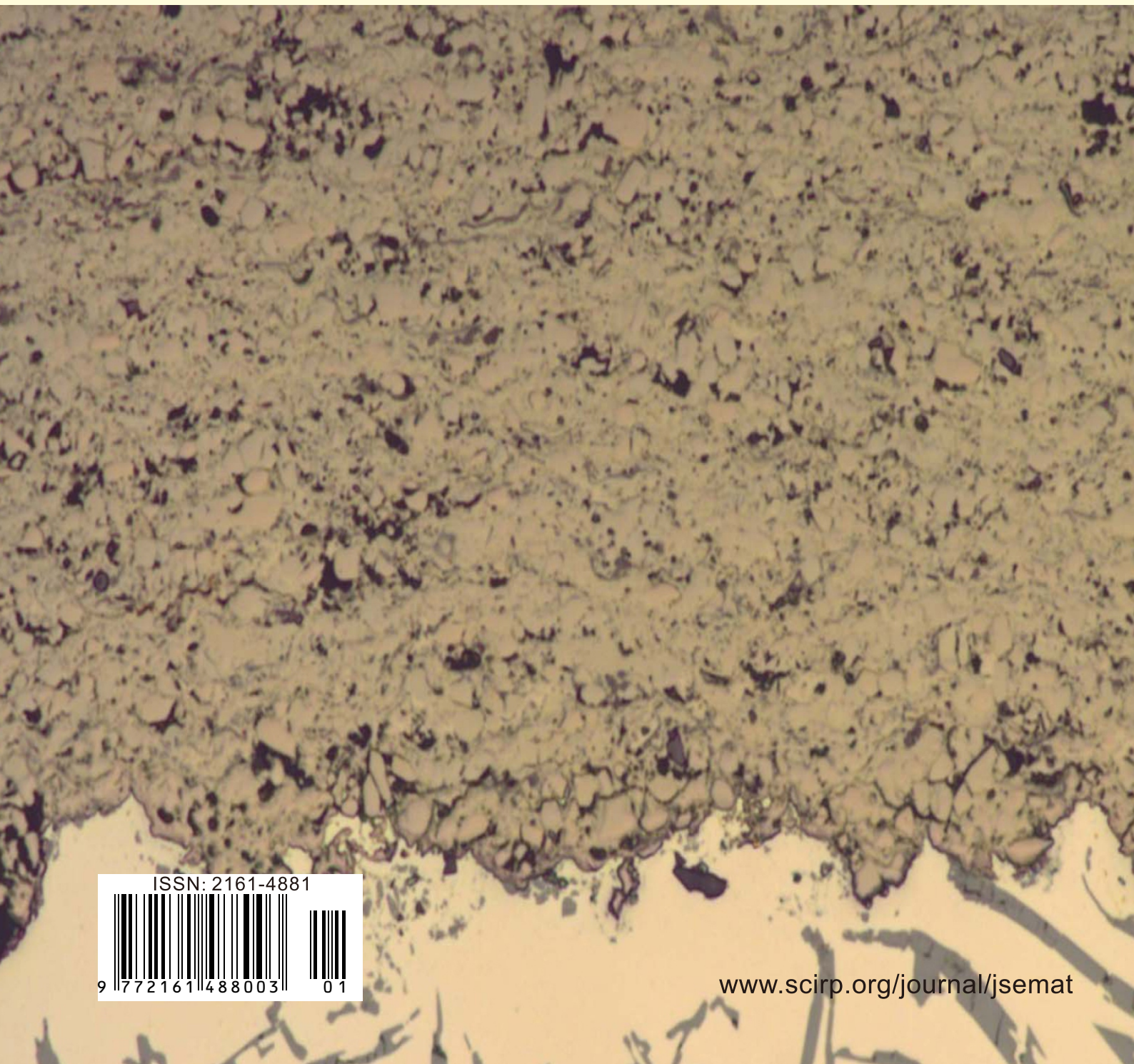


ISSN: 2161-4881 Vol. 3, No. 1, January 2013



Scientific
Research

Journal of Surface Engineered Materials and Advanced Technology



ISSN: 2161-4881



www.scirp.org/journal/jsemat

Journal Editorial Board

ISSN 2161-4881 (Print) ISSN 2161-489X (Online)

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

Editor-in-Chief

Dr. Bouzid Menaa

Fluorotronics Inc., USA

Editorial Board

Prof. Adnane Abdelghani

National Institute of Applied Science and Technology, Tunisia

Dr. Vamsi Krishna Balla

Central Glass and Ceramic Research Institute, India

Prof. Filippo Berto

University of Padua, Italy

Dr. Elena Binkauskienė

Centre for Physical Science and Technology, Lithuania

Dr. Gerardino D'Errico

University of Naples "Federico II", Italy

Prof. Eduardo Alfredo Favret

Centro de Investigaciones en Recursos Naturales (CIRN), Argentina

Prof. Ahmed Ibrahim

Farmingdale State College, USA

Prof. Yuri P. Kalmykov

University of Perpignan, France

Prof. Zhixin Kang

Guangdong Key Laboratory for Advanced Metallic

Materials Processing, China

Dr. Hyunjung Kim

Chonbuk National University, South Korea

Dr. Xuan Le

Microfabrication Development, Canada

Prof. Ioannis Liritzis

University of the Aegean, Greece

Prof. Francisco M. Márquez-Linares

Universidad del Turabo, USA

Dr. Abdel Salam H. Makhoul

Central Metallurgical Research and Development Institute (CMRDI), Egypt

Prof. Jukka Pekka Matinlinna

The University of Hong Kong, Hong Kong (China)

