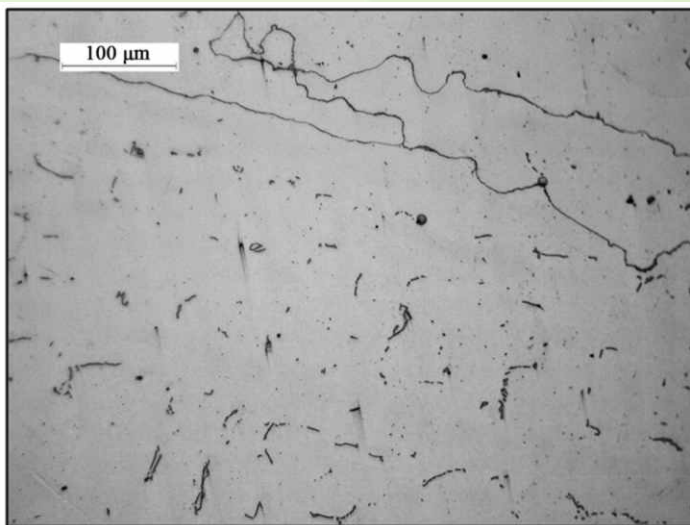
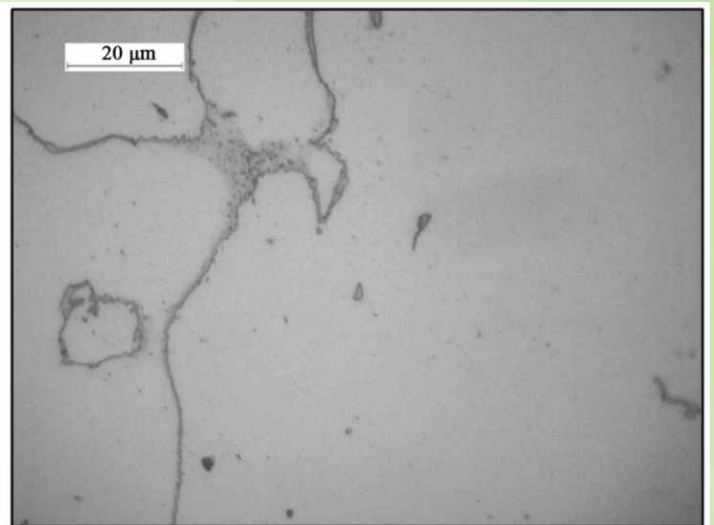


# Journal of Minerals and Materials Characterization and Engineering



(a)



(b)

ISSN: 2327-4077



# Journal Editorial Board

ISSN: 2327-4077 (Print) ISSN: 2327-4085 (Online)

