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Proceedings Volume 2 of 2

Organised by

Instituto Telecomunicações - Pólo de Aveiro
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Routing approach in CarTALK 2000 project
Jing Tian, Luca Coletti, Germany

The MMARP Protocol for Efficient Support of Standard IP Multicast Communications in Mobile Ad hoc Access Networks
Pedro M. Ruiz, Antonio F. Gomez-Skarmeta, Ian Groves, Spain

A Centralized Routing Scheme Supporting Ad Hoc Networking in Dual Mode HIPERLAN/2
Athanasios Vaios, Konstantinos Oikonomou, Ioannis Stavvakakis, Greece

Session A7 – Ultra Wideband
Tuesday, June 18; 09:00-10:40
Chairperson: Martti Latva-Aho, Univ. Oulu, Finland

Ultra Wideband Signal Impact on IEEE802.11b Network Performance
Matti Hämäläinen, Jani Saloranta, Juha-Pekka Makela, Tero Patana, Ian Oppermann, Finland

Statistical Impulse Response Model for Indoor UWB Channels
Alvaro Alvarez, Gustavo Valera, Manuel Lobeira, Rafael Pedro Torres, José Luis García, Spain

Effect of power-efficient routing in UWB wireless mobile networks
Luca De Nardis, Guerino Giancola, Maria-Gabriella Di Benedetto, Italy

On The Usefulness Of Multiple (SMART) Antennas For Ultrawideband Communication Systems
Thomas Kaiser, Andreas Czywilw, Germany

An interference-controlled admission control scheme for QoS support in distributed UWB networks
Francesca Cuomo, Cristina Martello, Stefano Caputo, Italy

Session B7 – Radio Resource Management for SB3G
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Chairperson: Payam Taaghol, Bechtel Telecommunications, United Kingdom

Hierarchical Resource Management in Heterogeneous Radio Environments – The CAUTION++ Approach
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Adaptive Radio Multihoming for Reconfigurable Terminals
Eiman Mohyeldin, Nicolas Motte, Jijun Luo, Markus Dillinger, Germany

Service and Network Resource Management Efficiency in a Composite Radio Context
Nikos Koutsouris, George Koundourakis, Kostas Tsagkaris, Antonis Oikonomou, Vera Stavroulaki, Louisa Papadopoulou, Panagiotis Demestichas, Michael Theologou, Greece

Handover Channel Allocation Based on Mobility Predictions
Aruna Jayasuriya, Australia
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Tareq Al-Gizawi, Kostas Peppas, Anwar Mousa, Dimitris Axiotis, Fotis Lazarakis, Angeliki Alexiou, Greece

Session C7 – UMTS System Analysis and Simulations
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Chairperson: Leandro Fernandes, Oni, Portugal

Negative Acknowledgement of RACH in UMTS
Mazlyn Mona Mustapha, United Kingdom

UMTS AWGN Simulation Results for Uplink, Downlink and HSDPA Transmissions
Nuno Souto, João Carlos Silva, Américo Correia, Francisco Cercas, António Rodrigues, Portugal

The Use of Intelligently Deployed Fixed Relays to Improve the Performance of a UTRA-TDD WCDMA System
Eustace K. Tameh, Araceli Molina, Andrew R. Nix, United Kingdom

Optimisation of Cell Radius in UMTS-FDD Networks
António Serrador, Luis M. Correia, Portugal

Enhanced UMTS Deployment and Mobility Scenarios
Jaime Ferreira, Álvaro Gomes, Fernando J. Velez, Portugal

Session A8 – Receiver Signal Processing Techniques II
Tuesday, June 18; 11:05-12:45
Chairperson: Ian Opperman, Univ. Oulu, Finland

A Novel RAKE Receiver Architecture for Combined GPS/Galileo and UMTS/cdma2000 Localisation and Positioning
Guenter Heinrichs, Renke Bischoff, Germany

Bit error probability of Rake receiver in the presence of code synchronization errors and correlated Rayleigh fading channels
Elena-Simona Lohan, Markku Renfors, Finland

EKF based LOS Estimation with Interference Cancellation for WCDMA Mobile Positioning
Abdelmonaem Lakhzouri, Elena Simona Lohan, Markku Renfors, Finland

A Novel Pilot-Aided CDMA Joint Detector (SCCS Detection) Without Using Explicit Knowledge of Signature Codes
Hsiao-Hwa Chen, Chi-Feng Wu, Yu-Bing Wu, Yi-Ning Chang, Taiwan

A Semi Implicit Incremental Redundancy Scheme
Boris Stender, Martin Weckerle, Germany

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HiperLAN/2 WLAN prototype demonstrates 40 Mbit/s multimedia applications with Quality of Service
Hervé Bonneville, Bertrand Penther, Romain Rollet, Arnaud Bouyttier, Christophe Mangin, Corinne Rosier, France

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A satellite network for train environment in the FIFTH Demonstrator
Vincenzo Schena, Giacinto Losquadro, Alessandro Basili, Italy

