

International Association of Science
and Technology for Development

5th IASTED International
Conference on Communication
Systems and Networks

CSN 2006

August 28-30, 2006
Palma de Mallorca, Spain

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

ISBN: 978-1-60560-094-9

Some format issues inherent in the e-media version may also appear in this print version.

Proceedings of the Fifth IASTED International Conference on **Communication Systems and Networks**, held August 28–30, 2006, Palma de Mallorca, Spain.

SPONSORS

The International Association of Science and Technology for Development (IASTED)
• Technical Committee on Telecommunications

World Modelling and Simulation Forum (WMSF)

EDITOR

C.E. Palau Salvador – Polytechnic University of Valencia, Spain

KEYNOTE SPEAKERS

H. Sotobayashi – National Institute of Information and
Communications Technology, Japan
A. Vukovic – Communications Research Centre Canada, Canada

SPECIAL SESSION ORGANIZER

M.M. Banat – Jordan University of Science and Technology, Jordan

INFORMATION ON PUBLICATION

For each IASTED conference, the following review process is used to ensure the highest level of academic content. Each full manuscript submission is peer reviewed by a minimum of two separate reviewers on the International Program Committee/Additional Reviewers list. The review results are then compiled. If there are conflicting reviews, the paper is sent to a third reviewer.

Copyright © 2006 ACTA Press

ACTA Press
P.O. Box 5124
Anaheim, CA 92814-5124
USA

ACTA Press
B6, Suite #101, 2509 Dieppe Ave SW
Calgary, Alberta T3E 7J9
Canada

ACTA Press
P.O. Box 354
CH-8053 Zurich
Switzerland

Publication Code: 543

International Association of Science
and Technology for Development

5th IASTED International Conference on
Communication Systems and Networks
2006

TABLE OF CONTENTS

AD-HOC NETWORKS

Low-Power Communication for Wireless Sensor-Actuator Networks	1
<i>Z. Karakehayov</i>	
Context-Adaptive Information Dissemination in VANETs - Maximizing the Global Benefit	7
<i>C. Adler, R. Eigner, C. Schroth, M. Strassberger</i>	
A Network Management Approach to Wireless Sensor Networks in Personal Healthcare Environments.....	13
<i>K.F. Navarro, E. Lawrence, E. Lubrin</i>	
Performance Evaluation of Shortest Path Tree based Dense Mode Ad Hoc Multicast Routing Protocol	20
<i>T. Kozaka, T. Kato, S. Itoh, Y. Urano</i>	
New Authentication Mechanism for Vertical Handovers between WLAN and 3G Network	26
<i>P.-S. Kim, J.-G. Kim, J.-K. Lee, Y.-J. Kim</i>	

SPECIAL SESSION – WIRELESS COMMUNICATION SYSTEMS AND NETWORKS

Analysis and Design of an ESPAR Antenna Above Perfect Ground, Wire Grid Plate and Wire Grid Plate with Skirt	32
<i>S.C. Panagiotou, T.D. Dimousios, C.N. Capsalis</i>	
Design and Optimization of an Electrically Steerable Passive Array Radiator (ESPAR) Antenna for Maximum Directionality at 2.4GHz with the Aid of Genetic Algorithms	38
<i>T.D. Dimousios, S.C. Panagiotou, C.N. Capsalis</i>	
QoS Protection for IEEE 802.11E in WLAN with Shared EDCA and DCF Access	43
<i>J. Majkowski, F.C. Palacio</i>	
Design and Implementation of the Interworking Architecture between a 3G Cellular Network and New Wireless Broadband Technology.....	49
<i>D.S. Woo, S.S. Park, D.H. Lee, J.H. Yu, J.T. Ihm</i>	
Autoregressive Stochastic Modeling and Tracking of Doubly Selective Fading Channels	55
<i>A.D. Abu Al-khair, M.M. Banat</i>	

Blind MIMO Adaptive Beamforming Techniques for DS-CDMA Systems.....	63
<i>M. Hefnawi</i>	
Finite Difference Time Domain Modeling of an RF-based Technology for the Detection of Buried Pipes: The Ground Penetrating Radar	68
<i>H. Al Shukri, B. Miller, H. Al-Rizzo, O. Al Kadi</i>	
MIMO-OFDM with LDPC Codes for Broadband FWA Systems	73
<i>M.K. Khan, R.A. Carrasco, I.J. Wassell</i>	

TELECOMMUNICATION TECHNOLOGY

Low Complexity Downstream MIMO Channel Estimation for FEXT Precompensated Vectored xDSL Systems.....	79
<i>P. Turcza</i>	
Spread Spectrum Radars for Automotive Applications.....	85
<i>E. Gambi, G. Righi, F. Chiaraluce, S. Spinsante</i>	
Same-Entity Interference-Aware Retransmission System for TD-CDMA with Random Slot Allocation (RSA)	91
<i>I. Tamaki, R. Esmailzadeh, M. Nakagawa</i>	
Analysis of Finite Word Length Effects and Frequency Response in Interpolators for Digital Up-Converters	96
<i>C. Benavente-Peces, F.J. Ortega-González, J.M. Pardo-Martín</i>	
NFC-based Mobile Middleware for Intuitive user Interaction with Security in Smart Homes	102
<i>Z. Antoniou, D.N. Kalofonos</i>	
Performance and Reliability Evaluation of the S-Band Vienna Satellite Ground Station	108
<i>W. Keim, A.L. Scholtz</i>	
Rapid Prototyping for RF-Transmitters and Receivers.....	113
<i>R. Langwieser, M. Fischer, A.L. Scholtz, M. Rupp, G. Humer</i>	
A Novel Mobile Internet Access System Based on OFDM/TDD	118
<i>S.C. Cho, H.J. Kim, J.U. Kim</i>	
A Comparative Study of Active and Passive Filters in Communication Systems	123
<i>M. Dousti , J.L. Gautier</i>	
Automotive Network Standards in Public Transport Buses and Coaches	130
<i>M. Ángel Domínguez, P. Mariño, F. Poza, S. Otero</i>	
Relay Method of Sending Soft Decided Symbol in Cooperative Communication	136
<i>Y. Fukuyama, O. Takyu, K. Adachi, M. Nakagawa</i>	

