www.scirp.org/journal/msa

.....

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

Prof. Young W. Kwon

Naval Postgraduate School, USA

#### **Editorial Board**

Prof. Mutlu Özcan University of Zurich, Switzerland

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. Huan-Tsung Chang** National Taiwan University, Chinese Taipei

Prof. Walid M. Daoush Helwan University, Egypt

**Prof. Nasrallah M. Deraz**National Research Center, Egypt

**Dr. Chu Chun Hung** The University of Hong Kong, China

**Prof. Khaled M. Ibrahim** Permanent Central Metallurgical R&D Institute, Egypt

**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. 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

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



ISSN Online: 2153-1188 ISSN Print: 2153-117X

# **Table of Contents**

Volume 9 Number 6	May 2018
Molecular Materials for Energy Storage	
L. Mourokh, C. Edder, W. Mack, P. Lazarev	517
Novel Cathode Materials for Sodium Ion Batteries Derived from Layer Structured Titanate $Cs_2Ti_5O_{11}\cdot(1+x)H_2O$	
M. Ohashi	526
Rylene Dielectrophores for Capacitive Energy Storage	
A. Borzenko, C. Edder, L. Mourokh, P. Lazarev	534
Structure Refinement of Mn-Substituted LiMn <sub>x</sub> Fe <sub>1-x</sub> PO <sub>4</sub>	
M. Togo, A. Nakahira	542
Black Photoresist for Patterning Pixel Define Layer of Organic Light Emitting Diode with Polyimide as Thermal Stabilizer	
G. Shi, I. W. Park, I. S. Park	554

# Materials Sciences and Applications (MSA) Journal Information

#### SUBSCRIPTIONS

The *Materials Sciences and Applications* (Online at Scientific Research Publishing, <a href="www.SciRP.org">www.SciRP.org</a>) is published monthly by Scientific Research Publishing, Inc., USA.

#### Subscription rates:

Print: \$89 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: <a href="mailto:sub@scirp.org">sub@scirp.org</a>

#### **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 © 2018 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 © 2018 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



# **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.

## Editor-in-Chief

Prof. Young W. Kwon

Naval Postgraduate School, USA

#### Editorial Board

Prof. Mutlu Özcan

Prof. Alaa S. Abd-El-Aziz

Prof. Samir A. Abdel-Latif

Prof. Nacer Badi

Prof. Huan-Tsung Chang

Prof. Walid M. Daoush

Prof. Nasrallah M. Deraz

Dr. Chu Chun Hung

Prof. Khaled M. Ibrahim

**Prof. Rob Krams** 

Prof. Sergey Krasikov

Prof. Athanasios G. Mamalis

Prof. Chunxu Pan

Prof. Su-Seng Pang

Dr. Alessandro Pegoretti

Dr. Raj Pal Singh

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

E-mail: msa@scirp.org

- 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