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

Editorial Advisory Board
Dr. James J. Chou
Harvard Medical School, USA
Prof. Reba Goodman
Columbia University Health Sciences, USA
Dr. Robert L. Heinrikson
Proteos, Inc., USA
Prof. Robert H. Kretzinger
University of Virginia, USA

Editorial Board
Prof. Tarek Aboull-Fadl
Assiut University, Egypt
Dr. Fridoon Jawad Ahmad
King Edward Medical University, Pakistan
Dr. Marcello Alecci
University of L’Aquila, Italy
Prof. Hakan Arslan
Mersin University, Turkey
Dr. Jean-Marc L. Beaufour
University of Lorraine, France
Dr. Giangiocomo Beretta
University of Milan, Italy
Dr. Attilio Castellarin
University of Bologna, Italy
Dr. Bikas K. Chakrabarti
Saha Institute of Nuclear Physics, India
Prof. Khalil El-Hami
Kyoto University, Japan
Dr. Mohammadreza B. Es laminatejad
Rien Institute, Iran
Dr. Marina Frontasyeva
Joint Institute for Nuclear Research, Russia
Dr. Neelaam Gupta
National Bureau of Animal Genetic Resources, India
Dr. Tai-Yin Huang
Pennsylvania State University-Lehigh Valley, USA
Prof. Syed Kamrul Islam
University of Tennessee, USA
Dr. Yohideh Kumaki
Utah State University, USA
Dr. Ping Lu
University of California, Irvine, USA
Prof. Giulio Lorenzini
University of Parma, Italy
Prof. Ding Lu
Communications Research Centre Canada, Canada
Prof. Mark Lee Morrissey
University of Oklahoma, USA
Dr. Sunil Nautiyal
Centre for Ecological Economics and Natural Resources, India
Dr. Edward Lee Nelson
University of California, Irvine, USA
Prof. Dimitrios P. Nikolaelis
University of Athens, Greece
Dr. Dongfeng Pan
University of Virginia, USA
Dr. Judith M. Pap
Catholic University of America, USA
Dr. Qasem Ramdan
Swiss Federal Institute of Technology, Switzerland
Prof. Caesar Saloma
University of the Philippines Diliman, Philippines
Dr. Victor B. Semikoz
Russian Academy of Sciences, Russia
Dr. Mohammad Reza Shadnam
KPMG LLP, Canada
Prof. Chuan-Chou Shen
National Taiwan University, Chinese Taipei
Prof. Kenji Soironichi
Dokkyo Medical University, Japan
Dr. Marco Taddei
University of Bologna, Italy
Dr. Swee Ngin Tan
Nanyang Technological University, Singapore
Dr. Vladislav Vasiliev
Australian National University, Australia
Dr. Rodrick Wallace
New York State Psychiatric Institute, USA
Dr. Chao-Fu Wang
National University of Singapore, Singapore
Dr. Chunsheng Wang
University of Maryland, USA
Dr. Xin Wang
Nanjing Institute of Geology and Palaeontology, China
Prof. Zhengbing Wu
Chinese Academy of Sciences, China
Dr. Fuqiang Xu
Chinese Academy of Sciences, China
Dr. Sharif Hussein Sharif Zein
University Science Malaysia, Malaysia
Dr. Li-Ru Zhao
SUNY Upstate Medical University, USA
Dr. Weizhu Zhong
Pfizer Global Research and Development, USA

Guest Reviewers (According to Alphabet)
Salvador Alfaro
Dai Li
Dai Lijun
Shuang Li
Toshifumi Satoh
Toshio Ban
Zhiqian Liu
Zhiye Liu
Ruediger Schweiss
Jason Blum
Zhiyong Liu
Liu Lin
Sumin Tang
Maria Teresa Esposito
Rafael Luque
Raj C. Deshmukh
Pang Fang
Lev A. Maslov
John R. Williams
Marina Frontasyeva
Pietro Macchi
Ho Soon Min
Mansheed Hussain
Yu Gao
Tianfang Min
Hailing Zhang
Rajendra Prasad
Tomski Grigori
Daniela Morelli
Nenghui Zhang
Raja Rizwan Hussain
Fan Peng
Hengli Zhang
Yan Jiang
Mohd. Yusri bin Abd. Rahman
Hongchi Zhang
Toshiyuki Kimura
Brijesh Rathi
Junwu Zhu
# TABLE OF CONTENTS

