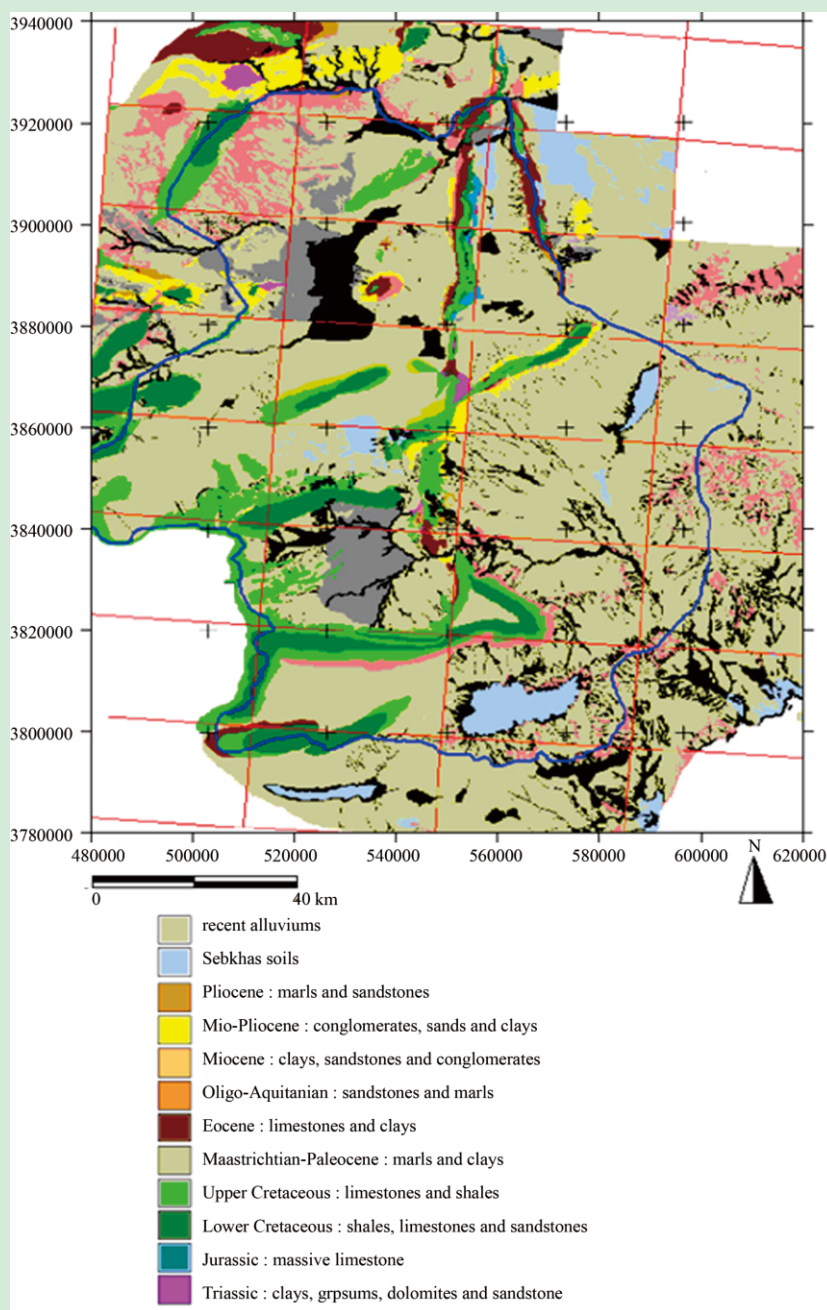


# International Journal of Geosciences



ISSN: 2156-8359



# Journal Editorial Board

ISSN: 2156-8359 (Print) ISSN: 2156-8367 (Online)

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

## Editor-in-Chief

**Prof. Shuanggen Jin**

University of Texas, USA

## Editorial Board

**Prof. Hema Achyuthan**

**Prof. Jong-Jin Baik**

**Prof. Rajasekhar Balasubramanian**

**Dr. Peter Bayer**

**Dr. Charles E. Button**

**Prof. Hangseok Choi**

**Dr. Dionisios Gasparatos**

**Dr. Yury G. Gatinsky**

**Prof. Maofa Ge**

**Prof. Tsiambaos George**

**Prof. Zhengtang Guo**

**Dr. Ruixia Hao**

**Prof. Jiankun He**

**Prof. Zhangdong Jin**

**Prof. George Kallos**

**Prof. Oleg Khavroshkin**

**Dr. Qi Li**

**Prof. Hongyan Liu**

**Prof. Jun Liu**

**Dr. Shaofeng Liu**

**Dr. Hao Luo**

**Prof. Junboum Park**

**Prof. Cosenza Philippe**

**Dr. Saied Pirasteh**

**Prof. Xianfang Song**

**Prof. Jimin Sun**

**Dr. Luciano Telesca**

**Dr. Xuexi Tie**

**Prof. Costas Varotsos**

**Prof. Fawu Wang**

**Prof. Bernd Wünnemann**

**Prof. Xinghui Xia**

**Prof. Wenjiao Xiao**

**Dr. Jianwen Yang**

**Prof. Xiaohuan Yang**

**Dr. Bin Yu**

**Dr. Lianyang Zhang**

**Prof. Ping Zhao**

**Prof. A-Xing Zhu**

Anna University, India

Seoul National University, Korea (South)

