

2009 Fifth International Conference on Wireless and Mobile Communications

(ICWMC 2009)

**Cannes, France
23 – 29 August 2009**



IEEE Catalog Number: CFP0941B-PRT
ISBN: 978-1-4244-4679-7

2009 Fifth International Conference on Wireless and Mobile Communications

ICWMC 2009

Table of Contents

Preface

Committee

Reviewers

ICWMC 1: Protocols for Wireless & Mobility

A Real-Time Architecture for Automated Wireless Sensor and Actuator Networks	1
<i>Yuanyuan Zeng, Cormac J. Sreenan, and Guilin Zheng</i>	
Fast Resampling and Denoising of Spread Spectrum Signal for Real-Time Wireless Location	7
<i>Gaoyong Luo and David Osypiw</i>	
Performance Analysis of a Semi-fixed Mapping Scheme for VoIP Services in Wireless OFDMA Systems	13
<i>Jaewoo So</i>	
Routing in Wireless Networks of Varying Connectivity	18
<i>Andrew Grundy and Milena Radenkovic</i>	
Self-Stabilizing Clustering Algorithm for Ad Hoc Networks	24
<i>Olivier Flauzac, Bachar Salim Haggar, and Florent Nolot</i>	

ICWMC 2: Wireless Simulation and Performance I

Exact Analysis of PCC-OFDM Subjected to Carrier Frequency Offset over Nakagami-m Fading Channel	30
<i>Muhammad Ismail Muhammad, Abdel Aziz M. Al-Bassiouni, and Salwa H. El Ramly</i>	
A Performance Evaluation of a Grid-Enabled Object-Oriented Parallel Outdoor Ray Launching for Wireless Network Coverage Prediction	38
<i>Zhihua Lai, Nik Bessis, Pierre Kuonen, Guillaume de la Roche, Jie Zhang, and Gordon Clapworthy</i>	

On the Cooperation and Power Allocation Schemes for Multiple-Antenna Multiple-Relay Networks	44
<i>Yasser Attar Izi and Abolfazl Falahati</i>	
Effect of User Density and Traffic Volume on Uplink Capacity of Multihop Cellular Network	49
<i>Md. Faisal Murad Hossain and Arne Mämmelä</i>	

ICWMC 3: Wireless Simulation and Performance II

Enhance the Quality of Experience by Accelerating User Requests in a Multi-wireless-carrier Environment	54
<i>Jenq-Shiou Leu, Chuan-Ken Lin, Mu-Sheng Lin, and Jean-Lien Chen Wu</i>	
Designing and Simulating a Sensor Network of a Virtual Intelligent Home Using TOSSIM Simulator	58
<i>Mikko Asikainen, Keijo Haataja, Risto Honkanen, and Pekka Toivanen</i>	
Some Analysis of a Cross-Layer Design for a Wireless TCP Network	64
<i>Lucas Dias Palhão Mendes and José Marcos Câmara Brito</i>	
Hierarchical Wireless Network Architecture for Distributed Applications	70
<i>Zeashan Hameed Khan, Denis Genon Catalot, and Jean Marc Thiriet</i>	
An Analysis of the QoS in the Transmission in 802.11g Networks in the Presence of Bluetooth Interference	76
<i>Leandro Cabral and Rafael Dueire Lins</i>	

ICWMC 4: Security in Wireless & Mobile Environment

An Efficient FPGA Implementation for an DECT Brute-Force Attacking Scenario	82
<i>H. Gregor Molter, Kei Ogata, Erik Tews, and Ralf-Philipp Weinmann</i>	
Towards Formal Analysis of the Permission-Based Security Model for Android	87
<i>Wook Shin, Shinsaku Kiyomoto, Kazuhide Fukushima, and Toshiaki Tanaka</i>	
A Study on Security Framework for Ambient Intelligent Environment (ISyRAMISF: ISyRAMI Security Framework)	93
<i>Hoon Ko and Carlos Ramos</i>	
Double Guarantee for Security Localization in Wireless Sensor Network	99
<i>Jingjing Gu, Songcan Chen, and Yi Zhuang</i>	

ICWMC 5: Wireless & Mobile Technologies I

Energy Efficient Event Detection and Dissemination Scheme for Clustered Wireless Sensor Networks	105
<i>Shihan Li, Depei Qian, Yi Liu, and Yuebin Bai</i>	
Survey of Target Tracking Protocols Using Wireless Sensor Network	110
<i>Sania Bhatti and Jie Xu</i>	
Vector-Based Location Finding for Context-Aware Campus	116
<i>Michael Batty and Phyo Kyaw</i>	

Average Collision Number Criterion for TH-UWB Code Selection	122
<i>Anis Naanaa, Zouhair Ben Jemaa, and Safya Belghith</i>	

