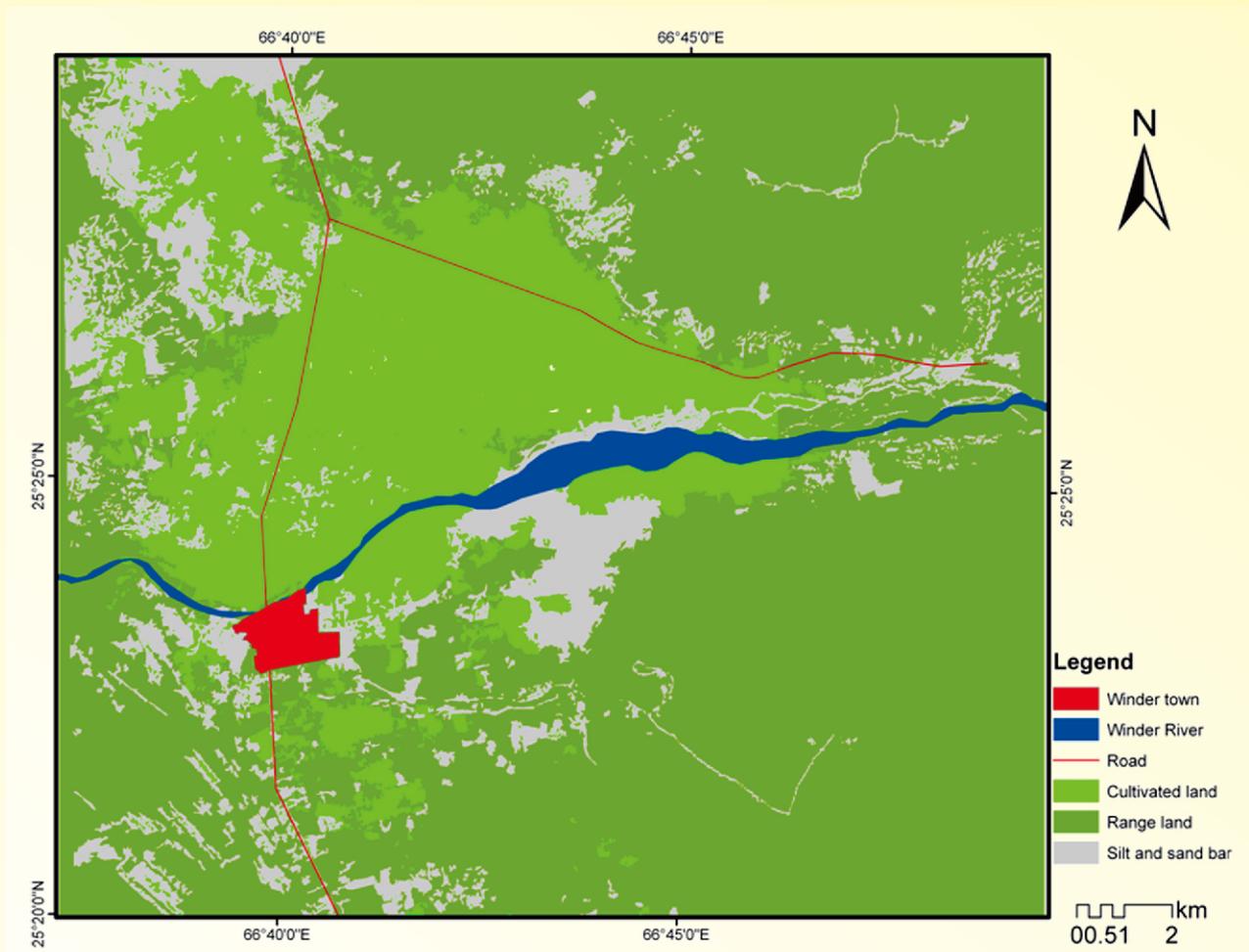


Natural Science



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

Dr. James J. Chou
Prof. Reba Goodman
Dr. Robert L. Heinrikson
Prof. Robert H. Kretsinger