National University of Singapore, Singapore

Swiss Federal Institute of Technology Zürich, Switzerland

Central Connecticut State University, USA

Korea University, Korea (South)

Agriculture University of Athens, Greece

Vernadsky State Geological Museum, Russia

Chinese Academy of Sciences, China

National Technical University of Athens, Greece

Chinese Academy of Sciences, China

Peking University, China

Chinese Academy of Sciences, China

Chinese Academy of Sciences, China

University of Athens, Greece

Russian Academy of Sciences, Russia

Geological Survey of Japan, Japan

Peking University, China

Chinese Academy of Sciences, China

China University of Geosciences (Beijing), China

Georgia Institute of Technology, China

Seoul National University, Korea (South)

Poitiers University, France

University Putra Malaysia, Malaysia

Chinese Academy of Sciences, China

Chinese Academy of Sciences, China

National Research Council, Italy

National Center for Atmospheric Research, USA

University of Athens, Greece

Shimane University, Japan

Freie Universitaet Berlin, Germany

Beijing Normal University, China

Chinese Academy of Sciences, China

University of Windsor, Canada

Chinese Academy of Sciences, China

Environment Canada, Canada

University of Arizona, USA

China Meteorological Administration, China

University of Wisconsin, USA

## Editorial Assistant

**Vivian Qi**

Scientific Research Publishing, USA. Email: [ijg@scirp.org](mailto:ijg@scirp.org)

## TABLE OF CONTENTS

**Volume 2    Number 3**

**August 2011**

**Structure and Temporal Variability of Mediterranean Water in Hydrological and Marine Seismic Data South of Portimao Canyon (Gulf of Cadiz), from 1999 to 2002**

E. Quentel, X. Carton, M. A. Gutscher.....185

**Web-Based Spatial Decision Support System and Watershed Management with a Case Study**

Y. Zhang, R. Sugumaran, M. McBroom, J. DeGroote, R. L. Kauten, P. K. Barten.....195

**A Flexible Model for Moisture-Suction Relationship for Unsaturated Soils and Its Application**

N. Ravichandran, S. H. Krishnapillai.....204

**An Example for Arc-Type Granitoids along Collisional Zones: The Pertek Granitoid, Taurus Orogenic Belt, Turkey**

S. Kürüm, B. Akgül, A. Ö. Önal, D. Boztuğ, Y. Harlavan, M. Ural.....214

**Calculation of Standard Thermodynamic Potentials for Na-Zeolites with the Use of Linear Programming Problems**

O. V. Yeriomin.....227

**Three-Dimensional Representation of Geochemical Data from a Multidimensional Compositional Space**

P. Armienti, P. Longo.....231

**The Effect of Micro-Structure on Fatigue Behaviour of Intact Sandstone**

M. N. Bagde, V. Petroš.....240

**The Exchange Processes in the Patos Lagoon Estuarine Channel, Brazil**

W. C. Marques, I. O. Monteiro, O. O. Möller.....248

**Geochemical Assessment of Impact of Mine Spoils on the Quality of Stream Sediments within the Obuasi Mines Environment, Ghana**

P. M. Nude, G. Foli, S. M. Yidana.....259

**Rapid Lab-Scale Microwave-Assisted Extraction and Analysis of Anthropogenic Organic Chemicals in River Sediments**

T. J. Brown, C. A. Kinney.....267

**Coupled Effects of Energy Dissipation and Travelling Velocity in the Run-out Simulation of High-Speed Granular Masses**

F. Federico, G. Favata.....274

**Meridional Asymmetries in Forced Beta-Plane Turbulence**

I. N. Panayotova.....286

**Adapted Caussinus-Mestre Algorithm for Networks of Temperature Series (ACMANT)**

P. Domonkos.....293

**Critical Factors for Run-up and Impact of the Tohoku Earthquake Tsunami**

E. Lekkas, E. Andreadakis, I. Kostaki, E. Kapourani.....310

**Clusters of Moderate Size Earthquakes along Main Central Thrust (MCT) in Himalaya**

B. Mukhopadhyay.....318

**Pyroclastic Flow from Soufrière Hills Volcano, Montserrat: Solid Block Model**

I. Nikolkina, N. Zahibo, T. Talipova, E. Pelinovsky.....326

**Spontaneous Combustibility Characterisation of the Chirimiri Coals, Koriya District, Chhatisgarh, India**

D. S. Pattanaik, P. Behera, B. Singh.....336

**Emplacement and Evolution History of Pegmatites and Hydrothermal Deposits, Matale District, Sri Lanka**

G. W. A. R. Fernando, A. Pitawala, T. H. N. G. Amaraweera.....348

**A Transient but Protracted Geomagnetic Anomaly in the Sudbury Basin Following Two Near-Contiguous Intense Geomagnetic Storms**

