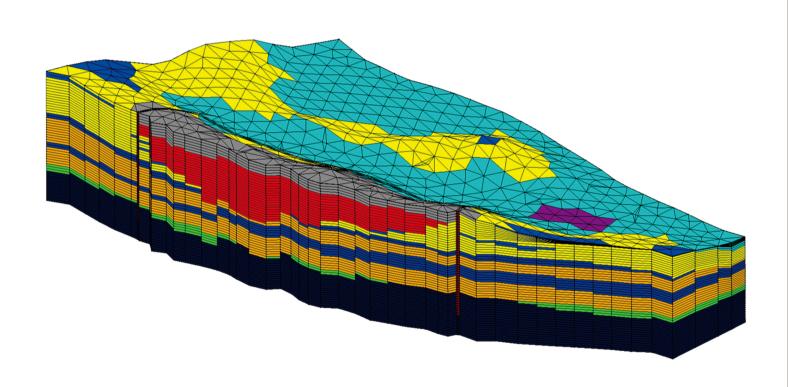


# Journal of Water Resource and Protection

Editors-in-Chief: Jian Shen Ni-Bin Chang





### **Journal Editorial Board**

ISSN: 1945-3094 (Print) ISSN: 1945-3108 (Online)

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

#### **Editors-in-Chief**

Prof. Ni-Bin ChangUniversity of Central Florida, USAProf. Jian ShenCollege of William and Mary, USA

#### **Editorial Board**

**Dr. Assad Ahmed Al-Thukair** King Fahd University of Petroleum & Minerals, Saudi Arabia

Prof. Sam F. Atkinson
University of North Texas, USA
Dr. Amitava Bandyopadhyay
University of Calcutta, India
Dr. Helen Bridle
Heriot-Watt University, UK

Prof. M. Ekrem Çakmak Department of Environmental Engineering,

Çukurova University, Turkey

Prof. Peter Dillon Trent University, Canada

Dr. Karina Gin
 Dr. Jane Heyworth
 Dr. Madan Kumar Jha
 National University of Singapore, Singapore
 University of Western Australia, Australia
 Indian Institute of Technology, India

Dr. Paul Kay
 Prof. Zhaohua Li
 Dr. Pan Liu
 University of Leeds, UK
 Hubei University, China
 Wuhan University, China

Dr. Damodhara Rao MailapalliUniversity of Wisconsin, Madison, USADr. Arash MassoudiehThe Catholic University of America, USAProf. Jiho MinChonbuk National University, South KoreaProf. Ping-Feng PaiNational Chi Nan University, Chinese Taipei

**Dr. Dhundi Raj Pathak** Osaka Sangyo University, Japan

Prof. Mohamed Nageeb Rashed Aswan University, Egypt

**Dr. Dipankar Saha**Ministry of Water Resources Government of India, India

Prof. Vladimir Soldatov Institute of Physical Organic Chemistry, Belarus

**Prof. Matthias Templ** Vienna University of Technology, Austria

Dr. Stijn W. H. Van Hulle Ghent University, Belgium

Prof. Aswani K. Volety

Florida Gulf Coast University, USA

Prof. Muqi Xu

Chinese Academy of Sciences, China

Prof. Xiaohua Yang

Beijing Normal University, China

Dr. Y. Jeffrey Yang

US Environmental Protection Agency, USA

**Dr. Jinsheng You** University of Nebraska, USA

Prof. Fan ZhangChinese Academy of Sciences, ChinaProf. Xiying ZhangChinese Academy of Sciences, ChinaDr. Chunli ZhengXi'an Jiaotong University, China