NETWORKING

New Authorizing Binding Mechanism to Reduce Binding Latency in Mobile IPV6 Handover.....	142
<i>P.-S. Kim, J.-S. Han</i>	

Fairer Allocation of Link Capacity Through Information Feedback	148
<i>P. Österberg, T. Zhang</i>	
LC, A Load Balance Algorithm in MPLS-TE	154
<i>J.M. Arco, J.A. Carral, A. García, M. Moreno</i>	
Perceived Quality of Channel Zapping	160
<i>R. Kooij, K. Ahmed , K. Brunnström</i>	
DRAP: Dual-Queue Rate-Controlled Access Point for Multimedia Communications in WLAN Hotspots	164
<i>R. González, L. Cerdà</i>	
A New Group Re-Keying Protocol with Smaller Computational and Key Storage Overhead.....	170
<i>A. Nemaney Pour, K. Kumekawa, T. Kato, S. Itoh</i>	
Analysing End-to-End Delays on an AFDX Network by Simulation	176
<i>H. Charara, J.-L. Scharbarg, C. Fraboul</i>	
Peer-to-Peer Auctioning with Fairness Incentives	182
<i>B. Różanski</i>	

CONTENT DISTRIBUTION

ProxyTorrent: Content Sharing over Bluetooth Piconets.....	188
<i>B. Bakos, L. Farkas, A. Kiss, P. Spányi</i>	
Sensible Policies for QoS-based Service Discovery Protocols in P2P Networks	194
<i>A. Núñez</i>	
P2P Middleware based Content Location Discovery in Asynchronous Broadcast Type Content Delivery Networks.....	200
<i>D. Pakkala, A. Koivukoski, J. Latvakoski</i>	
Peer to Peer Communications Over Hierarchical Mobile IP Networks with Private Addresses using SIP based Signaling.....	207
<i>A. Idoue, T. Kato, S. Itoh</i>	
A Novel Method for the Development of Personalized Mobile Tourist Applications.....	213
<i>M. Kenteris, D.Gavalas, D. Economou</i>	
P3Cast: A Hybrid VoD Streaming Architecture of Proxy with Caching, Patching, and Peering for Large-Scale Deployment.....	218
<i>Z. Li, J. Wang, J. Wu</i>	
Status and Trends of Wireless Web Technologies	224
<i>D. Gavalas, D. Economou, M. Kenteris</i>	

WIRELESS NETWORKS

An Innovative Analysis of Signalling Measurements: Representation in a 'Population-Diagram'	230
<i>S. Székely , S. Máté Kis</i>	

A Fast Iterative Tap Amplitude and Delay Estimator Design for WCDMA	236
<i>A. Burnic, T. Faber, T. Scholand, A. Waadt, P. Jung</i>	
FALCON, A Software Defined Radio Transceiver Concept	242
<i>A. Vießmann, T. Scholand, A. Hessamian-Alinejad, A. Burnic, A. Waadt, G.H. Bruck, P. Jung</i>	
1.2V 300MHz CMOS PLL for Clock Generation in 0.35UM Process	248
<i>D. McDonagh , K.I. Arshak, O. Abubaker</i>	
How to Deploy, Provision, and Store Initial Filter Criteria in an IMS Network.....	253
<i>O. Haase , K. Murakami</i>	
Authorization Probability for Adaptive Traffic Load in S-ALOHA under the Infinite Population Model	259
<i>M.E. Rivero-Angeles</i>	
Research Trends and Issues on VSAT Networks	265
<i>R.K. Mojumdar</i>	

OPTICAL COMMUNICATIONS

On Limitations of Optical Burst Switching.....	271
<i>A.G. Fayoumi , A. Jayasumana</i>	
A Proposal of Photonic Network using Wavelength Routing with Wavelength Conversion and TDMA with Time Slot Assignment Taking Account of Link Transmission Delay	277
<i>K. Kurosaki, K. Kumekawa, T. Kato, S. Itoh</i>	
Inter-Vehicle Communication and Ranging Method using LED Rear Lights.....	283
<i>T. Saito, S. Haruyama, M. Nakagawa</i>	
Contention Resolution in WDM Optical Packet Switching Networks using Wavelength Converters and Cascaded Auxiliary Switch	289
<i>H. Mellah, F.M. Abbou</i>	
A Heuristic Approach for Efficient P-Cycle Network Design.....	292
<i>B.K. Kang, D. Habibi, Q.V. Phung, K. Lo, H.N. Nguyen, M.M. Lee</i>	

Author Index