Harvard Medical School, USA
Columbia University Health Sciences, USA
Proteos, Inc., USA
University of Virginia, USA

Editorial Board

Prof. Tarek Aboul-Fadl
Dr. Fridoon Jawad Ahmad
Dr. Marcello Alecci
Prof. Hakan Arslan
Dr. Jean-Marc L. Beaujour
Dr. Giangiacomo Beretta
Dr. Attilio Castellarin
Dr. Bikas K. Chakrabarti
Prof. Khalil El-Hami
Dr. Mohamadreza B. Eslaminejad
Dr. Marina Frontasyeva
Prof. Shimin Fu
Dr. Neelam Gupta
Dr. Tai-Yin Huang
Prof. Syed Kamrul Islam
Dr. Yohichi Kumaki
Dr. Peng Li
Prof. Giulio Lorenzini
Dr. Ping Lu
Prof. Mark Lee Morrissey
Dr. Sunil Nautiyal
Dr. Edward Lee Nelson
Prof. Dimitrios P. Nikolelis
Dr. Dongfeng Pan
Dr. Judit M. Pap
Dr. Qasem Ramadan
Prof. Caesar Saloma
Dr. Victor B. Semikoz
Dr. Mohammad Reza Shadnam
Prof. Chuan-Chou Shen
Prof. Kenji Sorimachi
Dr. Marco Taddia
Dr. Swee Ngin Tan
Dr. Vladislav 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

Assiut University, Egypt
King Edward Medical University, Pakistan
University of L'Aquila, Italy
Mersin University, Turkey
Nanodynamics-88, Inc., USA
University of Milan, Italy
University of Bologna, Italy
Saha Institute of Nuclear Physics, India
Kyoto University, Japan
Royan Institute, Iran
Joint Institute for Nuclear Research, Russia
Tsinghua University, China
National Bureau of Animal Genetic Resources, India
Pennsylvania State University-Lehigh Valley, USA
University of Tennessee, USA
Utah State University, USA
University of California, Irvine, USA
University of Parma, Italy
Communications Research Centre Canada, Canada
University of Oklahoma, USA
Centre for Ecological Economics and Natural Resources, India
University of California, Irvine, USA
University of Athens, Greece
University of Virginia, USA
Catholic University of America, USA
Swiss Federal Institute of Technology, Switzerland
University of the Philippines Diliman, Philippines
Russian Academy of Sciences, Russia
KPMG LLP, Canada
National Taiwan University, Chinese Taipei
Dokkyo Medical University, Japan
University of Bologna, Italy
Nanyang Technological University, Singapore
Austrian National University, Austria
New York State Psychiatric Institute, USA
National University of Singapore, Singapore
University of Maryland, USA
Nanjing Institute of Geology and Palaeontology, China
Chinese Academy of Sciences, China
Chinese Academy of Sciences, China
University Science Malaysia, Malaysia
SUNY Upstate Medical University, USA
Pfizer Global Research and Development, USA

Guest Reviewers (According to Alphabet)

Salvador Alfaro
Takayuki Ban
Blanca Bernal
Jason Blum
Maria Teresa Esposito
Marina Frontasyeva
Yu Gao
Tomsiki Grigori
Raja Rizwan Hussain
Yan Jiang
Toshiyuki Kimura

Shuang Li
Dazhi Liu
Zhiyong Liu
Rafael Luque
Piotr Macech
Lev A. Maslov
Ho Soon Min
Daniela Morelli
Fan Peng
Mohd. Yusri bin Abd. Rahman
Brijesh Rathi

Toshifumi Satoh
Ruediger Schweiss
Sumin Tang
Jo-Ming Tseng
Shahida Waheed
John R. Williams
Jamshed Hussain Zaidi
Yongyuan Zang
Nenghui Zhang
Hongzhi Zhong
Junwu Zhu