The MOBILITY Project
Emma Alonso, José Antonio Guerra, Jesús Pérez, Oliver Lücke, Spain

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Chairperson: Mohsen Darianian, Nokia, Germany

The WSI Reference Model for the Wireless World
Stefan Arbanowski, Michael Lipka, Klaus Mössner, Karl Ott, Ralf Pabst, Petri Pulli, Andreas Schieder, Mikko A. Uusitalo, Germany

Open Access Network Concept, a B3G case study
Thor-Gunnar Eskedal, Rima Venturin, Irena Grgic, Ragnar Andreassen, John Charles Francis, Christian Fischer, Norway

The Market for Wireless In-Cabin Aeronautical Communications
Andrew Rogoyski, Oliver Franzrahe, Simon Tudge, Massimo De Sanctis, United Kingdom

Generation of Traffic Demand Scenarios for UMTS
Lúcio Ferreira, Luís M. Correia, Portugal

Recommendations for Internet Access from Mobile Terminals. Initial Results from RIU253
Josep Paradells, Anna Calveras, Xavier Hesselbach, Carles Gomez, José Castor Vallés, Marisa Luisa Catalán, Marc Estevez, Pilar Armas, Spain

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Tuesday, June 18; 13:50-15:50
Chairperson: Angel Lozano, Lucent Technologies, United States of America

New Recursive Systematic Space-Time Trellis Codes for Turbo Coded Modulation
Djordje Tujkovic, Finland

8-PSK and 16-QAM Space-Time Trellis Codes for Rayleigh Fading Channels with 2, 3 and 4 Transmit Antennas
Bilal Abdool-Rassool, Reza Nakhai, Hamid Aghvami, United Kingdom

Space-Frequency Bit/Power Loading in Space-Time Block Coded MIMO OFDM
Emanuele Bizzarri, Antonio Stanislao Gallo, Giorgio Matteo Vitetta, Eugenio Chiavaccini, Italy

Bit Error Rate Estimation of Turbo Codes Using A Monte Carlo Distance Spectrum Method
Shigeo Nakajima, Eiichi Sato, Japan

Quasi-Systematic property of TCH codes
João Carlos Silva, Nuno Souto, Francisco Cercas, Portugal

A Unified Approach to Error Protection in Medium Access Control Design
Guerino Giancola, Luca De Nardis, Maria-Gabriella Di Benedetto, Italy
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Chairperson: Luis Correia, Univ. Técnica Lisboa / Inst. Telec., Portugal

Characterization of the Railroad Satellite Channel within the FIFTH Project
Sandro Scalise, Marcos Álvarez Díaz, Giorgio Sciascia, Rodolfo Mura, Germany

A Detailed Indoor Millimetre-wave Channel Impulse Response Analysis Based on Experimental and Simulation Results
Manuel Dinis, José García, Valdemar Monteiro, Portugal

A Generic Model of 1-60 GHz Narrow Band Radio Propagation through Vegetation
Rafael F. S. Caldeirinha, Jurgen Richter, Miqdad O. Al-Nuaimi, Andy Seville, Neil C. Rogers, Nick Savage, United Kingdom

Exploring Experimental Results from SAGE Ray Retrieval Algorithm
Susana Mota, Armando Rocha, Portugal

Eigenvalue distributions and capacity evaluations from outdoor MIMO measurements at 2.1 GHz
Per H. Lehne, Helmut Hofstetter, Merouane Debbah, Norway

A MIMO Channel Simulator Based on GQR Models
Lodovico Fregni, Fabrizio Muratori, Giorgio Matteo Vitetta, Italy

Session C9 – Architectures for SB3G

Tuesday, June 18; 13:50-15:50

Chairperson: Rahim Tafazolli, Univ. Surrey, United Kingdom

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Hot Spot Wireless LANs to Enhance the Throughput of “3G and Beyond” Networks
Angela Doufexi, Eustace Tameh, Araceli Molina, Andrew R. Nix, United Kingdom

A Personal Distributed Environment for Future Mobile Systems
John Dunlop, R. C. Atkinson, J. Irvine, D. Pearce, United Kingdom

“Always Best Connected” Enabled 4G Wireless World

Paving the Way for the Fourth Generation: A New Family of Wireless Personal Area Networks
Filip Louagie, Luis Muñoz, Sofoklis Kyriazakos, Belgium

Flexible Cross-Layer Radio Access Design for Systems Beyond 3G
Sesaiah Ponnekanti, Carl Wijting, Yassin Awad, Michiharu Nakamura, Albena Mihovska, Jorge Pereira, United Kingdom

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Monday, June 16; 11:10-12:50

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Optimal SIR target determination for Outer-Loop Control in the W-CDMA System: inverse SIR Cumulative Distribution Function computation throughout the Newton-Raphson Method
Álvaro López Medrano, Spain

Fair Channel-Dependent Scheduling in CDMA Systems
Irene de Bruin, Geert Heijenk, Magda El Zarki, Jasmine Lei Zan, The Netherlands

