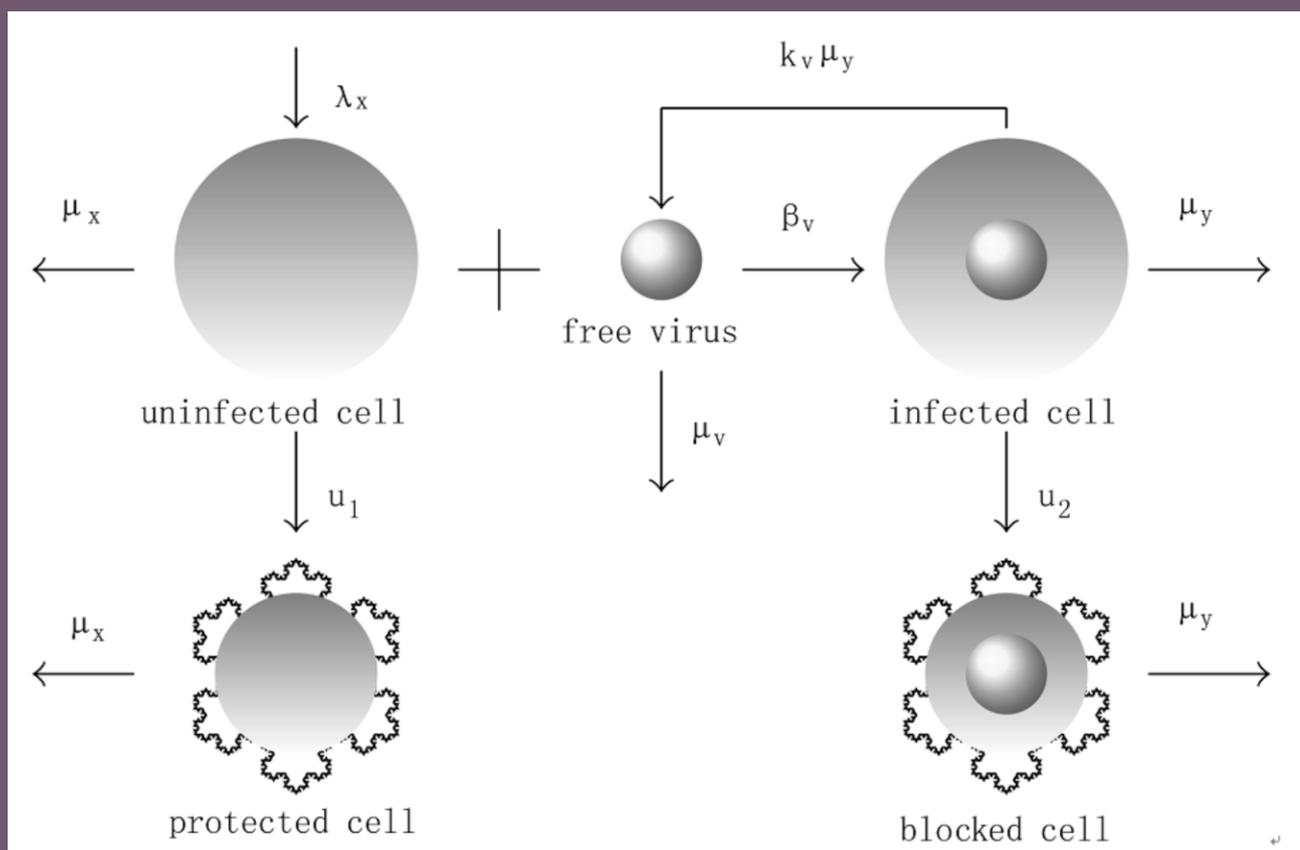


Applied Mathematics



ISSN: 2152-7385



Journal Editorial Board

ISSN Print: 2152-7385

ISSN Online: 2152-7393

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

Editor-in-Chief

Prof. Chris Cannings

University of Sheffield, UK

Editorial Board

Prof. Tamer Başar

University of Illinois at Urbana-Champaign, USA

Prof. Leva A. Beklaryan

Russian Academy of Sciences, Russia

Dr. Aziz Belmiloudi

Institut National des Sciences Appliquees de Rennes, France

Dr. Anjan Biswas

Delaware State University, USA

Prof. Mark Broom

City University, UK

Prof. Amares Chattopadhyay

Indian School of Mines, India

Prof. Badong Chen

Xi'an Jiaotong University, China

Prof. Ljubomir Ciric

University of Belgrade, Serbia

Prof. Jose Alberto Cuminato

University of Sao Paulo, Spain

Prof. Konstantin Dyakonov

University of Barcelona, Spain

Dr. Anwar H. Joarder

University of Liberals Arts Bangladesh (ULAB), Bangladesh

Prof. Palle Jorgensen

University of Iowa, USA

Dr. Vladimir A. Kuznetsov

Bioinformatics Institute, Singapore

Prof. Kil Hyun Kwon

Korea Advanced Institute of Science and Technology, South Korea

Prof. Hong-Jian Lai

West Virginia University, USA

Dr. Goran Lesaja

Georgia Southern University, USA

Prof. Tao Luo

Georgetown University, USA

Prof. Addolorata Marasco

University of Naples Federico II, Italy

Prof. María A. Navascués

University of Zaragoza, Spain

Dr. Donatus C. D. Oguamanam

Ryerson University, Canada

Prof. Alexander S. Rabinowitch

Moscow State University, Russia

Prof. Mohammad Mehdi Rashidi

Tongji University, China

Prof. Yuriy V. Rogovchenko

University of Agder, Norway

Prof. Ram Shanmugam

Texas State University, USA

Dr. Epaminondas Sidiropoulos

Aristotle University of Thessaloniki, Greece

Prof. Sergei Silvestrov

Mälardalen University, Sweden

Prof. Hari M. Srivastava

University of Victoria, Canada

Prof. Jacob Sturm

Rutgers University, USA

Prof. Mikhail Sumin

Nizhnii Novgorod State University, Russia

Table of Contents

Volume 6 Number 6

June 2015

Unsteady Hydro-Magnetic Heat and Mass Transfer Flow of a Non-Newtonian Power-Law Fluid past a Flat Plate in the Presence of Homogeneous Chemical Reaction	
I. Swain, H. Pattanayak.....	899
Stationary Analysis of Geo/Geo/1 Queue with Two-Speed Service and the Optimal Switching Threshold for the Service Rate	
X. D. Lin.....	908
Synchronization of Impulsive Real and Complex Van der Pol Oscillators	
A. Al-Qahtani, H. B. Khenous, S. Aly.....	922
Study of the Convergence of the Increments of Gaussian Process	
A. Bahram, S. El-Shehawy.....	933
Degree Splitting of Root Square Mean Graphs	
S. S. Sandhya, S. Somasundaram, S. Anusa.....	940
On Exact Solutions of Second Order Nonlinear Ordinary Differential Equations	
A. Zraiqat, L. K. Al-Hwawcha.....	953
Numerical Approximation of Quantum-Integrals Using the Appropriate Nodes and Weights	
S. M. Hashemiparast, D. A. Ghondaghsaz, M. Maghasedi.....	958
Solving Doubly Bordered Tridiagonal Linear Systems via Partition	
M. El-Mikkawy, M. El-Shehawy, N. Shehab.....	967
Linear Partial Differential Equations of First Order as Bi-Dimensional Inverse Moments Problem	
M. B. Pintarelli.....	979
Introduce a Novel PCA Method for Intuitionistic Fuzzy Sets Based on Cross Entropy	
S. Darvishi, A. Fatemi, P. Faroughi.....	990