**Volume 5, Number 9, September 2013**

## Relationship of nine constants

M. Snyder .......................................................... 963

## Glycine supplementation reduces the severity of chemotherapy-induced oral mucositis in hamsters


## Family tree and population: Distinction and similarity of the analysis on example of hemophilia

A. N. Volobuev, P. I. Romanchuk, V. K. Malishev .......................................................... 979

## Hydro-meteorological characteristics of Chitral River basin at the peak of the Hindukush range


## Distribution and chromosomal variation in the scincid lizard genus *Lygosoma* (Reptilia: Squamata) in Thailand

V. Aranyavalai, K. Lertpanich, W. Chulalaksananukul .......................................................... 993

## The study of formulation and performance of formate drilling and completion fluid system

B. R. Wang, Z. H. Wang, Y. X. Sun, J. Z. Sun .......................................................... 997

## Sun, Earth, radioactive ore: Common periodicity

O. B. Khavroshkin, V. V. Tsyplakov .......................................................... 1001

## Evaluation of cloud seeding project in Yazd Province of Iran using historical regression method (case study: Yazd 1 cloud seeding project, 1999)

M. Zoljoodi, A. Didevarasl .......................................................... 1006

## Contribution of soil and foliar fertilization of nitrogen and sulfur on physiological and quality assessment of wheat (*Triticum aestivum* L.)


## Time-seismicity evolution and seismic risk assessment of the Arabian plate

A. Bilal .......................................................... 1019

## Optimization and kinetic modeling of lipase mediated enantioselective kinetic resolution of (±)-2-octanol

J. B. Sontakke, G. D. Yadav .......................................................... 1025

## Analysis of non-linear reaction-diffusion processes with Michaelis-Menten kinetics by a new Homotopy perturbation method

D. Shanthi, V. Ananthaswamy, L. Rajendran .......................................................... 1034

## Analytical expressions of the concentrations of substrate and product in enzyme inhibition process

S. Muthukumar, L. Rajendran .......................................................... 1047

---

The figure on the front cover is from the article published in Natural Science, 2013, Vol. 5, No. 9, pp. 972-978 by Odara Maria de Sousa Sá, Nilza Nelly Fontana Lopes, Maria Teresa Seixas Alves, et al.

Copyright © 2013 SciRes. OPEN ACCESS
Natural Science (NS)

Journal Information

SUBSCRIPTIONS


Subscription rates:
Print: $79 per copy.
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)
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: ns@scirp.org
Call for Papers

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

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

Editorial Advisory Board
Dr. James J. Chou
Prof. Reba Goodman
Dr. Robert L. Heinrikson
Prof. Robert H. Kretzinger

Editorial Board
Prof. Tarek Abou-Fadl
Dr. Fridoon Jawad Ahmad
Dr. Marcello Alecci
Dr. Hakan Arslan
Dr. Jean-Marc L. Beaujou
Dr. Giangiacomo Beretta
Dr. Attilio Castellarin
Dr. Bikas K. Chakrabarti
Dr. Khalil El-Hami
Dr. Mohamadreza B. Esalamiejad
Dr. Marina Frontasyeva
Dr. Neelam Gupta
Dr. Tai-Yin Huang
Prof. Syed Kamrul Islam

Dr. Yohichi Kumaki
Prof. Giulio Lorenzini
Dr. Ping Lu
Prof. Mark Lee Morrissey
Dr. Sunil Nautiyal
Dr. Edward Lee Nelson
Prof. Dimitrios P. Nikolaou
Dr. Dongfeng Pan
Prof. Vander P. Pap
Dr. Qasem Ramadhan
Prof. Calcium Salama
Dr. Victor B. Semikoz
Dr. Mohammad Reza Shadnam

Prof. Chuan-Chou Shen
Prof. Kenji Sorimachi
Dr. Marco Taddia
Dr. Swee Ngan Tan
Dr. Vladimir Vasilyev
Dr. Rodrick Wallace
Dr. Chao-Fu Wang
Dr. Chunsheng Wang
Dr. Xin Wang
Prof. Zhengbin Wu
Dr. Fuqiang Xu
Dr. Sharif Hussein Sharif Zein
Dr. Li-Ru Zhao
Dr. Weizhu Zhong

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
http://www.scirp.org/journal/ns
E-mail: ns@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

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