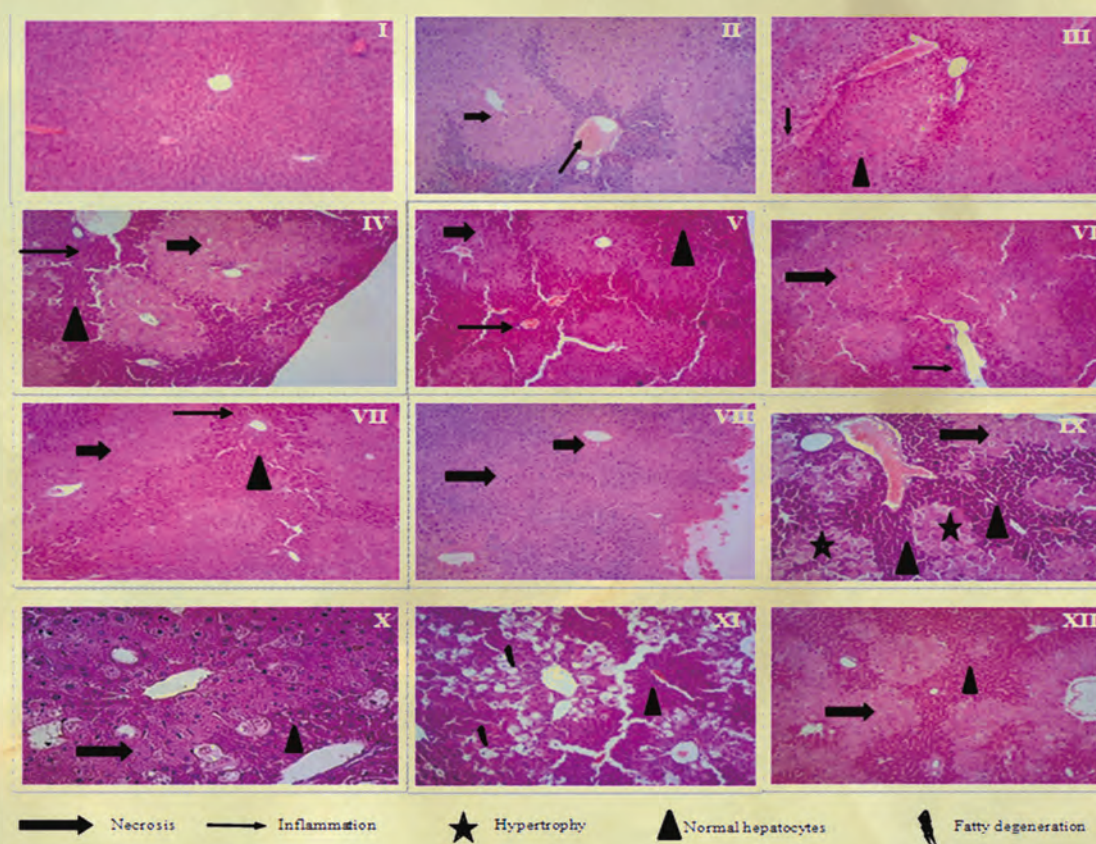




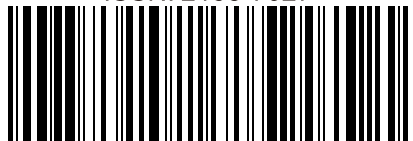
# Journal of Biomaterials and Nanobiotechnology

Special Issue on Advances in Phenolics and Polyphenolics Research



**Figure 1.** Effect of methanolic extracts from different parts of *Opuntia joconostle* on  $\text{CCl}_4$ -induced liver damage of mice: I: control; II: vehicle +  $\text{CCl}_4$ ; III: ascorbic acid (200 mg/kg) +  $\text{CCl}_4$ ; IV: MPE (50 mg/kg) +  $\text{CCl}_4$ ; V: MPE (100 mg/kg) +  $\text{CCl}_4$ ; VI: MPE (200 mg/kg) +  $\text{CCl}_4$ ; VII: MME (50 mg/kg) +  $\text{CCl}_4$ ; VIII: MME (100 mg/kg) +  $\text{CCl}_4$ ; IX: MME (200 mg/kg) +  $\text{CCl}_4$ ; X: MEE (50 mg/kg) +  $\text{CCl}_4$ ; XI: MEE (100 mg/kg) +  $\text{CCl}_4$ ; XII: MEE (200 mg/kg) +  $\text{CCl}_4$