Prof. K. A. Natarajan

Indian Institute of Science, India

Dr. Gary R. Pickrell

Virginia Polytechnic Institute and State University, USA

Prof. Nicola Pugno

Politecnico di Torino, Italy

Dr. M. V. Reddy

National University of Singapore (NUS), Singapore

Prof. Zhifeng Ren

Boston College, USA

Prof. Maria Richert

AGH University of Science & Technology, Poland

Prof. Juan M. Ruso

University of Santiago de Compostela (USC), Spain

Prof. Cristina Satriano

University of Catania, Italy

Prof. Young-Seok Shon

California State University, USA

Prof. Hiroaki Tada

Kinki University, Japan

Prof. Rafael Tadmor

Lamar University, USA

Prof. Yaohua Zhu

The Hong Kong Polytechnic University, Hong Kong (China)

Guest Reviewers

Li Chen

Yuhang Cheng

C. T. Liu

TABLE OF CONTENTS

Volume 3 Number 1

January 2013

The Effect of Chemical Composition and Thermal Sprayed Method on the Chromium and Tungsten Carbides Coatings Microstructure

M. W. Richert, B. Mikulowski, P. Palka, A. Hotłoś, M. Perek-Nowak.....1

Optimization Conditions for Single-Walled Carbon Nanotubes Dispersion

Y. H. Shi, L. L. Ren, D. Q. Li, H. F. Gao, B. Yang.....6

Numerical-Experimental Updating Identification of Elastic Behavior of a Composite Plate Using New Multi-Objective Optimization Procedure

S. Ghanmi, S. Bouajila, M. Guedri.....13

Preparation and Characterization of Clay (Maghnite-H)/Poly(3,4-Ethylenedioxythiophene) Composites

A. Megherbi, R. Meghabar, M. Belbachir.....21

Surface Analysis of Carbon Steel Protected from Corrosion by a New Ternary Inhibitor Formulation Containing Phosphonated Glycine, Zn²⁺ and Citrate

B. V. A. Rao, M. V. Rao, S. S. Rao, B. Sreedhar.....28

Role of Substrate Temperatures on Structural, Optical, Wetting and Electrical Transport Properties of CdS Thin Films

P. D. More.....43

The figure on the front cover is from the article published in *Journal of Surface Engineered Materials and Advanced Technology*, 2013, Vol. 3, No. 1, pp. 1-5 by Maria W. Richert, *et al.*

Journal of Surface Engineered Materials and Advanced Technology (JSEMAT)

Journal Information

SUBSCRIPTIONS

The *Journal of Surface Engineered Materials and Advanced Technology* (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly 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.

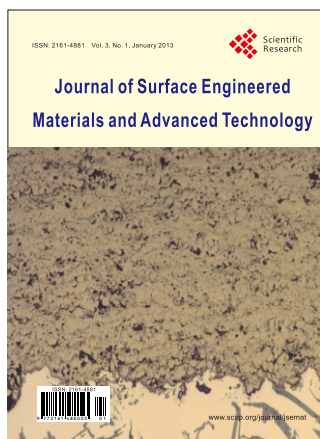
Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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 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: jsemat@scirp.org



Journal of Surface Engineered Materials and Advanced Technology (JSEMAT)

ISSN Print: 2161-4881 ISSN Online: 2161-489X
<http://www.scirp.org/journal/jsemat>

Journal of Surface Engineered Materials and Advanced Technology (JSEMAT) is an international, specialized, English-language journal devoted to publication of original contributions concerning surface sciences, surface properties, techniques of characterization and generated applications.

It is an open-access, peer-reviewed journal describing scientific and technological advances that cover the basic sciences, engineering aspects and applied technology of surface chemistry, surface materials sciences and engineering studies for applications in nanotechnology, biomaterials, optics, environment, architectural restoration including all kind of materials surfaces.

Subject Coverage

The journal publishes the highest quality original full articles, communications, notes, reviews, special issues and books, covering both the experimental and theoretical aspects including but not limited to:

- Adsorption Process and Principles
- Advances in Adhesion Sciences
- Interface Sciences and Applications
- Intermolecular Interactions
- Kinetics and Thermodynamics at Surfaces
- Modeling Theory of Surface Chemistry
- Single Molecule Force Spectroscopy
- Surface Biocompatibility
- Surface Characterization and Advanced Techniques

- Surface Corrosion
- Surface Crystallization
- Surface Hydration at Solid/Liquid Interface
- Surface Interactions at Bio-Interfaces
- Surface Interactions at the Nanoscale
- Surface Microscopy (SEM, AFM, High Speed AFM, STM...)
- Surface Molecules Self-Assembly
- Surface Nanopatterning

Papers are acceptable provided they report important findings, novel insights or useful techniques within the scope of the journal. All manuscript must be prepared in English, and are subjected to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by prints in hard copy. It will be available through <http://www.scirp.org/journal/jsemat/>.

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/jsemat>

E-mail: jsemat@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, by delivering superior scientific publications and scientific information solution provider that enable advancement in scientific research.

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, world-wide, 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**

Website: <http://www.scirp.org>
Subscription: sub@scirp.org
Advertisement: service@scirp.org