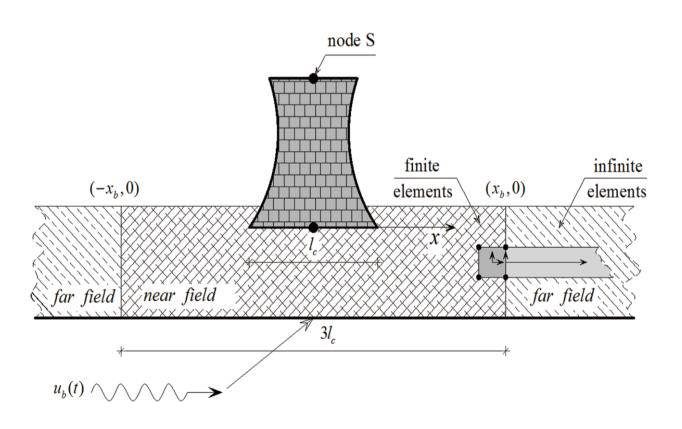




# American Journal of Computational Mathematics





# **Journal Editorial Board**

ISSN: 2161-1203(Print) 2161-1211(Online) http://www.scirp.org/journal/ajcm

.....

#### Editor-in-Chief

Prof. Jose C. Valverde University of Murcia, Spain

### Editorial Board (According to Alphabet)

Prof. Huseyin BorErciyes University, TurkeyDr. İbrahim BuyukyaziciGazi University, Turkey

Prof. Singa Wang ChiuChaoyang University of Technology, Chinese TaipeiProf. Yuan-Shyi Peter ChiuChaoyang University of Technology, Chinese Taipei

Dr. Dragana S. Cvetković University of Nis, Serbia
Dr. Mohamed K. El-Daou Kuwait University, Kuwait

Prof. Yuri Anatolyevich Farkov Russian State Geological Prospecting University, Russia

**Prof. Ahmed Fouad Ghaleb** Cairo University, Egypt

Prof. Stanislaw MigorskiJagiellonian University, PolandProf. Gangrong QuBeijing Jiaotong University, China

Dr. Fathalla A. Rihan Helwan University, Egypt

Dr. Victor Rukavishnikov

Russian Academy of Sciences, Russia

Prof. Nickolas S. Sapidis

University of Western Macedonia, Greece

Dr. Nicolae Adrian SeceleanLucian Blaga University, RomaniaProf. Yi-Fa TangChinese Academy of Sciences, China

Prof. Michael Gr. Voskoglou Graduate Technological Educational Institute of Patras, Greece

Prof. Joab Ron WinklerThe University of Sheffield, UKProf. Jinyun YuanFederal University of Parana, BrazilProf. Kewen ZhaoQiongzhou University, Hainan, China

**Dr. Su Zheng** Genentech, Inc., USA



# TABLE OF CONTENTS

Volume 3	Number 2	June 2013
v orunic 3	TAUTHOUT 2	

Effects of Viscous Dissipation on MHD Natural Convection Flow along a Vertical Wavy Surface Heat Generation	with
K. H. Kabir, M. A. Alim, L. S. Andallah.	91
Computational Modeling of Government Policy to Attain Long-Term Higher Voter Turnout for	
Sustainable Democracy M. Rahman	90
On the Total Dynamic Response of Soil-Structure Interaction System in Time Domain Using Elastodynamic Infinite Elements with Scaling Modified Bessel Shape Functions	
K. Kazakov.	104
New Improved Variational Homotopy Perturbation Method for Bratu-Type Problems	
O. E. Abolarin.	110
Error Estimation and Assessment of an Approximation in a Wavelet Collocation Method	
M. Schuchmann, M. Rasguljajew.	114
A Three-Stage Multiderivative Explicit Runge-Kutta Method	
A. S. Wusu, M. A. Akanbi, S. A. Okunuga.	121
A Wavelet Multigrid Method Using Symmetric Biorthogonal Wavelets	107
D. De Leon.	127
Computational Studies of Reaction-Diffusion Systems by Nonlinear Galerkin Method  M. Kolář	137
	137
Computational Studies of Bacterial Colony Model  O. Pártl	147
Eigenvector Sensitivity: A Kharitonov Result	
V. Winstead	158
Four Steps Continuous Method for the Solution of $y'' = f(x, y, y')$	
A. O. Adesanya, M. R. Odekunle, M. O. Udoh.	169

The figure on the front cover is from the article published in American Journal of Computational Mathematics, 2013, Vol. 3, No. 2, pp. 104-109 by Konstantin Kazakov.

Copyright © 2013 SciRes.

#### **American Journal of Computational Mathematics (AJCM)**

#### **Journal Information**

#### SUBSCRIPTIONS

The American Journal of Computational Mathematics (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$59 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: ajcm@scirp.org



# American Journal of Computational Mathematics (AJCM)

ISSN: 2161-1203(Print) 2161-1211(Online) http://www.scirp.org/journal/ajcm

American Journal of Computational Mathematics (AJCM) is a journal dedicated to providing a platform for publication of articles about mathematical research in areas of science where computing plays a central and essential role emphasizing algorithms, numerical methods, and symbolic methods.

## Subject Coverage

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

- Computational Geometry
- Computational Linguistics
- Computational Science
- Computer-Assisted Research
- Computer Simulation
- Mathematics of Scientific Computation
- Numerical Methods
- Stochastic Methods
- Symbolic Computation and Computer Algebra Systems

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 *American Journal of Computational Mathematics*.

# 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/ajcm E-mail: ajcm@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