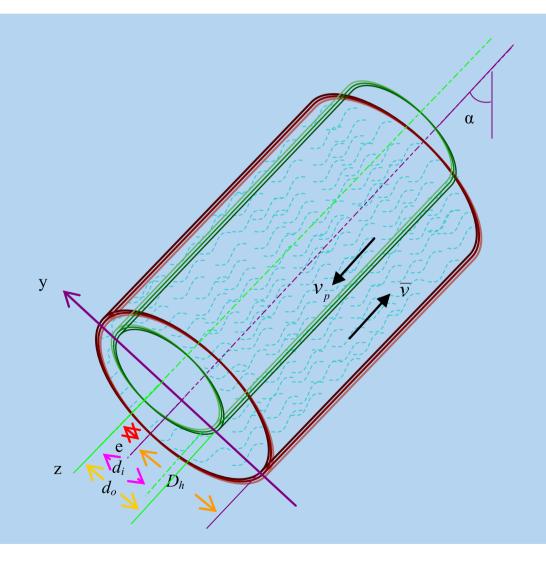


# Natural Science



ISSN: 2150-4091



Editor-in-Chief Kuo-Chen Chou

www.scirp.org/journal/ns/

# **Journal Editorial Board**

ISSN: 2150-4091 (Print) ISSN: 2150-4105 (Online)

http://www.scirp.org/journal/ns/

Editor-in-Chief

Prof. Kuo-Chen Chou Gordon Life Science Institute, USA

**Editorial Advisory Board** 

Prof. James J. ChouHarvard Medical School, USAProf. Reba GoodmanColumbia University, USA

Dr. Robert L. Heinrikson Proteos, Inc., USA

Prof. Robert H. KretsingerUniversity of Virginia, USADr. P. MartelChalk River Laboratories, Canada

**Dr. Michael Mross** Vermont Photonics Technologies Corp., USA

Prof. Harold A. Scheraga Cornell University, USA

**Editorial Board** 

**Dr. Fridoon Jawad Ahmad** University of the Punjab, Pakistan

Prof. Hakan ArslanMersin University, TurkeyDr. Giangiacomo BerettaUniversity of Milan, Italy

Dr. Bikas K. Chakrabarti Saha Institute of Nuclear Physics, India

Dr. Brian Davis

Research Foundation of Southern California, USA

Dr. Mohamadreza B. Eslaminejad

Cell Sciences Research Center, Royan Institute, Iran

Dr. Marina Frontasyeva Frank Laboratory of Neutron, Russia

**Dr. Neelam Gupta** National Bureau of Animal Genetic Resources, India

Dr. Yohichi Kumaki Utah State University, USA

**Dr. Petr Kuzmic** BioKin Ltd., USA

**Dr. Ping Lu** Communications Research Centre, Canada

**Dr. Dimitrios P. Nikolelis**University of Athens, Greece

**Dr. Caesar Saloma** University of the Philippines Diliman, Philippines

**Prof. Kenji Sorimachi** Dokkyo Medical University, Japan

Dr. Swee Ngin Tan
Nanyang Technological University, Singapore
Prof. Rodrick Wallace
New York State Psychiatric Institute, USA

**Dr. Fuqiang Xu** National Magnetic Resonance Research Center, China

**Dr. Weizhu Zhong** Pfizer Global Research and Development, USA

Managing Executive Editor

Dr. Feng Liu Scientific Research Publishing, USA Email: fengliu@scirp.org

Managing Production Editor

Jane Xiong Scientific Research Publishing, USA Email: ns@scirp.org

# **Guest Reviewers (According to Alphabet)**

Salvador Alfaro Fan Peng John R Williams
Takayuki Ban Mohd. Yusri bin Abd. Rahman Jamshed Hussain Zaidi
Marina Frontasyeya Toshifumi Satoh Nenghui Zhang

Marina Frontasyeva Toshifumi Satoh Nenghui Zhang Tomski Grigori Ruediger Schweiss Hongzhi Zhong Toshiyuki Kimura Shahida Waheed Junwu Zhu