ICWMC 6: Wireless & Mobile Technologies II

Enforcing Collaboration in MANET Routing Protocols	128
<i>Giampaolo Bella, Gianpiero Costantino, and Salvatore Riccobene</i>	
Comparing the Life Time of Terrestrial Wireless Sensor Networks by Employing Hybrid FSO/RF and Only RF Access Networks	134
<i>F. Nadeem, E. Leitgeb, M. S. Awan, and S. Chessa</i>	
A New Priority-Guaranteed MAC Protocol for Emerging Body Area Networks	140
<i>Yan Zhang and Guido Dolmans</i>	
An Evaluation of Future Mobile Networks Backhaul Options	146
<i>Terje Tjelta, Terje Jensen, Anne-Grethe Kåråsen, Geir Millstein, Cao Van Nguyen, Evi Zouganeli, Egil Aarstad, Saad Z. Asif, and Helyati Sukur</i>	

ICWMC 7: Wireless & Mobile Technologies III

Antenna-Based Signal Fishing	152
<i>Nicolae Crişan and Ligia Chira Cremene</i>	
Web Interface for Habitat Monitoring Using Wireless Sensor Network	157
<i>Biljana Stojkoska and Danco Davcev</i>	
Adaptive MIMO Mode and Fast Cell Selection with Interference Avoidance in Multi-cell Environments	163
<i>Seung-Wan Kim and Yong-Hwan Lee</i>	
IQRF Smart Wireless Platform for Home Automation: A Case Study	168
<i>Radek Kuchta, Radimir Vrba, and Vladimir Sulc</i>	
Pulse Shaping in MIMO COFDM over Rayleigh Fading Channels	174
<i>Julian Russell and Wei Xiang</i>	

ICWMC 8: Wireless Communication Basics I

Improved Power Amplifier Efficiency via Walsh Code Assignment in Synchronous CDMA Systems	179
<i>T. K. Helaly, R. M. Dansereau, and M. El-Tanany</i>	
Frequency Domain Computation of the Feedback Filter of the Hybrid Decision Feedback Equalizer	185
<i>Maurizio Magarini and Arnaldo Spalvieri</i>	
An Efficient Sub-optimal Subcarrier Allocation Algorithm for Multiuser OFDM System	190
<i>Fan Wu and Mosa Ali Abu-Rgheff</i>	
Constellation Labeling Optimization for Iteratively Decoded Concatenated Multilayer Space-Time Error Correcting Codes	196
<i>Mohamad Sayed Hassan and Karine Amis</i>	

FFT/IFFT Pair Based Digital Filtering for the Transformation of Adding Signal PAPR Reduction Techniques in Tone Reservation Techniques	200
<i>Désiré Guel and Jacques Palicot</i>	

ICWMC 9: Wireless Communication Basics II

UMTS Dynamic Outer Interleaver Reconfiguration for Indoor Environment Using SOVA Turbo Decoder	205
<i>Costas Chaikalis and Nicholas Samaras</i>	
A Semi-blind Frequency-Domain Concurrent Equalizer for OFDM Systems	211
<i>Estevan M. Lopes, Fabbryccio A. C. M. Cardoso, and Dalton S. Arantes</i>	
A Figure-of-Merit for Evaluating the Overall Performance of OFDM PAPR Reduction Techniques in the Presence of High Power Amplifier	217
<i>Désiré Guel and Jacques Palicot</i>	
Outage Analysis in a Cooperative System with Beamforming and Worst Relay Cancellation	223
<i>Ebru S. Toker and Mehmet E. Çelebi</i>	
Neural Networks in Smart Antenna Design for Co-channel Interference (CCI) Reduction: A Review	228
<i>Subhash Mishra, R. N. Yadav, and R. P. Singh</i>	

ICWMC 10: Design & Implementation

WiMedia UWB MAC Layer Implementation in FPGA	234
<i>To Yap Tse</i>	
Transmultiplexers in Fixed-Point Techniques	239
<i>Mariusz Ziółko and Roman Rumian</i>	
Design and Implementation of a Weak Signal Detecting System Based on LabWindows	245
<i>Meng Zhang and Weiqing Huang</i>	
Designing and Implementing a Novel VoIP-Application for Symbian Based Devices	251
<i>Oleg Oleinikov, Marko Hassinen, Keijo Haataja, and Pekka Toivanen</i>	
Host Identity Protocol Extension Supporting Simultaneous End-Host Mobility	261
<i>Fabrice Hobaya, Vincent Gay, and Eric Robert</i>	

