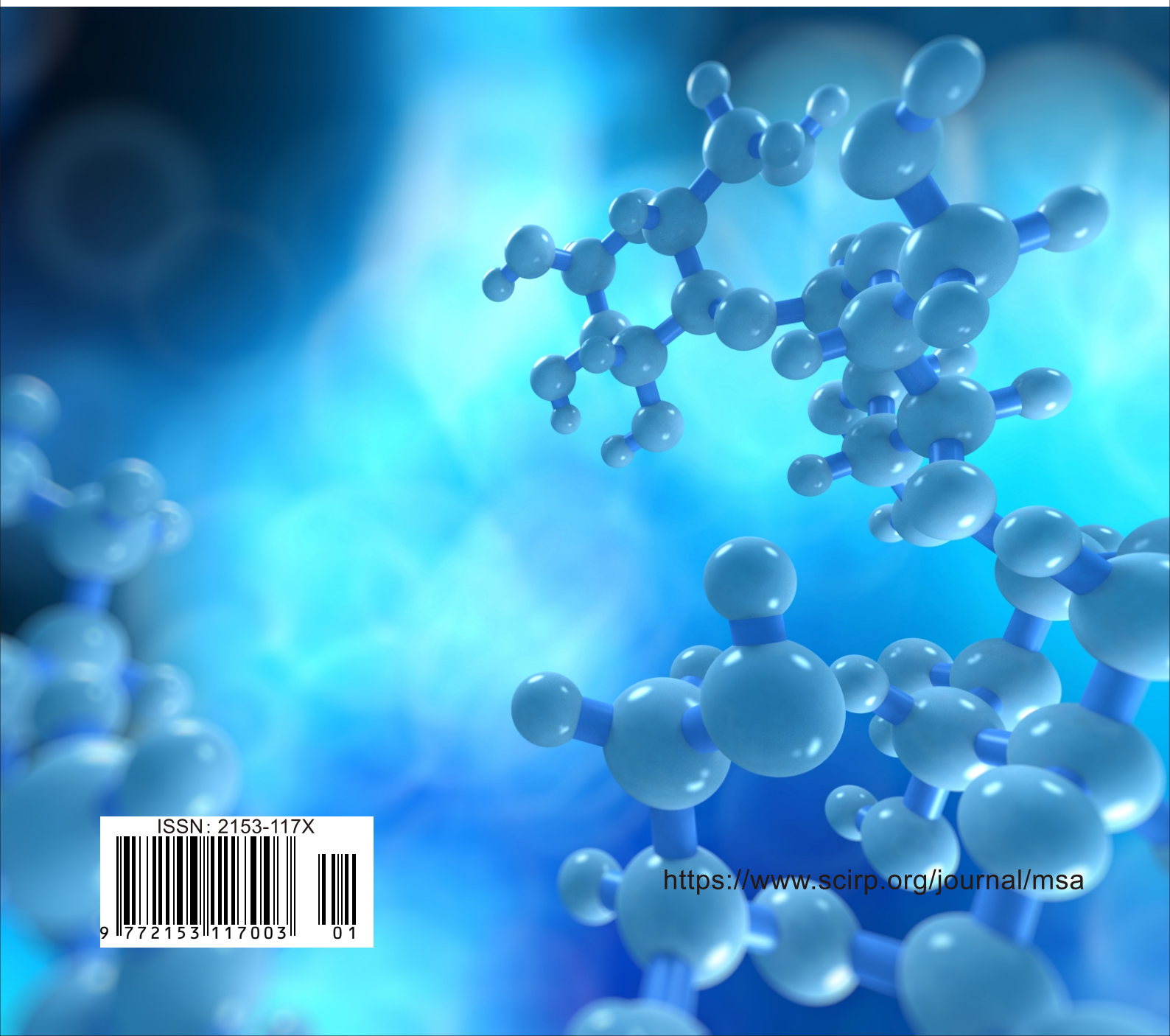


ISSN: 2153-117X Volume 16, Number 1, January 2025



Materials Sciences and Applications



ISSN: 2153-117X



<https://www.scirp.org/journal/msa>

Journal Editorial Board

ISSN 2153-117X (Print) ISSN 2153-1188 (Online)

