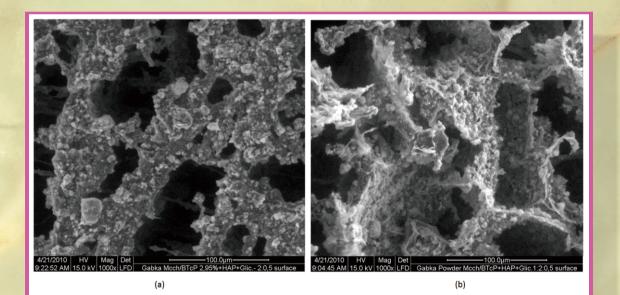
Vol. 4, No. 4A, December 2013



Journal of Biomaterials and Nanobiotechnology

Special Issue on Bacterial Biofilms and Surface Interactions





www.scirp.org/journal/jbnb

Journal Editorial Board

ISSN: 2158-7027 (Print), 2158-7043 (Online) http://www.scirp.org/journal/jbnb

Editor-in-Chief

Dr. Bouzid Menaa

Fluorotronics, Inc., USA

.....

Editorial Board

Prof. Adnane Abdelghani Prof. Michael H. Bartl Prof. Pierre Basmaji Prof. Carlo Maria Carbonaro Prof. Helmut Cölfen Prof. Roman Dembinski Dr. Ryad Djeribi **Prof. Paul Ducheyne** Prof. Plinio Innocenzi Prof. Ali Khademhosseini **Prof. Beate Koksch** Prof. Junbai Li **Prof. Song Li** Prof. Xiaodong Li **Prof. Yang Ling Prof. Peng Liu Dr. Song Liu Prof. Jacques Livage** Prof. Stephen Mann **Prof. Wolfgang Meier** Dr. Farid Menaa **Prof. Yuezhong Meng** Prof. Enzo Montoneri Prof. Yoshihiko Murakami Prof. Chandrabhas Narayana Dr. Loredana Elena Nita Prof. Faik Nuzhet Oktar **Prof. Elena Parfenyuk Prof. Christian Serre** Prof. Masahide Takahashi Prof. Maria Vallet-Regi Prof. Erwin A. Vogler **Prof. Christian Weinand** Dr. Raghvendra S. Yadav Dr. Murali M. Yallapu

National Institute of Applied Science and Technology, Tunisia University of Utah, USA Sao Paulo University, Brazil University of Monserrato, Italy University of Konstanz, Germany Oakland University, USA Biofilms and Biocontamination of Materials Laboratory, Algeria University of Pennsylvania, USA Università di Sassari, Italy Massachusetts Institute of Technology, USA Free University of Berlin, Germany Chinese Academy of Sciences, China University of California, USA University of South Carolina, USA Chinese Academy of Sciences, China Lanzhou University, China University of Manitoba, Canada College de France, France University of Bristol, UK University of Basel, Switzerland Fluorotronics, Inc., USA Sun Yat-sen University, China University of Turin, Italy Tokyo University of Agriculture and Technology, Japan Jawaharlal Nehru Centre for Advanced Scientific Research, India "Petru Poni" Institute of Macromolecular Chemistry, Romania Marmara University, Turkey Russian Academy of Sciences, Russia Université de Versailles St-Quentin-en-Yvelines, France Osaka Prefecture University Sakai, Japan University Complutense of Madrid, Spain Pennsylvania State University, USA University Hospital Cologne-Merheim, Germany University of Allahabad, India Sanford Research, USA