Transmit Beamforming for MC-CDMA
Ivana Raos, Augusto del Cacho, Santiago Zazo, Spain

Concepts for Management of DSA Border Interference between DVB-T and UMTS
Christian Hamacher, Germany

Performance comparison between OFDM/TDMA vs MC-CDMA and DS-CDMA vs MC-CDMA Techniques in HIPERLAN/2
Rodolphe LeGouable, Maryline Hélard, Mathieu Des Noes, Dimitri Ktenas, Reza Hoshyar, France

Downlink Capacity of UMTS System in Countryside Rural Zone Near Deep Space Network (DSN) Installations
Bazil Taha Ahmed, Miguel Calvo Ramón, Leandro de Haro Ariet, Spain

Pre-processing Techniques For Uplink Multi-Carrier Systems
Augusto del Cacho, Ivana Raos, Santiago Zazo, Spain

On the Down Link Capacity of High Altitude Platform W-CDMA System
Bazil Taha Ahmed, Miguel Calvo Ramón, Leandro de Haro Ariet, Spain

Turbo linear dispersion space time coding for MIMO HSDPA systems
Ami Wiesel, Luis Garcia, Josep Vidal. Alba Pagès, Javier R. Fonollosa, Spain

Performance Evaluation and coverage for HIPERLAN2 in outdoor environments
Emmanouil I. Kalantzis, Panagiotis I. Dallas, Antonios D. Valkanas, Greece

Peak to Average Power Ratio in Digital Communications
Dov Wulich, Lev Goldfeld, Gill R. Tsouri, Israel

Planning fixed radio access networks wih point-to-point and point-to-multipoint microwave links
István Góbor, Gábor Magyar, László Hévizi, Hungary

Synchronization Algorithms and Preamble Concepts for Spectrum Pooling Systems
Timo Weiss, Albert Krohn, Fatih Capar, Ihan Martoyo, Friedrich K. Jondral, Germany

Investigation of Cell Breathing Effect in CDMA-based Cellular Systems
Matthias Hildebrand, Klaus David, Guihua Piao, Gabriel Cristache, Frank Fechter, Rolf Sigle, Anja Warich, Germany

Architectural issues for multicast group partitioning in mobile, hybrid networks
Thorsten Lohmar, Paolo Casagranda, Carol Gine Sado, Christophe Janneteau, Pierrick Seite, Yu Ming Tian, Rahim Tafazolli, Germany

Session P2 – Topics on Mobile and Wireless Communications II
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An RTT Invariant Congestion Control Scheme for Heterogeneous IP Networks
Carlo Caini, Rosario Frrincieli, Carla Raffaeli, Italy

Triple-Band Microstrip Patch Antenna Element for Cellular-WLAN Integration
Jorge Brissos, Custódio Peixeiro, Portugal
Performance analysis of Call Admission Control algorithms for the new-generation WIND-FLEX wireless LAN
Giuseppe Razzano, Antonio Curcio, Italy

Antenna Size / Bandwidth Limitations
Benjamin Kemp, Myles Capstick, United Kingdom

An Adaptive Protocol Framework Architecture for Heterogeneous Multi-hop Wireless IPv6 Networks
Tommi Saarinen, Julia Kantorovitch, Finland

The HIPERMAN Standard – a Performance Analysis
Christian Hoymann, Markus Pütter, Ingo Forkel, Germany

Architecture of IP based Network Elements Supporting Reconfigurable Terminals
Stefano Micocci, Nicolas Olaziregi, Gianluca Ravasio, Jens Bachmann, Fernando Berzosa, Italy

FAME2: Software Architecture for B3G and 4G networks
Bjoern Wuest, Olaf Drögehorn, Klaus David, Germany

A User-Centric Approach for the Development of Usable Reconfigurable Terminals
John Hamard, Genevieve Conaty, Raquel Navarro-Prieto, United Kingdom

Radio Link Layer Design for IST MATRICE Project
Johnatan Rodriguez, Rahim Tafazolli, D. T. Phan Thuy, Rui L. Aguiar, Atilio Gameiro, Friedbert Berens, United Kingdom

Software And Baseband Signal Processing Requirements For Future SDR Terminal Reconfiguration
Fanny Platbrood, Jaouhar Ayadi, Switzerland

UMTS Multi-Service Networks: Dimensioning and Techno-Economic Analysis
José Pedro Borrego, Daniel Martins, Amaro F. de Sousa A. Manuel de Oliveira Duarte, Portugal

Ad Hoc Networks Implications in SDR Context
Gianluca Ravasio, Miguel Alvarez, Soodesh Buljore, Lian Yao, Italy

WiFi + Satellite: An Internet Access Network Solution for Remote Areas
João Rocha, Fernando Ramos, Rui L. Aguiar, A. Manuel Oliveira Duarte, Portugal

Adaptive User Profiles for SDR
Antony Kalus, United Kingdom