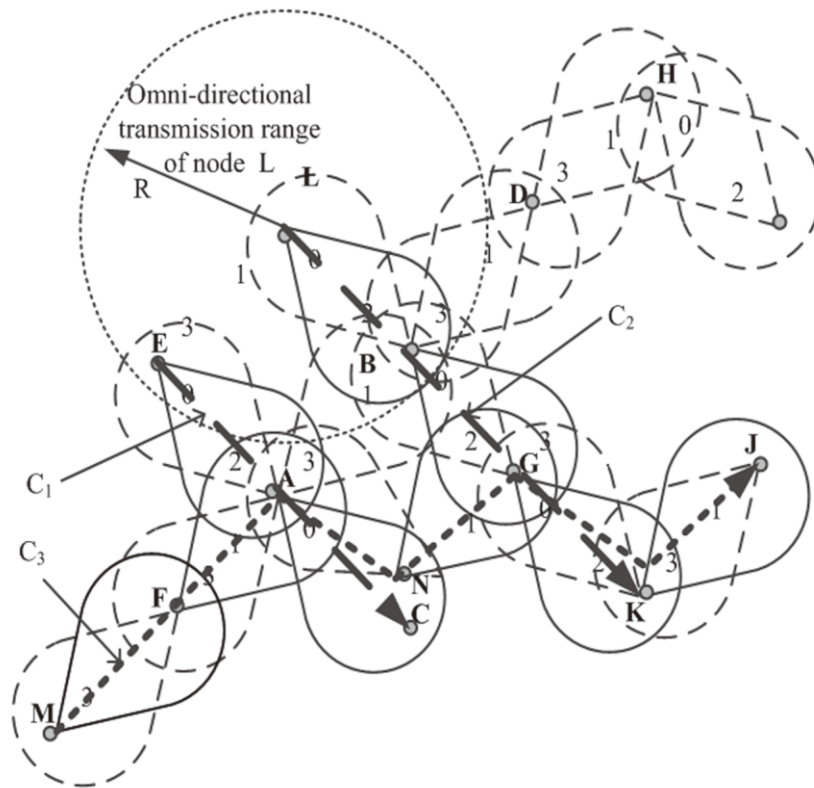


International Journal of Communications, Network and System Sciences



JOURNAL EDITORIAL BOARD

ISSN 1913-3715 (Print) ISSN 1913-3723 (Online)

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

Editor-in-Chief

Prof. Boris S. Verkhovsky New Jersey Institute of Technology, USA

Editorial Advisory Board

Prof. Staraj K. Sahni University of Florida, USA
Prof. Innokentiy V. Semushin Ulyanovsk State University, Russia
Prof. Lotfi A. Zedeh University of California, Berkeley, USA

