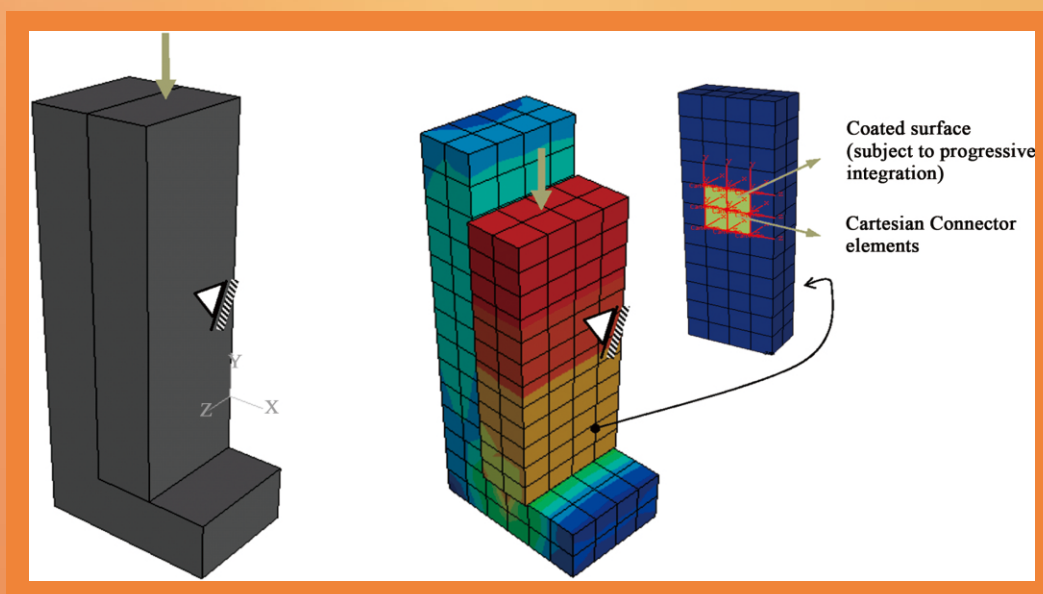


JBISE

ISSN: 1937-6871

Volume 5, Number 5, May 2012

Journal of **B**iomedical **S**cience and **E**ngineering



ISSN: 1937-6871



Editor-in-Chief
Kuo-Chen Chou

Journal Editorial Board

ISSN 1937-6871 (Print) ISSN 1937-688X (Online)

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

Editor-in-Chief

Prof. Kuo-Chen Chou

Gordon Life Science Institute, San Diego, California, USA

Editorial Board

Prof. Suleyman I. Allakhverdiev

Institute of Basic Biological Problems, Russia

Prof. Christopher J. Branford-White

London Metropolitan University, UK

Prof. Thomas Casavant

University of Iowa, USA

Dr. Feng Cheng

Yale University, USA

Prof. Reba Goodman

Columbia University, USA

Prof. Fu-Chu He

Chinese Academy of Sciences, China

Prof. Robert L. Heinrikson

Proteos, Inc., USA

Prof. Zeng-Jian Hu

Howard University, USA

Prof. Takeshi Kikuchi

Ritsumeikan University, Japan

Prof. Rob Krams

Imperial College London, UK

Prof. Lukasz Kurgan

University of Alberta, Canada

Prof. Juan Liu

Wuhan University, China

Dr. Girdhar K. Pandey

University of Delhi South Campus, India

Dr. Ganesan Pugalenth

Genome Institute of Singapore, Singapore

Prof. Hong-Bin Shen

Shanghai Jiao Tong University, China

Dr. Yanmei Tie

Harvard Medical School, USA

Dr. Elif Derya Übeyli

TOBB University of Economics and Technology, Turkey

Dr. Ching-Sung Wang

Oriental Institute Technology, Chinese Taipei

Prof. Dong-Qing Wei

Shanghai Jiao Tong University, China

Dr. Murali Mohan Yallapu

Sanford Research, USA

Prof. Zhizhou Zhang

Harbin Institute of Technology, China

Managing Executive Editor

Dr. Yufei Chen

Scientific Research Publishing, USA Email: yfchen@scirp.org

Guest Reviewers

Long Cheng

Gopal Krishan

Feng Li

Shenghua Ni

Harshavardhan Shakila

Mohammad Bagher Shamsollahi

Le Zhang

TABLE OF CONTENTS

Volume 5, Number 5, May 2012

A model of bone adaptation as a topology optimization process with contact

A. Andrade-Campos, A. Ramos, J. A. Simões.....229

Snoring sounds' statistical characteristics depend on anthropometric parameters

A. Azarbarzin, Z. Moussavi.....245

Cellular viability and nitric oxide (NO) production by J774 macrophages in the presence of orthodontic archwires