Rafael Luque

# TABLE OF CONTENTS

# Volume 2, Number 12, December 2010

EARTH SCIENCE	
Well test analysis on pressure of viscoelastic polymer solution with variable rheological parameters H. J. Yin, W. L. Yang, S. Y. Meng, M. Cai.	277
The earth dynamic system: the earth rotation vs mantle convection	121
S. P. Chen	333
CHEMISTRY	
Zinc oxide nanocomposites with antitumor activity	
E. Arakelova, A. Khachatryan, K. Avjyan, Z. Farmazyan, A. Mirzoyan, L. Savchenko, S. Ghazaryan, F. Arsenyan	41
Synthesis of some new Indeno[1,2-e]pyrazolo[5,1-c]-1,2,4-triazin-6-one and	
Indeno[2,1-c]pyridazine-4-carbonitrile Derivatives	
H. M. Hassaneen, N. M. Abunada, H. M. Hassaneen	i49
cosmic chemistry processes near to 0 k, to explosive-like decays of metastable solid phases and to	
catastrophic geotectonic phenomena	
V. Barelko, D. Kiryukhin, I. Barkalov, G. Kichigina, A. Pumir	356
	50
LIFE SCIENCE	
The effect of nebivolol on the production of nitric oxide induced by bacterial lipopolysaccharide and	
peptidoglycan in mice	
F. El-Rami, H. Barsoumian, J. Simaan, A. M. Abdelnoor	
Assessment of a short phylogenetic marker based on comparisons of 3' end 16S rDNA and 5' end 16S-23S	
ITS nucleotide sequences on the genus Xanthomonas	
S. Yakoubou, JC. Côté	69
PHYSICS	
Modifed pennes' equation modelling bio-heat transfer in living tissues: analytical and numerical analysis	
A. Lakhssassi, E. Kengne, H. Semmaoui	375
Modeling of unsteady MHD free convection flow with radiative heat transfer in a rotating fluid	,,,
H. Naroua.	386
New method of predicting surge pressure apply to horizontal well based on casson flow	
Y. X. Sun, Q. M. Li, J. Y. Zhao13	394
OFFILEDS	
OTHERS	
Information and communication technology in science learning as a tool for "scientific thinking" in	
engineering education	100
E. Smirnov, V. Bogun	100
The statistical prediction of East African rainfalls using quasi-biennial oscillation phases information	107
H. K. Ng'ongolo, S. P. Smyshlyaev	,U /
N. Yörük, I. Morgil, N. Seçken	117
Application of random walk model to fit temperature in 46 gamma world cities from 1901 to 1998	.1 /
S. M. Yan, G. Wu	125
The figure on the front cover is from the article published in Natural Science, 2010, Vol.2, No.12, pp. 1394-1399	by

Qiming Li.

# **Natural Science**

# **Journal Information**

## **SUBSCRIPTIONS**

The *Natural Science* (Online at Scientific Research Publishing, <a href="www.SciRP.org">www.SciRP.org</a>) is published monthly by Scientific Research Publishing, Inc., USA.

## **Subscription rates:**

Print: \$50 per copy.

To subscribe, please contact Journals Subscriptions Department, E-mail: <a href="mailto:sub@scirp.org">sub@scirp.org</a>

## **SERVICES**

#### Advertisements

Advertisement Sales Department, E-mail: <a href="mailto:service@scirp.org">service@scirp.org</a>

## Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

#### **COPYRIGHT**

Copyright© 2010 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: ns@scirp.org

# **Call for Papers**

# Natural Science

# A Journal Published by Scientific Research Publishing, USA www.scirp.org/journal/ns

Editor-in-Chief

# Gordon Life Science Institute, USA

Scientific Research

Natural

Science

# Prof. Kuo-Chen Chou

#### **Editorial Board**

Dr. Fridoon Jawad Ahmad Prof Hakan Arslan Dr. Giangiacomo Beretta Dr. Bikas K. Chakrabarti

Dr. Brian Davis

Dr. Mohamadreza B. Eslaminejad

Dr. Marina Frontasyeva Dr. Neelam Gupta Dr. Yohichi Kumaki

Dr. Petr Kuzmic

Dr. Ping Lu

Dr. Dimitrios P. Nikolelis Dr. Caesar Saloma Prof. Kenii Sorimachi Dr. Swee Ngin Tan Prof. Rodrick Wallace

Dr. Fugiang Xu Dr. Weizhu Zhong

## Editorial Advisory Board

Prof. James J. Chou Prof. Reba Goodman Dr. Robert L. Heinrikson Prof. Robert H. Kretsinger Dr. P. Martel Dr. Michael Mross

Prof. Harold A. Scheraga

University of the Punjab, Pakistan Mersin University, Turkey University of Milan, Italy Saha Institute of Nuclear Physics, India Research Foundation of Southern California, USA Cell Sciences Research Center, Royan Institute, Iran Frank Laboratory of Neutron, Russia National Bureau of Animal Genetic Resources, India Utah State University, USA BioKin Ltd., USA Communications Research Centre, Canada University of Athens, Greece University of the Philippines Diliman, Philippines Dokkyo Medical University, Japan Nanyang Technological University, Singapore

New York State Psychiatric Institute, USA National Magnetic Resonance Research Center, China Pfizer Global Research and Development, USA

Harvard Medical School, USA Columbia University, USA Proteos, Inc., USA University of Virginia, USA Chalk River Laboratories, Canada Vermont Photonics Technologies Corp., USA Cornell University, USA

Natural Science is an international journal dedicated to the latest advancement of natural sciences. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of natural sciences. 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 hard copy. The journal publishes original papers including but not limited to the following fields:

# **Astronomy & Space Sciences**

- Astronomy
- Astrophysics
- Atmospheric Science
- Space Physics

# **Earth Science**

- Geography
- Geology
- Geophysics/Geochemistry
- Oceanography

# Chemistry

- Analytical Chemistry
- Biochemistry
- Computational Chemistry
- Inorganic Chemistry
- Organic Chemistry
- Physical Chemistry

# Life Science

- Cell Biology
- Computational Biology

- Genetics
- Immunology
- Medicine/Diseases
- Microbiology
- Molecular Biology
- Neuroscience
- Pharmacology/Toxicology
- Physiology
- Psychology
- Virology

## **Physics**

- **Applied Physics**
- Atomic, Molecular, and Optical Physics
- **Biophysics**
- High Energy/Particle Physics
- Material Science
- Plasma Physics

## Others

- Education
- History of Science
- Science and Innovations

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**

Submitted papers should not be previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. For more details, please access the website.

# Website and E-Mail