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

---

## Editor-in-Chief

**Prof. Jiann-Yang (Jim) Hwang**

Michigan Technological University, USA

## Editorial Board

**Prof. Chenguang Bai**

Chongqing University, China

**Prof. Jinxiang Chen**

Southeast University, China

**Dr. Mohan B. Dangi**

California State University, USA

**Dr. Govindhan Dhanaraj**

Stony Brook University, USA

**Prof. Wenfeng Ding**

Nanjing University of Aeronautics and Astronautics, China

**Dr. Jaroslaw W. Drelich**

Michigan Technological University, USA

**Dr. Dolores Eliche Quesada**

University of Jaén, Spain

**Prof. Donato Firrao**

Politecnico di Torino, Italy

**Dr. Yi Huang**

University of Southampton, UK

**Dr. Bowen Li**

Michigan Technological University, USA

**Prof. Hsing K. Lin**

University of Alaska Fairbanks, USA

**Prof. Xuewei Lv**

Chongqing University, China

**Dr. Ali Merati**

University of Ottawa, Canada

**Dr. Miguel Miranda**

National Laboratory of Engineering and Geology, Portugal

**Dr. Zhiwei Peng**

Michigan Technological University, USA

**Prof. Veena Sahajwalla**

University of New South Wales, Australia

**Prof. Gehad Mohamed Saleh**

Nuclear Materials Authority (NMA), Egypt

**Dr. Ramesh S. Sharma**

Visvesvaraya Technological University, India

## Table of Contents

Volume 4    Number 1

January 2016

<b>Effect of Fillers on Mechanical Properties and Fracture Toughness of Glass Fabric Reinforced Epoxy Composites</b>	
B. Hulugappa, M. V. Achutha, B. Suresha.....	1
<b>Studies on Mechanical Properties of Jute/E-Glass Fiber Reinforced Epoxy Hybrid Composites</b>	
M. R. Sanjay, B. Yogesha.....	15
<b>Suitability of Some Selected Clay Deposit from Edo, Ogun, Ondo and Ekiti State of Nigeria for Ceramic Water Filters Production</b>	
S. A. Olubayode, O. S. Awokola, E. O. Dare, O. T. Olateju.....	26
<b>Investigation of <i>Aloe lateritia</i> Gel as Corrosion Inhibitor for Mild Steel in 2 M HNO<sub>3</sub> and 1 M H<sub>2</sub>SO<sub>4</sub> Media</b>	
L. Paul, R. L. Machunda.....	33
<b>Separation of Kaolinite from Ion-Adsorption Rare Earth Tailings in Southern China and Iron Removal Treatment</b>	
Y. Q. Wang, H. Y. Liang, Q. B. Chang, X. Z. Zhang, J. E. Zhou.....	40
<b>Microstructure Evolution of a Nickel-Base Alloy Resistant to High Temperature during Aging</b>	
A. C. Picasso, C. A. Lanz, M. Sosa Lissarrague, A. D. Garófoli.....	48
<b>Characterization of Surface State of Inert Particles: Case of Si and SiC</b>	
D. M. K. Abro, P. Dablé, F. Cortez-Salazar, V. Amstutz, H. Girault.....	62
<b>XRPD and SEM-EDS Identification of a Mineralogical Standards Kit Forming a 19<sup>th</sup> Century Collection for Educational Analysis</b>	
E. Costa, A. Delmastro, L. D. Gregorio, S. Ronchetti, M. U. Tomalino.....	73
<b>Role of Microstructural Features in Toughness Improvement of Zirconia Toughened Alumina</b>	
O. Fakolujo, A. Merati, M. Bielawski, M. Bolduc, M. Nganbe.....	87
<b>Development and Characterization of Ceramic Matrix Composite (CMC) from Nigerian Kankara Kaolin and Gray Cast Iron Filling</b>	
R. M. Gadzama, U. A. A. Sullayman, A. M. Ahuwan, D. S. Yawaz.....	103

# **Journal of Minerals and Materials Characterization and Engineering (JMMCE)**

## **Journal Information**

### **SUBSCRIPTIONS**

The *Journal of Minerals and Materials Characterization and Engineering* (Online at Scientific Research Publishing, [www.SciRP.org](http://www.SciRP.org)) is published bimonthly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$59 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### **SERVICES**

#### **Advertisements**

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

#### **Reprints (minimum quantity 100 copies)**

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### **COPYRIGHT**

#### **COPYRIGHT AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:**

Copyright © 2016 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 © 2016 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: [jmmce@scirp.org](mailto:jmmce@scirp.org)



# Journal of Minerals and Materials Characterization and Engineering

ISSN: 2327-4077 (Print) ISSN: 2327-4085 (Online)

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

The Journal of Minerals and Materials Characterization and Engineering is an international peer-reviewed journal for the publication of original research in the fields of characterization of the minerals, metals and materials and its applications to the processing of them. Characterization has become the foundation for the discovery of new materials, the determination of their properties, understanding the occurrences and structures of materials, investigating on the performances, trouble shooting of feedstock, processes and products, and providing solutions for the industrial operations. The goal of this journal is to provide a platform for people to publish their findings in these subjects. In addition, the journal can be quite interdisciplinary for people researching in different fields being able to learn from each other and to broaden their perspectives and applications based on a common theme of characterization.

## Subject Coverage

The journal publishes original research and review papers related to characterization in the areas of minerals, ceramics, metals, refractories, metallurgy, materials, energy, fillers, recycling and environmental issues. Specifics may include but not limited to the following fields:

- Aerosols
- Bio and Medical Minerals and Materials
- Ceramics
- Characterization Technologies
- Chemical and Physical Processing of Minerals, Energy and Resources
- Crystal Growth
- Electrochemical Processing
- Electromagnetic Field Interactions with Materials
- Emission Particulate Matters
- Environment
- Fillers and Polymers
- Fine Particulates
- Hydrometallurgical Processing
- Light and Wave Interactions with Materials
- Materials
- Metals
- Microscopic Investigations
- Microwave and Infrared Interactions with Materials
- Minerals, Energy and Natural Resources
- Mining
- Nanostructures
- Pyrometallurgical Processing
- Recycling
- Refractories
- Salt and Brines
- Separation and Extractive Processes
- Slag
- Sound Interactions with Materials
- Spectrometry
- Synthesis of Materials
- Thermal Characterizations
- Waste Processing

All manuscripts must be prepared in English, and are subject to a rigorous peer-review process. Accepted papers will immediately appear online followed by printed in hard copy.

## Website and E-Mail

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

E-mail: [jmmce@scirp.org](mailto:jmmce@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



**Scientific  
Research  
Publishing**

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

**Subscription: [sub@scirp.org](mailto:sub@scirp.org)**

**Advertisement: [service@scirp.org](mailto:service@scirp.org)**