The Validity Analysis of Regression: Combining Uniform Experiment Design with Nonlinear Regression	
N. Yang, D. W. Zhang, Y. L. Tian.....	996

Common Fixed Points for Two Contractive Mappings of Integral Type in Metric Spaces	
X. Jin, Y. J. Piao.....	1009
A Multinomial Theorem for Hermite Polynomials and Financial Applications	
F. Buet-Golfouse.....	1017
Construction of Three Quadrature Formulas of Eighth Order and Their Application for Approximating Series	
B. Bożek, W. Solak, Z. Szydełko.....	1031
Zappa-Szép Products of Semigroups	
S. Wazzan.....	1047
More Properties of Semi-Linear Uniform Spaces	
S. A. Alhihi.....	1069
A Novel Method for Transforming XML Documents to Time Series and Clustering Them Based on Delaunay Triangulation	
N. Shafieian.....	1076
Boundary Value Problems for Burgers Equations, through Nonstandard Analysis	
S. Bendaas.....	1086
Stationary Solutions of a Mathematical Model for Formation of Coral Patterns	
L. W. Somathilake, J. R. Wedagedera.....	1099
An Algorithm to Generalize the Pascal and Fibonacci Matrices	
I. M. Izmirli.....	1107
An Optimal Control Approach to HIV Immunology	
E. F. Arruda, C. M. Dias, C. V. de Magalhães, D. H. Pastore, R. C. A. Thomé, H. M. Yang.....	1115

Applied Mathematics (AM)

Journal Information

SUBSCRIPTIONS

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

Subscription rates:

Print: \$89 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 AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:

Copyright © 2015 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

COPYRIGHT FOR INDIVIDUAL PAPERS OF THE JOURNAL:

Copyright © 2015 by author(s) and Scientific Research Publishing Inc.

REUSE RIGHTS FOR INDIVIDUAL PAPERS:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

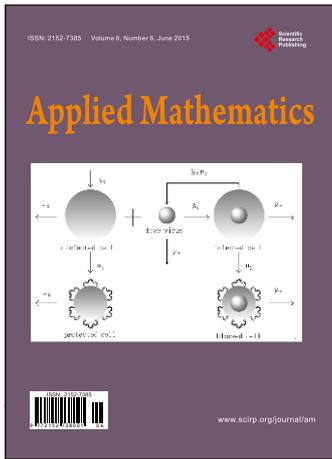
DISCLAIMER OF LIABILITY

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: am@scirp.org



Call for Papers

Applied Mathematics (AM)

ISSN Print: 2152-7385 ISSN Online: 2152-7393
<http://www.scirp.org/journal/am>

Applied Mathematics (AM) is an international journal dedicated to the latest advancement of applied mathematics. 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 applied mathematics.

Subject Coverage

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:

- Applied Probability
- Applied Statistics
- Approximation Theory
- Chaos Theory
- Combinatorics
- Complexity Theory
- Computability Theory
- Computational Methods in Mechanics and Physics
- Continuum Mechanics
- Control Theory
- Cryptography
- Discrete Geometry
- Dynamical Systems
- Elastodynamics
- Evolutionary Computation
- Financial Mathematics
- Fuzzy Logic
- Game Theory
- Graph Theory
- Information Theory
- Inverse Problems
- Linear Programming
- Mathematical Biology
- Mathematical Chemistry
- Mathematical Economics
- Mathematical Physics
- Mathematical Psychology
- Mathematical Sociology
- Matrix Computations
- Neural Networks
- Nonlinear Processes in Physics
- Numerical Analysis
- Operations Research
- Optimal Control
- Optimization
- Ordinary Differential Equations
- Partial Differential Equations
- Probability Theory
- Statistical Finance
- Stochastic Processes
- Theoretical Statistics

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 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/am> E-mail: am@scirp.org