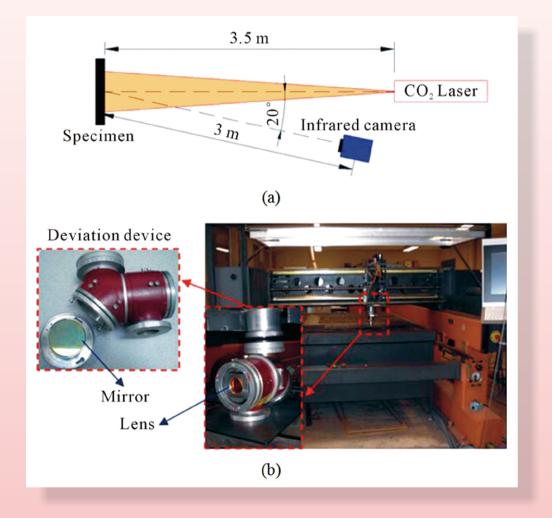


Materials Sciences and Applications





www.scirp.org/journal/msa

Journal Editorial Board

ISSN 2153-117X (Print) ISSN 2153-1188 (Online) http://www.scirp.org/journal/msa

Editor-in-Chief

Prof. Young W. Kwon

Naval Postgraduate School, USA

Editorial Board

Prof. Alaa S. Abd-El-Aziz Prof. Samir A. Abdel-Latif Prof. Nacer Badi **Prof. Alexander Bagatur'yants Prof. Huan-Tsung Chang** Prof. Ram N. P. Choudhary Dr. Henara Lillian Costa Prof. Nasrallah M. Deraz Dr. Chu Chun Hung Prof. Rob Krams Prof. Athanasios G. Mamalis Prof. Paolo Maria Mariano Prof. Mutlu Özcan Prof. Chunxu Pan **Prof. Su-Seng Pang** Prof. Alessandro Pegoretti Dr. Raj Pal Singh Prof. Anupam Srivastav Dr. Deepak Srivastava Prof. Gayle E. Woloschak **Prof. Dongfeng Xue** Dr. Raghvendra Singh Yadav Prof. Jory A. Yarmoff Dr. Fei Zhang

University of Prince Edward Island, Canada Helwan University, Egypt University of Houston, USA Russian Academy of Sciences, Russia National Taiwan University, Chinese Taipei SOA University, India Universidade Federal de Uberlandia, Brazil National Research Center, Egypt The University of Hong Kong, China Imperial College, UK National Technical University of Athens, Greece University of Florence, Italy University of Zurich, Switzerland Wuhan University, China Louisiana State University, USA University of Trento, Italy National Chemical Laboratory, India Middle East College, India H. B. Technological Institute, India Northwestern University, USA Dalian University of Technology, China University of Allahabad, India University of California, USA Michigan State University, USA



TABLE OF CONTENTS

Volume 4 Number 10	October 2013
Bandwidth Enhancement of RMPA Using 2 Segment Labyrinth Metamaterial at TH	Z
P. Dawar, A. De	579
Barrier, Adsorptive, and Mechanical Properties of Containers Molded from PET/PP for Use in Pharmaceutical Solutions	Blends
T. Otsuka, A. Kurosawa, M. Maeda, K. Yamada, M. Murakami, H. Hamada	
The Study of a New Ceramic PZT Material $Pb_{1-0.04}Sm_{0.02}Nd_{0.02}[(Zr_{0.55},Ti_{0.45})_{1-2x},x(Y_{2/3},X(Y_{2/3},Ni_{1/3})]O_3$ with SEM and X-Ray Diffraction	,Mo _{1/3}),
O. K. Kribaa, A. Boutarfaia	595
Comparison between Microwave Infrared Thermography and CO ₂ Laser Infrared Thermography in Defect Detection in Applications with CFRP	
SA. Keo, D. Defer, F. Breaban, F. Brachelet	600
Coronary Stents Fracture: An Engineering Approach (Review)	
B. AL-Mangour, R. Mongrain, S. Yue	606
Microstructural Investigation of PM-355 Nuclear Track Detector Subjected to Low-Dose Gamma Irradiation: A Positron Annihilation Lifetime Study	
E. H. Aly	
Improvement of Thermal Stability and Tribological Performance of Diamond-Like Carbon Composite Thin Films	
C. Jongwannasiri, X. H. Li, S. Watanabe	
Photo-Electrochemical Studies on TiO ₂ -Doped Ce (III/IV) Oxides Nanoparticles in Aqueous Electrolytes	
K. K. Kasem, H. Ramey, V. Ahmed	637
Corrosion Resistance of Zn and Zn-Ni Electrodeposits: Morphological Characterizat Phases Identification	ion and
C. A. M. Dutra, J. W. J. Silva, R. Z. Nakazato	644
Preparation and Characterization of Conductive Cellulosic Fabric by Polymerization	a of Pyrrole
J. Wiener, M. A. Ramadan, R. Gomaa, R. Abbassi, A. Hebeish	649
Cracking Phenomenon in Spot Welded Joints of Austenitic Stainless Steel	
A. M. Al-Mukhtar, Q. M. Doos	656

The figure on the front cover is from the article published in Materials Sciences and Applications, 2013, Vol. 4, No. 10, pp. 600-605 by Sam-Ang Keo, Didier Defer, Florin Breaban and Franck Brachelet.

Materials Sciences and Applications (MSA)

Journal Information

SUBSCRIPTIONS

The *Materials Sciences and Applications* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$59 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©2013 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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 assumes 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.

Naval Postgraduate School, USA

Editorial Board

Editor-in-Chief Prof. Young W. Kwon

Prof. Alaa S. Abd-El-Aziz Dr. Chu Chun Hung Dr. Raj Pal Singh Prof. Samir A. Abdel-Latif **Prof. Rob Krams Prof. Anupam Srivastav** Dr. Nacer Badi Prof. Athanasios G. Mamalis Dr. Deepak Srivastava **Prof. Alexander Bagatur'yants** Prof. Paolo Maria Mariano Prof. Gayle E. Woloschak **Prof. Huan-Tsung Chang** Prof. Mutlu Özcan **Prof. Dongfeng Xue** Prof. Ram N. P. Choudhary Prof. Chunxu Pan Dr. Raghvendra Singh Yadav Dr. Henara Lillian Costa **Prof. Su-Seng Pang** Prof. Jory A. Yarmoff Prof. Nasrallah M. Deraz Prof. Alessandro Pegoretti 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 http://www.scirp.org/journal/msa