<https://www.scirp.org/journal/msa>

Editorial Board

Prof. Mutlu Özcan	University of Zurich, Switzerland
Prof. Raed Abu-Reziq	The Hebrew University of Jerusalem, Israel
Prof. Nacer Badi	University of Houston, USA
Prof. Huan-Tsung Chang	National Taiwan University, Chinese Taipei
Dr. Emerson Oliveira da Silva	Federal University of Rio de Janeiro, Brazil
Prof. Walid M. Daoush	Helwan University, Egypt
Prof. Nasrallah M. Deraz	National Research Center, Egypt
Prof. Stephen U. Egarievwe	Alabama A&M University, USA
Prof. Manal Kamal Ismail El-bisi	National Research Center, Egypt
Dr. Eman El-Shenawy	Central Metallurgical Research and Development Institute (CMRDI), Egypt
Prof. Khaled M. Ibrahim	Permanent Central Metallurgical R&D Institute, Egypt
Prof. Ibrahim Karaman	Texas A&M University, USA
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. Luis Claudio Mendes	Universidade Federal do Rio de Janeiro, Brazil
Dr. Rui Neves	Polytechnic Institute of Setúbal, Portugal
Prof. Chunxu Pan	Wuhan University, China
Dr. Alessandro Pegoretti	University of Trento, Italy
Dr. Leinig Antonio Perazolli	Universidade Estadual Paulista, Brazil
Dr. Harekrushna Sutar	Indira Gandhi Institute of Technology Sarang, India
Prof. Mohamed A. Taha	Ain-Shams University, Egypt
Prof. Maria Ines Bruno Tavares	Instituto de Macromoléculas Professora Eloisa Mano, Brazil
Dr. Xiangliang Wan	Wuhan University of Science and Technology, China
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. Beddiaf Zaidi	University of Batna 1, Algeria
Dr. Fei Zhang	Michigan State University, USA

Table of Contents

Volume 16 Number 1**January 2025****Phase-Field Modeling of the Rearrangement Process of Foam Structures Considering Pressure Effects**

T. Uehara..... 1

Experimental Assessment of the Flame Resistance Properties of Firefighter Protective Ensembles, including the SPF1 Helmet

M. Millogo, S. Zio, I. Nayaga, H. Taboré, S. Sawadogo, A. Bayala..... 11

Reactive Oxygen Species (ROS) Generated on the Surface of (100)-Plane Grain-Oriented Copper Thin-Film

K. Hirota, T. Maeda, K. Tsukagoshi, Y. Taniguchi, H. Kawakami, T. Ozawa, M. Wada..... 27

Materials Sciences and Applications (MSA)

Journal Information

SUBSCRIPTIONS

The *Materials Sciences and Applications* (Online at Scientific Research Publishing, <https://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 © 2025 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 © 2025 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.

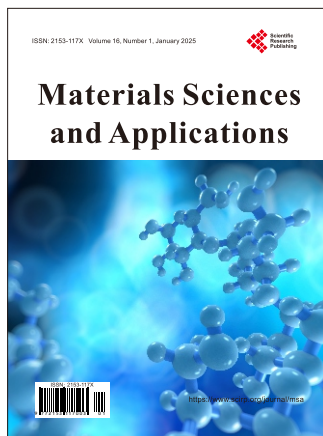
Disclaimer of liability

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)

<https://www.scirp.org/journal/msa>

Materials Sciences and Applications (MSA) is an international journal dedicated to the latest advancements in 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.

Editorial Board

Prof. Mutlu Özcan
Prof. Raed Abu-Reziq
Prof. Nacer Badi
Prof. Huan-Tsung Chang
Dr. Emerson Oliveira da Silva
Prof. Walid M. Daoush
Prof. Nasrallah M. Deraz
Prof. Stephen U. Egarevwe
Prof. Manal Kamal Ismail El-bisi
Dr. Eman El-Shenawy

Prof. Khaled M. Ibrahim
Prof. Ibrahim Karaman
Prof. Sergey Krasikov
Prof. Athanasios G. Mamalis
Prof. Luis Claudio Mendes
Dr. Rui Neves
Prof. Chunxu Pan
Dr. Alessandro Pegoretti
Dr. Leinig Antonio Perazolli
Dr. Harekrushna Sutar

Prof. Mohamed A. Taha
Prof. Maria Ines Bruno Tavares
Dr. Xiangliang Wan
Prof. Gayle E. Woloschak
Prof. Dongfeng Xue
Dr. Raghvendra Singh Yadav
Prof. Jory A. Yarmoff
Dr. Beddiaf Zaidi
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

<https://www.scirp.org/journal/msa>

E-mail: msa@scirp.org