C. E. P. Toledo, M. A. Souza, M. R. Fraga, L. C. Ribeiro, A. P. Ferreira, R. W. F. Vitral.....255

Poly(ethylene glycol) and poly(N-vinylpyrrolidone) for improved porcine islet cryopreservation

D. Xie, S. Jules, Y. M. Weng, Y. Zhou, R. A. Sidner, M. Pescovitz.....263

Molecular adsorbent recirculating system therapy in a rare case of fulminant hepatitis

V. Morabito, G. Ferretti, F. Pugliese, S. Novelli, M. Rossi, G. Novelli.....270

Tissue attenuation coefficient estimation using bubble harmonics with frequency diversity

S.-K. Tsao, J. Tsao.....276

Arterial pulsation on a human patient simulator improved students' pulse assessment

A. Takeuchi, T. Kobayashi, M. Hirose, T. Masuda, T. Sato, N. Ikeda.....285

Z-Scan method for measurement of bovine serum albumin concentrations

A. E. Obeid, Y. A. Alwatari, K. G. Culligan, F. Z. Henari.....290

The figure on the front cover is from the article published in J. Biomedical Science and Engineering, 2012, Vol. 5, No. 5, pp. 229-244 by António Andrade-Campos, António Ramos and José A. Simões.

Journal of Biomedical Science and Engineering (JBiSE)

Journal Information

SUBSCRIPTIONS

The *Journal of Biomedical Science and Engineering* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$79 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 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: jbise@scirp.org

Journal of Biomedical Science and Engineering (JBise)

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

JBise, an international journal, publishes research and review articles in all important aspects of biology, medicine, engineering, and their intersection. Both experimental and theoretical papers are acceptable provided they report important findings, novel insights, or useful techniques in these areas. All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed in hard copy.

Subject Coverage

- Applied Biomaterials
- Bioelectrical and Neural Engineering
- Bioinformatics and Computational Biology
- Biomechanics and Biotransport
- Biomedical and Environmental Sciences
- Biomedical Chemistry
- Biomedical Chromatography
- Biomedical Devices, Sensors, Artificial Organs and Nano Technologies
- Biomedical Engineering
- Biomedical Imaging, Processing and Visualization
- Biomedical Informatics
- Biomedical Materials
- Biomedical Microdevices
- Biomedical Modeling
- Biomedical Sciences and Applications
- Biomedical Semantics
- Biomedical Signal Processing and Control
- Biomedicine and Biotechnology
- Biomedicine and Pharmacotherapy
- Clinical Engineering, Wearable and Real-Time Health Monitoring Systems
- Computer Methods and Programs in Biomedicine
- Genetic Engineering
- Genomics
- History and Philosophy of Biomedical Sciences
- Mechanical Behavior of Biomedical Materials
- Medical Biochemistry
- Medical Cell Biology
- Molecular and Genetic Medicine
- Nano-Bio-Analysis
- Negative Results in Biomedicine
- NMR/CT/ECG Technologies and Electromagnetic Field Simulation
- NMR in Biomedicine
- Nonlinear Biomedical Physics
- Numerical Methods in Biomedical Engineering
- Pharmaceutical and Biomedical Analysis
- Physiological Signal Processing
- Proteomics
- Software, Tools and Application in Medical Engineering
- Structure-Based Drug Design

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/jbise>

Email: jbise@scirp.org



Editor-in-Chief

Prof. Kuo-Chen Chou

Gordon Life Science Institute, San Diego, California, USA

Editorial Board

Prof. Suleyman I. Allakhverdiev	Institute of Basic Biological Problems, Russia
Prof. Christopher J. Branford-White	London Metropolitan University, UK
Prof. Thomas Casavant	University of Iowa, USA
Dr. Feng Cheng	Yale University, USA
Prof. Reba Goodman	Columbia University, USA
Prof. Fu-Chu He	Chinese Academy of Sciences, China
Prof. Robert L. Henrikson	Proteos, Inc., USA
Prof. Zeng-Jian Hu	Howard University, USA
Prof. Takeshi Kikuchi	Ritsumeikan University, Japan
Prof. Rob Krams	Imperial College London, UK
Prof. Lukasz Kurgan	University of Alberta, Canada
Prof. Juan Liu	Wuhan University, China
Dr. Girdhar K. Pandey	University of Delhi South Campus, India
Dr. Ganesan Pugalenth	Genome Institute of Singapore, Singapore
Prof. Hong-Bin Shen	Shanghai Jiao Tong University, China
Dr. Yanmei Tie	Harvard Medical School, USA
Dr. Elif Derya Übeyli	TOBB University of Economics and Technology, Turkey
Dr. Ching-Sung Wang	Oriental Institute Technology, Chinese Taipei
Prof. Dong-Qing Wei	Shanghai Jiao Tong University, China
Dr. Murali Mohan Yallapu	Sanford Research, USA
Prof. Zhizhou Zhang	Harbin Institute of Technology, China

ISSN 1937-6871 (Print), 1937-688X (Online)