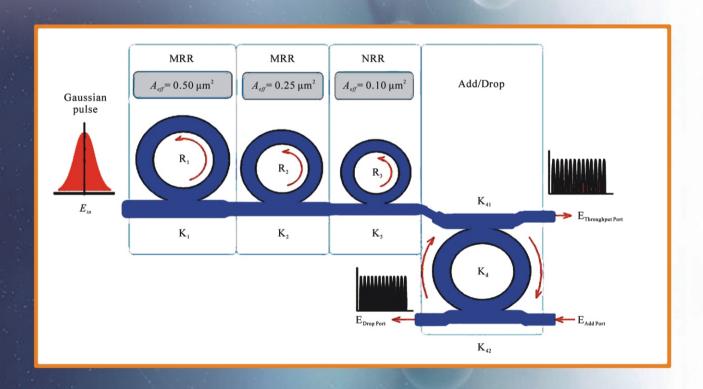


# International Journal of

# **Communications, Network and System Sciences**

ISSN: 1913-3715

Volume 3, Number 12, December 2010





www.scirp.org/journal/ijcns/

## **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 Board** 

Prof. Dharma P. Agrawal University of Cincinnati, USA

Prof. Eduardo A. Castro La Plata National University, Argentina

Prof. Hengda Cheng Utah State University, USA

Prof. Ko Chi Chung National University of Singapore, Singapore

Prof. Daniel B. da Costa Federal University of Ceara, Brazil

Dr. Franca Delmastro Italian National Research Council, Italy

Prof. Mohamed B. El\_Mashade Al\_Azhar University, Egypt

Dr. Li Huang Interuniversity Microelectronics Centre, Netherlands

Prof. Hiroaki Ishii Kwansei Gakuin University, Japan

Dr. Vladimir A. Masch Risk Evaluation and Management, Inc., USA

Dr. Nicola Mastronardi Istituto per le Applicazioni del Calcolo "M. Picone", Italy

Dr. Lim Nguyen University of Nebraska-Lincoln, USA

Prof. Yi Pan Georgia State University, USA
Dr. Petar Popovski Aalborg University, Denmark
Prof. Suresh Rai Louisiana State University, USA
Dr. Kosai Raoof Joseph Fourier University, France
Prof. Bimal Roy Indian Statistical Institute, India

Prof. Shaharuddin Salleh University Technology Malaysia, Malaysia

Prof. Innokentiy V. Semushin Ulyanovsk State University, Russia

Prof. Shi Ying Wuhan University, China

**Editorial Assistant** 

Vivian QI Scientific Research Publishing, USA. Email: ijcns@scirp.org

**Guest Reviewer** 

Yu Song Meng



### TABLE OF CONTENTS

Volume 3	Number 12	December 20	<b>)10</b>

Book Recommendation: Advanced MIMO Systems  K. Raoof	800				
Enhanced Euclid Algorithm for Modular Multiplicative Inverse and Its Application in Cryptographic					
Protocols	- Vr - 8 - r				
B. S. Verkhovsky	901				
Extraction of Signals Buried in Noise: Non-Ergodic Processes					
N. Y. Bey	907				
A Measurement Study on BitTorrent System					
L. Ye, H. L. Zhang, F. Li, M. J. Su.	916				
A Synchronous and Deterministic MAC Protocol for Wireless Communications on	Linear Topologies				
D. De Caneva, P. L. Montessoro.	925				
Design of NPR-Type Cosine Modulated Filterbank Using Combinational Window	Functions				
R. K. Soni, A. Jain, R. Saxena	934				
On Lucas Sequences Computation					
A. Koval	943				
Performance Evaluation and Analysis of Switching Algorithms in MIMO-OFDM S	System with Ideal and				
Non-Ideal CSI					
Y. Mlayeh, F. Tlili, F. Rouissi, I. Ouachani, A. Ghazel	945				
High Capacity Mobile Ad Hoc Network Using THz Frequency Enhancement					
S. Chaiyasoonthorn, P. Limpaibool, S. Mitatha, P. P. Yupapin	954				
Performance Improvement in Estimation of Spatially Correlated Rician Fading M	IMO Channels Using a				
New LMMSE Estimator					
H Nooralizadeh S S Moghaddam	962				

The figure on the front cover is from the article published in International Journal of Communications, Network and System Sciences, 2010, Vol. 3, No. 12, pp. 954-961, by Sawatsakorn Chaiyasoonthorn, Phongphun Limpaibool, Somsak Mitatha, Preecha P. Yupapin.

Copyright © 2010 SciRes.

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: \$50 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@2010 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: ijcns@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 security	
Coding , detection and modulation	Next generation network architectures	
Cognitive Radio	Resource management and quality of service	
Embedded distributed systems	Signal processing and channel modeling	
MIMO and OFDM technologies	Simulation and optimization tools	
Network protocol, QoS and congestion control	3G and 4G technologies	
Network reliability, security and privacy	UWB technologies	
	Wave propagation and antenna design	

We are also interested in:

- Short reports Discussion corner of the journal:
  - 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.
- 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/ijcns

ijcns@scirp.org