ISSN: 2327-6045 Volume 11, Number 7, July 2023

Scientific Research Publishing

# Journal of Materials Science and Chemical Engineering



https://www.scirp.org/journal/msce

# **Journal Editorial Board**

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

https://www.scirp.org/journal/msce

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

**Prof. Jiyu Fang** 

### **Editorial Board**

Prof. Mohammad Abdel-Karim **Prof. Brioude Arnaud** Prof. Gajanan S. Bhat Dr. Quan Can Dr. Zeki Candan Prof. Paul R. Carney Dr. Neha Chaturvedi Dr. Kok Boon Chong Dr. Mohamed Abdel Moneim Deyab Dr. Tara P. Dhakal **Prof. Anter El-Azab Prof. Elsayed Ahmed Elnashar** Dr. Reza Ghomashchi Dr. Hazar Guesmi **Prof. Yongsheng Han** Dr. Anwarul Hasan **Prof. Weidong He** Prof. Alireza Heidari Dr. Raja Rizwan Hussain **Prof. Tifeng Jiao** Prof. Kasem K. Kase **Dr. Antonios Kelarakis** Dr. Shafique Khan Prof. Hyung Kook Kim Dr. Nikhil Kumar Dr. Anson W. K. Ma **Prof. Martin Alberto Masuelli** Dr. Luisa Molari Dr. Andro H. Mondala Prof. Badie I. Morsi Dr. Ravin Natain Prof. Zeeshan Nawaz Prof. Dimitrios A. Papaconstantopoulos **Prof. Guo Qiang Dr. Andrew Rusinko** Dr. Marisa Di Sabatino Prof. Manoj Kumar Singh **Dr. Hua Song Dr. Jiri Tochacek** Prof. Zhirui Wang **Prof. Shuilin Wu** 

University of Central Florida, USA

Fayoum University, Egypt University of Lyon, France University of Tennessee, USA National Institue of Metrology, China Istanbul University, Türkiye University of Florida, USA King Abdullah University of Science and Technology, Saudi Arabia University Malaysia of Computer Science & Engineering, Malaysia Egyptian Petroleum Research Institute, Egypt Center for Autonomous Solar Power (CASP Center), USA Purdue University, USA Kaferelsheikh University, Egypt University of Adelaide, Australia Institute of Charles Gerhardt, France Chinese Academy of Sciences, China American University of Beirut, Lebanon University of Electronic Science and Technology of China, China California South University (CSU), USA King Saud University, Saudi Arabia Yanshan University, China Indiana University Kokomo, USA University of Central Lancashire, UK King Fahd University, Saudi Arabia Pusan National University, South Korea Indian Institute of Technology (BHU), Varanasi, India University of Connecticut, USA National University of San Luis, Argentina University of Bologna, Italy Western Michigan University, USA University of Pittsburgh, USA University of Alberta Edmonton, Canada SABIC Technology & Innovation Center, Saudi Arabia George Mason University, USA Shanghai Jiao Tong University, China Óbuda University, Hungary Norwegian University of Science and Technology, Norway CSIR-Central Institute of Mining & Fuel Research, India Department of Chemical and Petroleum Engineering, Canada Brno University of Technology, Czech Republic University of Toronto, Canada Tianjin University, China



Volume 11 Number 7

**July 2023** 

# **Table of Contents**

# 

R. K. Hona, M. Guinn, U. S. Phuyal, S. Sanchez, G. S. Dhaliwal	31
Creation of a Novel Piezoelectric Nanogenerator for Sensory Receptor Damage Treatments	
A. Joshi	73
Optimization by the Taguchi Method of a Robust Synthesis	
Protocol of Calcium Carbonate Phosphate	

# Journal of Materials Science and Chemical Engineering (MSCE) Journal Information

#### SUBSCRIPTIONS

The *Journal of Material Science and Chemical Engineering* (Online at Scientific Research Publishing, <u>https://www.scirp.org/</u>) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates: Print: \$39 per issue. To subscribe, please contact Journals Subscriptions Department, E-mail: <u>sub@scirp.org</u>

#### 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: <u>sub@scirp.org</u>

#### COPYRIGHT

#### Copyright and reuse rights for the front matter of the journal:

Copyright © 2023 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 © 2023 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: <u>msce@scirp.org</u>





# Journal of Materials Science and Chemical Engineering

ISSN Print: 2327-6045 ISSN Online: 2327-6053 https://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. Generally, accepted papers will appear online within 3 weeks 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

https://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?

Art and Design Review

Advances in

dvances in Biological bemistry Entomolog

Applied Mathematics

Engineering

nii ili a

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



Soft

Website: https://www.scirp.org Subscription: sub@scirp.org Advertisement: service@scirp.org