Editorial Board

Prof. Andranik S. Akopov National Research University, Russia
Prof. Sabri Arik Istanbul University, Turkey
Prof. Satya Atluri University of California, Irvine, USA
Prof. Jalel Ben-Othman University of Paris, France
Prof. Alain Bernard Ecole Centrale de Nantes, France
Prof. Ko Chi Chung National University of Singapore, Singapore
Prof. Daniel B. da Costa Federal University of Ceará, Brazil
Dr. Franca Delmastro National Research Council, Italy
Prof. Sasa Divjak Ljubljana University, Slovenia
Prof. Md. B. El-Mashade Al-Azhar University, Egypt
Prof. Kurt J. Engemann Iona College, USA
Prof. Morteza Esmaeili Isfahan University of Technology, Iran
Prof. David J. Farber Carnegie Mellon University, USA
Prof. George Ghinea Brunel University, UK
Prof. Richard Tabor Greene Keio University, Japan
Prof. William A. Gruver Simon Fraser University, Canada
Prof. Ehud Gudes Ben-Gurion University of the Negev, Israel
Prof. H. Barry Harrison Griffith University, Australia
Dr. Zhiyi Huang University of Otago, New Zealand
Prof. Anca Daniela Ionita University POLITEHNICA of Bucharest, Romania
Prof. Hiroaki Ishii Kwansai Gakuin University, Japan
Dr. Markus Jakobsson PayPal, USA
Dr. Chris Joslin Carleton University, Canada
Dr. Dimitri Kanevsky IBM T. J. Watson Research Center, USA
Prof. Jozef Kelemen Silesian University, Czech Republic
Prof. Alexander M. Korsunsky Oxford University, UK
Prof. Felipe Lara-Rosano National Autonomous University of Mexico, Mexico
Prof. Shahram Latifi University of Nevada, Las Vegas, USA
Dr. Nicola Mastronardi National Research Council, Italy
Prof. Jaime Lloret Mauri Polytechnic University of Valencia, Spain
Prof. Lyudmila Mihaylova Lancaster University, UK
Prof. Yuriy S. Polyakov New Jersey Institute of Technology, USA
Prof. Jianbin Qiu Harbin Institute of Technology, China
Dr. Kosai Raouf Joseph Fourier University, France
Prof. Gerhard Ritter University of Florida, USA
Dr. Ashok N. Rudrapatna Bell Labs, Alcatel-Lucent, USA
Prof. Sartaj K. Sahni University of Florida, USA
Prof. Abdul Sattar Griffith University, Australia
Prof. Innokentiy V. Semushin Ulyanovsk State University, Russia
Prof. Alexander Shananin Moscow Institute of Physics and Technology, Russia
Prof. Yuri I. Shokin Russian Academy of Sciences, Russia
Prof. Sergei Silvestrov Mälardalen University, Sweden
Dr. Maolin Tang Queensland University of Technology, Australia
Prof. Zahir Tari RMIT University, Australia
Prof. Christoph Thuemmler Edinburgh Napier University, UK
Dr. Hrishikesh Venkataraman Dublin City University, Ireland
Prof. Lotfi Zadeh University of California, Berkeley, USA

TABLE OF CONTENTS

Volume 5 Number 12

December 2012

Research of Web Real-Time Communication Based on Web Socket

Q. G. Liu, X. Y. Sun.....797

A Scalable and Robust DHT Protocol for Structured P2P Network

X. Shu, X. Li.....802

Periodic Solutions of Cohen-Grossberg-Type BAM Neural Networks with Time-Varying Delays

Q. M. Liu, S. N. Li.....810

Modeling Components and Services of LTE Mobile Communications System

I. A. Choudhry, N. A. Zafar.....815

Simulation & Performance Evaluation of QoS Routing Protocol for Ad-hoc Networks Using Directional Communication

A. Kumar, R. Tripathi.....825

Cryptanalysis of the Double-Moduli Cryptosystem

S. M. Bogos, S. Vaudenay.....834

Towards Cloud to Device Push Messaging on Android: Technologies, Possibilities and Challenges

J. Hansen, T.-M. Grønli, G. Ghinea.....839

Improvement of the Round Key Generation of AES

J. Wang, H. Xu, M. Q. Yao.....850

The figure on the front cover is from the article published in *Int. J. Communications, Network and System Sciences*, 2012, Vol. 5, No. 12, pp. 825-833 by Arvind Kumar and Rajeev Tripathi.

International Journal of Communications, Network and System Sciences (IJCNS)

Journal Information

SUBSCRIPTIONS

The *International Journal of Communications, Network and System Sciences* (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©2012 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: ijcnsc@scirp.org



International Journal of Communications, Network and System Sciences (IJCNS)

ISSN 1913-3715 (Print) ISSN 1913-3723 (Online)
<http://www.scirp.org/journal/ijcns>

IJCNS is an international refereed journal dedicated to the latest advancement of communications and network technologies. The goal of this journal is to keep a record of the state-of-the-art research and promote the research work in these fast moving areas.

Editor-in-Chief

Prof. Boris S. Verkhovsky

New Jersey Institute of Technology, USA

Subject Coverage

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

Ad Hoc and Mesh Networks	Network Protocol, QoS and Congestion Control
Coding, Detection and Modulation	Network Survivability
Cognitive Radio	Next Generation Network Architectures
Communication Networks Architecture Design	Reconfigurable Networks
Communication Reliability and Privacy	Resource Management
Communication Security and Information Assurance	Satellite Communication
Cooperative Communications	Sensor Networks
Embedded Distributed Systems	Simulation and Optimization Tools
Global Networks	UWB Technologies
Heterogeneous Networking	Wave Propagation and Antenna Design
MIMO and OFDM Technologies	Wireless Personal Communications

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 IJCNS.

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/ijcns>

E-Mail: ijcns@scirp.org