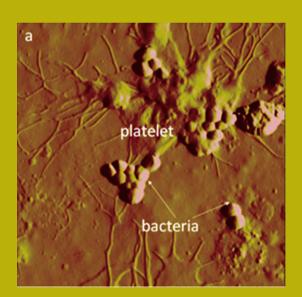
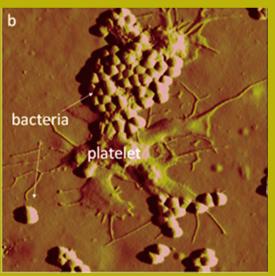


# Journal of Biomaterials and Nanobiotechnology





Aggregates of bacteria-platelets in the presence of Fn showing platelet (a) adherent or (b) entrapped with bacteria. (Image size:  $20 \mu m \times 20 \mu m$ )



## **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 National Institute of Applied Science and Technology, Tunisia

Prof. Michael H. BartlUniversity of Utah, USAProf. Pierre BasmajiSao Paulo University, BrazilProf. Carlo Maria CarbonaroUniversity of Monserrato, ItalyProf. Helmut CölfenUniversity of Konstanz, Germany

Prof. Roman Dembinski Oakland University, USA

**Dr. Ryad Djeribi** Biofilms and Biocontamination of Materials Laboratory, Algeria

Prof. Paul Ducheyne University of Pennsylvania, USA
Prof. Plinio Innocenzi Università di Sassari, Italy

Prof. Ali Khademhosseini Massachusetts Institute of Technology, USA

Prof. Beate KokschFree University of Berlin, GermanyProf. Junbai LiChinese Academy of Sciences, China

Prof. Song LiUniversity of California, USAProf. Xiaodong LiUniversity of South Carolina, USAProf. Yang LingChinese Academy of Sciences, China

Prof. Peng LiuLanzhou University, ChinaDr. Song LiuUniversity of Manitoba, CanadaProf. Jacques LivageCollege de France, FranceProf. Stephen MannUniversity of Bristol, UK

Prof. Wolfgang Meier University of Basel, Switzerland

Dr. Farid MenaaFluorotronics, Inc., USAProf. Yuezhong MengSun Yat-sen University, ChinaProf. Enzo MontoneriUniversity of Turin, Italy

**Prof. Yoshihiko Murakami** Tokyo University of Agriculture and Technology, Japan

Prof. Chandrabhas NarayanaJawaharlal Nehru Centre for Advanced Scientific Research, IndiaDr. Loredana Elena Nita"Petru Poni" Institute of Macromolecular Chemistry, Romania

**Prof. Faik Nuzhet Oktar** Marmara University, Turkey

Prof. Elena Parfenyuk Russian Academy of Sciences, Russia

**Prof. Christian Serre** Université de Versailles St-Quentin-en-Yvelines, France

Prof. Masahide TakahashiOsaka Prefecture University Sakai, JapanProf. Maria Vallet-RegiUniversity Complutense of Madrid, SpainProf. Erwin A. VoglerPennsylvania State University, USA

**Prof. Christian Weinand** University Hospital Cologne-Merheim, Germany

Dr. Raghvendra S. Yadav University of Allahabad, India Dr. Murali M. Yallapu University of South Dakota, USA

### **Guest Reviewers**

Raghu Hegde Yajiang Huang Jiiang-Huei Jeng Chaoming Wang



### TABLE OF CONTENTS

Volume 3	Special	<b>Issue</b>
----------	---------	--------------

October 2012

Effects of Plasma Proteins on <i>Staphylococcus epidermidis</i> RP62A Adhesion and Interaction with Platele	ets
on Polyurethane Biomaterial Surfaces	
LC. Xu, C. A. Siedlecki	487
Effects of Physical Parameters on Bacterial Cell Adsorption onto Pre-Imprinted Sol-Gel Films	
J. Starosvetsky, T. Cohen, U. Cheruti, D. Bilanović, R. Armon	499
Spions Increase Biofilm Formation by Pseudomonas aeruginosa	
C. Haney, J. J. Rowe, J. B. Robinson.	508
Overview of Multidrug-Resistant Pseudomonas aeruginosa and Novel Therapeutic Approaches	
M. Porras-Gómez, J. Vega-Baudrit, S. Núñez-Corrales.	519
Antimicrobial Activity of Minocycline-Loaded Genipin-Crosslinked Nano-Fibrous Chitosan Mats for	
Guided Tissue Regeneration	
P. A. Norowski, J. Babu, P. C. Adatrow, F. Garcia-Godoy, W. O. Haggard, J. D. Bumgardner	528
Using Atomic Force Microscopy to Measure Anti-Adhesion Effects on Uropathogenic Bacteria,	
Observed in Urine after Cranberry Juice Consumption	
L. Abu-Lail, Y. Y. Tao, P. A. Pinzón-Arango, A. Howell, T. A. Camesano	533
Effect of Surface Roughness and Materials Composition on Biofilm Formation	
M. Gharechahi, H. Moosavi, M. Forghani	541
Study of the Adhesion of Clinical Strains of <i>Staphylococcus aureus</i> on an Abiotic Surface Using the Biofilm Ring Test <sup>®</sup>	
J. M. Liesse Iyamba, N. B. Takaisi-Kikuni, S. Dulanto, J. P. Dehaye	547

The figure on the front cover is from the article published in Journal of Biomaterials and Nanobiotechnology, 2012, Vol. 3, No. 4A, pp. 487-498 by Li-Chong Xu and Christopher A. Siedlecki.

Copyright © 2012 SciRes.

### **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: \$39 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©2012 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:

- 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
- Nanoparticles (fullerenes, carbon nanotubes, silica based nanoparticles...) as biomarkers and fluorescents tags for cell detection, imaging and drug delivery systems
- Nanocrystals and bio-crystallization processes
- Self-assembly of biological molecules
- Bio-induced nanopatterning, arrays of biological molecules, bioships
- Biomimetics and bio-inspired materials
- Nanocapsules
- Bio-encapsulation, bio-adsorption, controlled release of biomolecules (drugs, proteins, etc.), nutraceuticals
- Nanostructured materials: micro- and nanofluidics
- Photo-induced species and structure conformations of biomolecules in biomaterials
- Bio-MEMS
- Theranostics and diagnostics tools: emerging techniques involved in bio-detection and analysis of individual biological molecules (imaging, spectroscopy, microscopy...)
- Molecular recognition techniques: biosensors
- Biomolecules/surfaces interactions studies: biocompatibility of materials, biomolecules conformations, structure and dynamics at surfaces, molecular interactions, biological activity, thermodynamics and pharmacokinetics of nanostructured materials

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