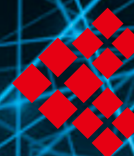


ISSN: 2327-6045 Volume 7, Number 6, June 2019



Scientific
Research
Publishing

Journal of Materials Science and Chemical Engineering

ISSN: 2327-6045



www.scirp.org/journal/msce

Journal Editorial Board

ISSN Print: 2327-6045 ISSN Online: 2327-6053

<http://www.scirp.org/journal/msce>

Editor-in-Chief

Prof. Jiyu Fang

University of Central Florida, USA

Editorial Board

Prof. Mohammad Abdel-Karim

Fayoum University, Egypt

Prof. Brioude Arnaud

University of Lyon, France

Prof. Gajanan S. Bhat

University of Tennessee, USA

Dr. Quan Can

National Institute of Metrology, China

Dr. Zeki Candan

Istanbul University, Turkey

Prof. Paul R. Carney

University of Florida, USA

Dr. Kok Boon Chong

University Malaysia of Computer Science & Engineering, Malaysia

Dr. Mohamed Abdel Moneim Deyab

Egyptian Petroleum Research Institute, Egypt

Dr. Tara P. Dhakal

Center for Autonomous Solar Power (CASP Center), USA

Prof. Anter El-Azab

Purdue University, USA

Dr. Reza Ghomashchi

University of Adelaide, Australia

Dr. Hazar Guesmi

Institute of Charles Gerhardt, France

Prof. Yongsheng Han

Chinese Academy of Sciences, China

Dr. Anwarul Hasan

American University of Beirut, Lebanon

Prof. Weidong He

University of Electronic Science and Technology of China, China

Prof. Alireza Heidari

California South University (CSU), USA

Dr. Flavio Horowitz

James Madison University, USA

Dr. Raja Rizwan Hussain

King Saud University, Saudi Arabia

Prof. Tifeng Jiao

Yanshan University, China

Dr. Antonios Kelarakis

University of Central Lancashire, UK

Dr. Shafique Khan

King Fahd University, Saudi Arabia

Dr. Anson W. K. Ma

University of Connecticut, USA

Prof. Martin Alberto Masuelli

National University of San Luis, Argentina

Dr. Luisa Molari

University of Bologna, Italy

Dr. Andro H. Mondala

Western Michigan University, USA

Prof. Badie I. Morsi

University of Pittsburgh, USA

Dr. Ravin Natain

University of Alberta Edmonton, Canada

Prof. Zeeshan Nawaz

SABIC Technology & Innovation Center, Saudi Arabia

Prof. Dimitrios A. Papaconstantopoulos

George Mason University, USA

Prof. Guo Qiang

Shanghai Jiao Tong University, China

Dr. Andrew Rusinko

Óbuda University, Hungary

Dr. Marisa Di Sabatino

Norwegian University of Science and Technology, Norway

Prof. Manoj Kumar Singh

CSIR-Central Institute of Mining & Fuel Research, India

Dr. Hua Song

Department of Chemical and Petroleum Engineering, Canada

Dr. Jiri Tochacek

Brno University of Technology, Czech Republic

Prof. Zhirui Wang

University of Toronto, Canada

Prof. Shuilin Wu

Hubei University, China

Table of Contents

Volume 7 Number 6

June 2019

The Threshold Percolation Volume Fraction of Vitreous Silica on the Thermal Expansion Behavior of Quartz

J. A. A. Júnior, J. B. Baldo.....1

The Effect of Nano-Alumina Particles Generated *in Situ* in the Matrix of Ultralow and No Cement 85 wt% Al₂O₃ Refractory Castables

J. A. A. Júnior, J. B. Baldo.....7

Sol-Gel Spin Coating Synthesis of TiO₂ Nanostructure and Its Optical Characterization

S. Amole, M. K. Awodele, O. Adedokun, M. Jain, A. O. Awodugba.....23

Journal of Materials Science and Chemical Engineering (MSCE)

Journal Information

SUBSCRIPTIONS

The *Journal of Material Science and Chemical Engineering* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$39 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 © 2019 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 © 2019 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: msce@scirp.org



Journal of Materials Science and Chemical Engineering

ISSN Print: 2327-6045 ISSN Online: 2327-6053
<http://www.scirp.org/journal/msce>

Journal of Materials Science and Chemical Engineering is an international journal dedicated to the latest advancement of materials science and chemical engineering. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of materials science and chemical engineering. All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

- Biomaterials and Biotechnology
- Carbon Nanomaterials
- Catalysis and Reaction Engineering
- Chemical Engineering
- Chemical Synthesis
- Composite Materials
- Extractive Metallurgy
- Fabrication of Nanomaterials
- Functional Material
- Inkjet Printing of Functional Materials
- Masonry Structures
- Metals and Alloys
- Microstructured Materials
- Modelling and Simulation in Structural Engineering
- Nanomaterials
- Nanotechnology and Nanoscience
- Polymer Processing
- Separation Science and Technology

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.

Website and E-Mail

<http://www.scirp.org/journal/msce> E-mail: msce@scirp.org

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



Website: <http://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org