ISSN: 2158-7027



977215870270403A

# 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. Bartl**

University of Utah, USA

**Prof. Pierre Basmaji**

Sao Paulo University, Brazil

**Prof. Carlo Maria Carbonaro**

University of Monserrato, Italy

**Prof. Helmut Cölfen**

University 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 Koksich**

Free University of Berlin, Germany

**Prof. Junbai Li**

Chinese Academy of Sciences, China

**Prof. Song Li**

University of California, USA

**Prof. Xiaodong Li**

University of South Carolina, USA

**Prof. Yang Ling**

Chinese Academy of Sciences, China

**Prof. Peng Liu**

Lanzhou University, China

**Dr. Song Liu**

University of Manitoba, Canada

**Prof. Jacques Livage**

College de France, France

**Prof. Stephen Mann**

University of Bristol, UK

**Prof. Wolfgang Meier**

University of Basel, Switzerland

**Dr. Farid Menaa**

Fluorotronics, Inc., USA

**Prof. Yuezhong Meng**

Sun Yat-sen University, China

**Prof. Enzo Montoneri**

University of Turin, Italy

**Prof. Yoshihiko Murakami**

Tokyo University of Agriculture and Technology, Japan

**Prof. Chandrabhas Narayana**

Jawaharlal Nehru Centre for Advanced Scientific Research, India

**Dr. 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 Takahashi**

Osaka Prefecture University Sakai, Japan

**Prof. Maria Vallet-Regi**

University Complutense of Madrid, Spain

**Prof. Erwin A. Vogler**

Pennsylvania State University, USA

**Prof. Christian Weinand**

University Hospital Cologne-Merheim, Germany

**Dr. Raghvendra S. Yadav**

University of Allahabad, India

**Dr. Murali M. Yallapu**

Sanford Research, USA

---

## Guest Reviewers

**Raghu Hegde**

**Yajiang Huang**

**Jiian-Huei Jeng**

**Chaoming Wang**

## TABLE OF CONTENTS

**Volume 4    Number 3A**

**June 2013**

**Structural Elucidation of Condensed Tannin from *Picea mariana* Bark**

P. N. Diouf, C. M. Tibirna, M.-E. García-Pérez, M. Royer, P. Dubé, T. Stevanovic.....1

**The Phenols of the Genus *Agave* (Agavaceae)**

N. Almaraz-Abarca, E. A. Delgado-Alvarado, J. A. Ávila-Reyes, J. N. Uribe-Soto, L. S. González-Valdez.....9

**Phenolic Compounds Hybrid Detectors**

J. Soloducho, J. Cabaj.....17

**Effects of Gabaergic Phenols on Phospholipid Bilayers as Evaluated by  $^1\text{H}$ -NMR**

G. N. Reiner, L. F. Fraceto, E. de Paula, M. A. Perillo, D. A. García.....28

**Protective Effect of Phenolic-Rich Extracts from Different Parts of *Opuntia joconostle* Fruit against Carbon Tetrachloride-Induced Oxidative Stress in Mice**

O. Osorio-Esquivel, A. Ortiz-Moreno, J. Herrera-Martínez, M. D. Hernández-Navarro.....35

---

The figure on the front cover is from the article published in *Journal of Biomaterials and Nanobiotechnology*, 2013, Vol. 4, No. 3A, pp. 35-42 by Obed Osorio-Esquivel, *et al.*

# **Journal of Biomaterials and NanoBiotechnology**

## **Journal Information**

### **SUBSCRIPTIONS**

*Journal of Biomaterials and NanoBiotechnology* (Online at Scientific Research Publishing, [www.SciRP.org](http://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](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©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: [jbnb@scirp.org](mailto:jbnb@scirp.org)





# 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 fluorescent 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

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

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

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