TABLE OF CONTENTS

Volume 5, Number 6, June 2013

The fundamental reasons for global catastrophes	
V. I. Shapovalov, N. V. Kazakov.....	673
Impact of biomass in Egypt on climate change	
D. A. Nakhla, M. G. Hassan, S. El Haggag.....	678
Neutrino speed can exceed the speed of light within the frame work of the generlized special relativity and savckas model	
M. Dirrar, M. H. M. Hilo, R. A. Elgani, A. M. A. Bakheet.....	685
Temporal change assessment of agricultural land by Satellite Remote Sensing (SRS) technique	
G. A. Mahar, R. Ahmed, M. J. Iqbal.....	689
Gasification of plastic waste as waste-to-energy or waste-to-syngas recovery route	
A. Brems, R. Dewil, J. Baeyens, R. Zhang.....	695
Accumulation and migration of elements-pollutants in “soil-plant” system within urban territory	
T. A. Mikhailova, O. V. Shergina, O. V. Kalugina.....	705
Survival mechanisms of <i>Mycobacterium avium</i> subspecies <i>paratuberculosis</i> within host species and in the environment—A review	
S. V. Singh, A. V. Singh, A. Kumar, P. K. Singh, R. Deb, A. K. Verma, A. Kumar, R. Tiwari, S. Chakraborty, K. Dhama.....	710
About one form of writing of the Hardy-Weinberg law	
A. N. Volobuev, P. I. Romanchuk, V. K. Malishev.....	724
Essential oil of <i>Thymus vulgaris</i> L. and <i>Rosmarinus officinalis</i> L.: Gas chromatography-mass spectrometry analysis, cytotoxicity and antioxidant properties and antibacterial activities against foodborne pathogens	
H. Miladi, R. B. Slama, D. Mili, S. Zouari, A. Bakhrouf, E. Ammar.....	729
Iterative approximate solutions of kinetic equations for reversible enzyme reactions	
S. H. A. Khoshnaw.....	740
Geologic and economic potentials of minerals and industrial rocks in Jordan	
H. Alnawafleh, K. Tarawneh, R. Alrawashdeh.....	756

The figure on the front cover is from the article published in Natural Science, 2013, Vol. 5, No. 6, pp. 689-694 by Gohar Ali Mahar, *et al.*

Natural Science (NS)

Journal Information

SUBSCRIPTIONS

The *Natural Science* (Online at Scientific Research Publishing, www.SciRP.org) is published monthly by Scientific Research Publishing, Inc., USA.

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)

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

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 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

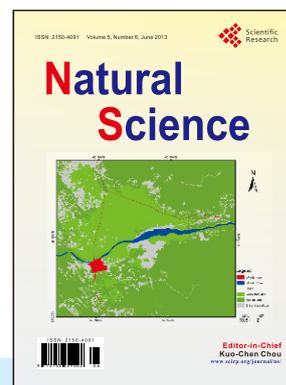
For manuscripts that have been accepted for publication, please contact:

E-mail: 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. Henrikson
Prof. Robert H. Kretsinger

Editorial Board

Prof. Tarek Aboul-Fadl
Dr. Fridoon Jawad Ahmad
Dr. Marcello Alecci
Prof. Hakan Arslan
Dr. Jean-Marc L. Beaujour
Dr. Giangiacomo Beretta
Dr. Attilio Castellarin
Dr. Bikas K. Chakrabarti
Dr. Khalil El-Hami
Dr. Mohamadreza B. Eslaminejad
Dr. Marina Frontasyeva
Prof. Shimin Fu
Dr. Neelam Gupta
Dr. Tai-Yin Huang
Prof. Syed Kamrul Islam

Dr. Yohichi Kumaki
Dr. Peng Li
Prof. Giulio Lorenzini
Dr. Ping Lu
Prof. Mark Lee Morrissey
Dr. Sunil Nautiyal
Dr. Edward Lee Nelson
Prof. Dimitrios P. Nikolelis
Dr. Dongfeng Pan
Dr. Judit M. Pap
Dr. Qasem Ramadan
Prof. Caesar Saloma
Dr. Victor B. Semikoz
Dr. Mohammad Reza Shadnam
Prof. Chuan-Chou Shen

Prof. Kenji Sorimachi
Dr. Marco Taddia
Dr. Swee Ngim Tan
Dr. Vladislav 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



**Scientific
Research**

Website: <http://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org