#### TABLE OF CONTENTS

Volume 5 Number 7	July 2013
Contamination Levels of Some Selected Wells in Ogbomoso South Local Government Area,	
Nigeria and the Implications on Human Health	
S. O. Ojoawo, T. L. Kolade	653
Removal of Zn (II) from Aqueous Solution onto Kaolin by Batch Design	
B. Meroufell, O. Benali, M. Benyahia, M. A. Zenasni, A. Merlin, B. George	669
Real-Time Modelling and Optimisation for Water and Energy Efficient Surface Irrigation	
K. L. Khatri, A. A. Memon, Y. Shaikh, A. F. H. Pathan, S. A. Shah, K. K. Pinjani, R. Soomro, R. Smith, Z. Alman	i681
Design and Evaluation of Dadu Canal Lining for Sustainable Water Saving	
A. A. Memon, K. Q. Leghari, A. F. H. Pathan, K. L. Khatri, S. A. Shah, K. K. Pinjani, R. Soomro, K. Ansari	689
Numerical Simulation for Remediation Planning for 1,4-Dioxane-Contaminated Groundwater at Kuwana Illegal Dumping Site in Japan Based on the Concept of Verified Follow Up	t
R. Hem, T. Furuichi, K. Ishii, YC. Weng.	699
Study of the Sediments of the Dam of Okpara (Benin): Physico-Chemical Characterization and	
Speciation of Iron and Manganese	
F. Suanon, B. Dimon, D. Mama, A. L. Tominti	709
Assessment of the Groundwater Quality in Parts of Imo River Basin, Southeastern Nigeria:	
The Case of Imo Shale and Ameki Formations	
I. B. Ijeh, I. E. Udoinyang	715
Constructed Ponds and Small Stream Habitats: Hypothesized Interactions and Methods to	
Minimize Impacts	
J. D. Ebel, W. H. Lowe.	723
Changes in Diatom Biodiversity in Lake Sinclair, Baldwin County, Georgia, USA	
M. E. Smith, K. M. Manoylov	732
Managing Eutrophication in Nigeria Inland Waters	
N. O. Erhunmwunse, A. R. Dirisu, A. E. Ogbeibu	743
Agricultural Water Conservation in the High Plains Aquifer and Arikaree River Basin	
A. Prior, R. Oad, KD. Kinzli.	747

The figure on the front cover is from the article published in Journal of Water Resource and Protection, 2013, Vol. 5, No. 7, pp. 699-708 by Ramrav Hem, *et al.* 

Copyright © 2013 SciRes.

#### **Journal of Water Resource and Protection (JWARP)**

#### **Journal Information**

#### **SUBSCRIPTIONS**

The *Journal of Water Resource and Protection* (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©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.

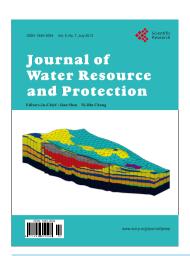
Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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: jwarp@scirp.org





## Journal of Water Resource and Protection (JWARP)

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

ISSN:1945-3094 (Print), 1945-3108 (Online)

JWARP is an international refereed journal dedicated to the latest advancement of water resource and protection. The goal of this journal is to keep a record of the state-of-the-art research and promote the research work .

#### Editors-in-Chief

Prof. Ni-Bin Chang University of Central Florida, USA
Prof. Jian Shen College of William and Mary, USA

#### Editorial Board

Dr. Assad Ahmed Al-Thukair Prof. Sam F. Atkinson Dr. Amitava Bandyopadhyay Dr. Helen Bridle Prof. M. Ekrem Çakmak Prof. Peter Dillon Dr. Karina Gin Dr. Jane Heyworth Dr. Madan Kumar Jha Dr. Paul Kay Prof. Zhaohua Li Dr. Pan Liu
Dr. Damodhara Rao Mailapalli
Dr. Arash Massoudieh
Prof. Jiho Min
Prof. Ping-Feng Pai
Dr. Dhundi Raj Pathak
Prof. Mohamed Nageeb Rashed
Dr. Dipankar Saha

Dr. Dipankar Saha Prof. Vladimir Soldatov Prof. Matthias Templ Dr. Stijn W. H. Van Hulle Prof. Aswani K. Volety Prof. Muqi Xu Prof. Xiaohua Yang Dr. Y. Jeffrey Yang Dr. Jinsheng You Prof. Fan Zhang Prof. Xiying Zhang

Dr. Chunli Zheng

#### **Subject Coverage**

This journal invites original research and review papers that address the following issues in water resource and protection. Topics of interest include, but are not limited to:

- Agricultural Water Management
- Ecological Restoration and Receiving Water Impacts
- Economic, Sociological, and Environmental Considerations of Water Resources
- Fresh Water Security
- Ground Water Monitoring & Modeling
- Industrial Ecology and Water Sustainability
- Innovative Technologies and Engineering Solutions for Water Resources Protection
- Marine and Freshwater Conservation
- Monitoring, Modeling and Prediction of Water Pollution
- Remote Sensing for Water Resources Management
- Sea Water Utilization
- Stormwater Management and Low Impact Development

- Surface Runoff and Ground Water Pollution Control
- Urban Water
- Water and Environment
- Water Infrastructure and Life Cycle Assessment
- Water Policy and Governance
- Water Purification and Wastewater Treatment
- Water Quality Management and Ecosystems Modeling
- Water Quality Monitoring and Assessment
- Water Quality, Pollutant Exposure and Health
- Water Research & Education
- Water Resources and Climatic Change
- Water Resources Protection and Management
- Water Resources Restoration and Sustainable Use

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the **JWARP**.

#### **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/jwarp

Email: jwarp@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