ICWMC 11: Management of Wireless & Mobile Networks

Two-Hop Subchannel Scheduling and Power Allocation for Fairness in OFDMA Relay Networks	267
<i>Lin Xiao, Tiankui Zhang, Yutao Zhu, and Laurie Cuthbert</i>	
Measurements and Evaluations for an IEEE 802.11a Based Carrier-Grade Multi-radio Wireless Mesh Network Deployment	272
<i>Sebastian Robitzsch, Christian Niephaus, John Fitzpatrick, and Mathias Kretschmer</i>	

Wireless Sensor Network Infrastructure: Construction and Evaluation	279
<i>Kamal Beydoun, Violeta Felea, and Hervé Guyennet</i>	
Strategic and Economic Benefits of Regionalization, Centralization, and Outsourcing of Mobile Network Operations Processes	285
<i>Thomas Frisanco</i>	

ICWMC 12: Wireless & Mobility I

HIP Based Micro-mobility Management Optimization	291
<i>M. M. Muslam, H. Anthony Chan, and Neco Ventura</i>	
Modeling and Simulation of Multihop Routing Protocols in Wireless Sensor Networks	296
<i>Adrian Fr. Kacsó and Roland Wismüller</i>	
RTT Positioning in WCDMA	303
<i>Torbjörn Wigren and Jenni Wennervirta</i>	
User Cooperation Schemes in the Soft Handover Regions	309
<i>Kamel Tourki, Mohamed-Slim Alouini, and Mazen O. Hasna</i>	
The Performances of Macrodiversity System in the Presence of Rayleigh and Gamma Fading	315
<i>Mihajlo Stefanović, Dragana Krstić, Ana Matović, Marija Matović, and Dušan Stefanović</i>	

ICWMC 13: Wireless & Mobility II

Towards Hierarchical Routing in Small World Wireless Networks	322
<i>Juhani Latvakoski</i>	
WLAN Location Determination Using Probability Distributions with Search Area Reduction via Trilateration	328
<i>David Sánchez, Miguel A. Quintana, and Juan Luis Navarro</i>	
Broadcasting with Optimized Transmission Efficiency in Wireless Networks	334
<i>Yung-Liang Lai and Jehn-Ruey Jiang</i>	
Residential Area Service Platforms: Modelling Challenges for Multiple Data Traffic Patterns in Wireless Mesh Networks	340
<i>Horia Ștefănescu, Silviu Ciochină, and Adrian Matei</i>	

ICWMC 14: Wireless & Mobility III

NetArgus: An SNMP Monitor & Wi-Fi Positioning, 3-tier Application Suite	346
<i>George E. Violettas, Tryfon L. Theodorou, and Christos K. Georgiadis</i>	
The Performances of Generalized Selection Combiner in the Presence of Log-Normal Fading	352
<i>Dragana Krstić, Mihajlo Stefanović, Petar Nikolić, Goran Stamenović, and Časlav Stefanović</i>	
Similarity Distribution in Phonebook-Centric Social Networks	359
<i>Péter Ekler and Tamás Lukovszki</i>	

Optimal Forwarding in Multi-source Multicast over Mobile Ad Hoc Networks	365
<i>Yao Yu, Yu Zhou, and Sidan Du</i>	

ICWMC 15: Wireless Applications & Services I

Synchronization in a Wireless Sensor Network Designed for Surveillance Applications	369
<i>Jose A. Sánchez Fernández, Ana B. García Hernando, José F. Martínez Ortega, and Lourdes López Santidrián</i>	
Mobile Social Media Service Scenarios	373
<i>Olli Mäkinen and Sakari Luukkainen</i>	
A Combined Technology for Wildfire Detection Using HS/RF	379
<i>Graeme Hanssen and Yasar Guneri Sahin</i>	
Dual Band-Notch CPW-Ground-Fed UWB Antenna by Fractal Binary Tree Slot	385
<i>A. Falahati, M. Naghshvarian-Jahromi, and R. M. Edwards</i>	

ICWMC 16: Wireless Applications & Services II

Cognitive Radio Parameter Adaptation in Multicarrier Environment	391
<i>Muhammad Waheed and Anni Cai</i>	
Characterization of BandPass Delta Sigma Modulators in Wireless Transceivers Using Parameter Identification	396
<i>David Gautier, Smail Bachir, and Claude Duvanaud</i>	
Enabling Large Scale Ad Hoc Animal Welfare Monitoring	401
<i>Bartosz Wietrzyk and Milena Radenkovic</i>	
A Multiple-Mode Mobile Location-Based Information Retrieve System	410
<i>Zhi-meí Wang and Fan Yang</i>	

ICWMC 17: WIP

Mobile Sensor Networks Self-Organization for System Utility Maximization: Work in Progress	416
<i>Vladimir Marbukh and Kamran Sayrafian-Pour</i>	

Author Index