M. A. Persinger, B. T. Dotta.....363

**Porosity and Lithology Prediction in Eve Field, Niger Delta Using Compaction Curves and Rock Physics Models**

M. T. Olowokere, J. S. Ojo.....366

**Lineaments Extraction from Gravity Data by Automatic Lineament Tracing Method in Sidi Bouzid Basin (Central Tunisia): Structural Framework Inference and Hydrogeological Implication**

H. Azaiez, H. Gabtni, I. Bouyahya, D. Tanfous, S. Hajji, M. Bedir.....373

---

The figure on the front cover is from the article published in International Journal of Geosciences, 2011, Vol. 2, No. 3, pp. 373-383 by Hajer Azaiez, *et al.*

# **International Journal of Geosciences (IJG)**

## **Journal Information**

### **SUBSCRIPTIONS**

The *International Journal of Geosciences* (Online at Scientific Research Publishing, [www.SciRP.org](http://www.SciRP.org)) is published quarterly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$39 per copy.

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©2011 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.

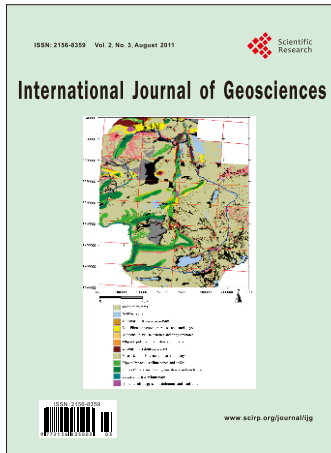
Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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: [ijg@scirp.org](mailto:ijg@scirp.org)



# International Journal of Geosciences

ISSN: 2156-8359 (Print) ISSN: 2156-8367 (Online)

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

International Journal of Geosciences(IJG) is an international refereed journal dedicated to the latest advancement of geosciences. 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.

## Editor-in-Chief

**Prof. Shuanggen Jin**

University of Texas, USA

## Editorial Board

Prof. Hema Achyuthan  
Prof. Jong-Jin Baik  
Prof. Rajasekhar Balasubramanian  
Dr. Peter Bayer  
Dr. Charles E. Button  
Prof. Hangseok Choi  
Dr. Dionisios Gasparatos  
Dr. Yury G. Gatinsky  
Prof. Maofa Ge  
Prof. Tsiambaos George  
Prof. Zhengtang Guo  
Dr. Ruixia Hao  
Prof. Jiankun He  
Prof. Zhangdong Jin  
Prof. George Kallos  
Prof. Oleg Khavroshkin  
Dr. Qi Li  
Prof. Hongyan Liu  
Prof. Jun Liu  
Dr. Shaofeng Liu

Dr. Hao Luo  
Prof. Junboun Park  
Prof. Cosenza Philippe  
Dr. Saied Pirasteh  
Prof. Xianfang Song  
Prof. Jimin Sun  
Dr. Luciano Telesca  
Dr. Xuexi Tie  
Prof. Costas Varotsos  
Prof. Fawu Wang  
Prof. Bernd Wünnemann  
Prof. Xinghui Xia  
Prof. Wenjiao Xiao  
Dr. Jianwen Yang  
Prof. Xiaohuan Yang  
Dr. Bin Yu  
Dr. Lianyang Zhang  
Prof. Ping Zhao  
Prof. A-Xing Zhu

## Subject Coverage

All manuscripts submitted to IJG must be previously unpublished and may not be considered for publication elsewhere at any time during IJG's review period. Additionally, accepted ones will immediately appear online followed by printed in hard copy. Topics to be covered by this journal include, but are not limited to:

- Atmosphere
- Biosphere
- Cartography
- Climate Change
- Earthquake and Seismology
- Earth System Modelling
- Environmental Science
- Estuarine and Coasts
- Geochemistry
- Geodesy and Surveying
- Geographic Information System
- Geography
- Geology
- Geomechanics
- Geomorphology and Surficial Process
- Geophysics
- Geostatistics
- Glaciology
- Hydrosphere
- Lithosphere or Geosphere
- Marine resources
- Mineralogy
- NASA Earth Science Enterprise
- Oceanography
- Pedosphere
- Petrology
- Seismology
- Soil Science

We are also interested in: 1) Short Reports - 2 to 5 pages where the paper is intended to present either an original idea with theoretical treatment or preliminary data and results; 2) Book Reviews - Comments and critiques of recently published books in Geosciences.

## 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/ijg>

Email: [ijg@scirp.org](mailto:ijg@scirp.org)