Guest Reviewers

Raghu Hegde Yajiang Huang Jiiang-Huei Jeng Chaoming Wang



TABLE OF CONTENTS

Volume 4 Number 4A	December 2013
Cell Surface Determinants Important for Biofilm-Based Solid Substrate I	Degradation
J. Dostálková, V. Jirků, G. Procházková, L. Křiklavová, T. Lederer, T. Brányik	1
Disinfection Treatment of Heated Scallop-Shell Powder on Biofilm of <i>Escherichia coli</i> ATCC 25922 Surrogated for <i>E. coli</i> O157:H7	
M. Kubo, Y. Ohshima, F. Irie, M. Kikuchi, J. Sawai	10
Properties of Microcrystalline Chitosan-Calcium Phosphate Complex Co	mposite
L. Pighinelli, M. Kucharska	
Fluid Flow and Sub-Bactericidal Release of Silver from Organic Nanocor Enhance <i>ica</i> Operon Expression in <i>Staphylococcus epidermidis</i>	nposite Coatings
M. G. Kataikagianni, A. Eaka, E. Sardalla, C. Ingrassa, D. Eavia, A. Mangana, I. Snilia	poulou V E Missirlis 20

The figure on the front cover is from the article published in Journal of Biomaterials and Nanobiotechnology, 2013, Vol. 4, No. 4A, pp. 20-29 by Luciano Pighinelli, Magdalena Kucharska.

Journal of Biomaterials and NanoBiotechnology

Journal Information

SUBSCRIPTIONS

Journal of Biomaterials and NanoBiotechnology (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 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: jbnb@scirp.org

Call for Papers



Journal of Biomaterials and Nanobiotechnology

ISSN: 2158-7027 (Print), 2158-7043 (Online) http://www.scirp.org/journal/jbnb

Journal of Biomaterials and Nanobiotechnology is an international, interdisciplinary, English-language publication of original contributions concerning studies of the preparation, performance, and evaluation of biomaterials; the chemical, physical, toxicological, mechanical, electrochemical and optical behavior of nanostructured materials for biotechnology applications. The goal of this journal is to keep a record of the state-of-the-art research and to promote study, research and improvement within its various specialties. With an open access publication model of this journal, all interested readers around the world can freely access articles online. Now we sincerely invite you to submit your research manuscript to JBNB.

Subject Coverage

Journal of Biomaterials and Nanobiotechnology publishes original papers including but not limited to the following fields:

- Bio-encapsulation, bio-adsorption, controlled release of biomolecules (drugs, proteins, etc.), nutraceuticals
- Bio-induced nanopatterning, arrays of biological molecules, bioships
- Bio-MEMS
- Biomimetics and bio-inspired materials
- Biomolecules/surfaces interactions studies: biocompatibility of materials, biomolecules conformations, structure and dynamics at surfaces, molecular interactions, biological activity, thermodynamics and pharmacokinetics of nanostructured materials
- Development, design and synthesis of biocompatible biomaterials (sol-gel materials, glasses, ceramics, polymers, hydrogels, metal-organic frameworks, organic-inorganic hybrid materials, nanocomposites, combinations of synthetic materials and living cells and tissues, porous materials) as bulk and thin-films
- Molecular recognition techniques: biosensors
- Nanocapsules
- Nanocrystals and bio-crystallization processes
- Nanoparticles (fullerenes, carbon nanotubes, silica based nanoparticles...) as biomarkers and fluorescents tags for cell detection, imaging and drug delivery systems
- Nanostructured materials: micro- and nanofluidics
- Photo-induced species and structure conformations of biomolecules in biomaterials
- Self-assembly of biological molecules
- Theranostics and diagnostics tools: emerging techniques involved in bio-detection and analysis of individual biological molecules (imaging, spectroscopy, microscopy...)

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

Your paper should not have been previously published or be currently under consideration for publication any place else. Submit your paper electronically through the JBNB online system. All papers are subject to peer review. After your paper has been accepted, you must sign a copyright transfer agreement with JBNB. Papers accepted for publication will be available free online. A fee will be charged to cover the publication cost. Manuscripts must be written in English.

Website and E-Mail

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?

rt and Design

Advances in

Entomology

Applied Mathematic

Engineering

es in Aging Re

Advances in Biologica

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



Soft

li h

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