



PIMRC 2004

THE 15TH IEEE INTERNATIONAL SYMPOSIUM ON
PERSONAL, INDOOR AND MOBILE RADIO COMMUNICATIONS

BARCELONA, SPAIN
5-8, SEPTEMBER 2004
Hotel Princesa Sofia

WELCOME TO BARCELONA



NEWS

12/07/04 Final program has been published.

29/06/04 Preliminary program is now available.

02/06/04 Early bird rate deadline has been extended up to June 9th.

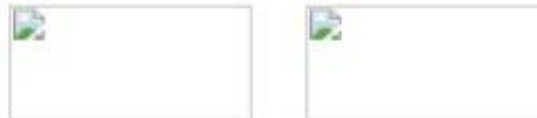
12/05/04 REGISTRATION IS NOW OPEN.

05/05/04 E2R (End to End Reconfigurability) Workshop will be co-located with PIMRC 2004 Tutorials.

26/04/04 Decisions regarding papers have been e-mailed.

15/04/04 List of Invited Papers included

Patrons



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INVITED PAPERS

"Dynamic Channel control for optimizing cellular communications systems"
Joseph Shapira, Comm&Sens, Israel

"Interference, Information and Performance in Linear Matrix Modulation"
Olav Tirkkonen, Nokia Research Center, Finland

"Predictive Probabilistic models: a unified approach to mobile device positioning"
Henry Tirri, University of Helsinki, Finland

"Roaming in the Global Wireless Internet"
Chip Elliott, BBN Technologies, USA

"Applying Near Shannon-Limit Codes to Wireless Communications"
Lin-Nan Lee, Hughes Network Systems

"Frequency-Domain Equalization for Continuous Phase Modulation"
Gordon L. Stüber, Georgia Institute of Technology, USA

"Cross-layer Performance in Cellular WCDMA/3G Networks: Modelling And Analysis"
Vijay Bhargava, Univ of British Columbia, Canada

"Always On: A New Paradigm for Wireless Networks"
Krishan K. Sabnani, Lucent Bell Labs, USA

"Voice capacity in IEEE 802.11 Networks"
Prathima Agrawal, Auburn University, USA

"Architecture and Prototyping of an 802.11-based Self-organizing Hierarchical Ad-hoc Wireless Network (Sohan)"
Dipankar Raychaudhuri, Rutgers, USA

Cognitive Trends In Making: Future of Networks
Petri Mähönen, Aachen Univ, Germany

"Ad Hoc Wireless Networks with Mobile Backbones"
Izhak Rubin, University of California, USA

"Development and Future Applications of Satellite Communications"
Erich Lutz, DLR, Germany

"Coping with Uncertainty in Mobile Wireless Networks"
Sajal K. Das, University of Texas at Arlington, USA

"Multiple Antenna Systems: Frontier Of Wireless Access"
Enrico Del Re, University of Florence, Italy

"Performance Evaluation of a Fixed Relay Concept For Next Generation Wireless Systems"



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TECHNICAL PROGRAM

Overview

5 September: Tutorials
6 September: Technical Sessions, Plenary Sessions & Panels
7 September: Technical Sessions & Panels
8 September: Technical Sessions & Panels
[Download final program \(pdf\)](#)

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PIMRC HISTORY

PIMRC Profile

PIMRC conference enjoys today wide respect and represents a new trend in international conferences, one which is well suited to the evolving global market. It is uniquely identified by the following features:

- Balance among academia, industry, and governmental organisations
- Truly international technical program endorsed by IEEE, IEE, and IEICE
- Flexible organisation tailored to the conference venue
- Personal touch and care by the area coordinators, executive committee members and a group of faithful individuals

The major reason for the success of the conference is the simplicity and practicality of the organization, which has created a productive and friendly environment with minimal administrative delays.

Past editions of PIMRC

The foundation for PIMRC was a 1989 workshop on Mobile Communications organized by Prof Aghvami of King's College London with the cooperation of the local IEEE Communication Society Chapter. With fewer than 100 participants and about thirty technical papers, the workshop was a successful experience for this new industry that was about to explode. In 1990, King's College organized a similar successful conference under the name ISSSTA.

The first PIMRC, as an international symposium, also took place in King's College, with joint sponsorship of the local IEEE Communication Society Chapter and close cooperation with BT laboratories. Dr Rowbotham, director of BT Labs, was the honorary chairman, Prof Aghvami was the organizer and the TPC chair while Dr Kato and Prof Pahlavan were the area coordinators in Far East and North America, respectively. The conference attracted around 200 participants and several prominent figures in the industry.

In 1992, PIMRC was scheduled for Boston. The conference attracted more than 500 people from more than 25 different countries and almost all the major figures in the cellular, PCS, wireless LAN, and mobile data industries. To reflect the true international spirit of the conference, IEEE Communication Society, IEE and IEICE were invited to cooperate with the conference.

The following edition of PIMRC was held in Yokohama in 1993 with over 500 participants from more than 25 countries.

In the 1994 edition of PIMRC, held in the Hague, Holland, the organization of the conference was for the first time endorsed by the area coordinators to the local team; held in parallel with WCN conference, it attracted 500 participants.

Toronto followed in 1995 with 600 participants from more than thirty countries and about 270 technical papers; the IEEE Communication Society sponsored the conference for the first time.

The following year, PIMRC'96 was held in Taipei with more than 600 participants from more than 35 different countries.

PIMRC'97 was held in Helsinki, Finland with 500 participants from 40 countries and a record of 440 papers were received.

In 1998, PIMRC was held once again in Boston, gathering more than 500 participants; the technical program included 300 technical papers, 18 invited papers, and 15 tutorials.

PIMRC'99 was held in Osaka, Japan and attracted 600 delegates.

PIMRC2000 was held in London, UK.

PIMRC2001 was held in San Diego, Cal.

PIMRC2002 was held in Lisbon, Portugal.

PIMRC2003 was held in Beijing, China.

Despite of the SARS outbreak early 2003, the conference attracted 482 participants from 28 countries or regions. Among them, 340 from abroad and 142 from domestic. This historical symposium was jointly organized by the Chinese Institute of Electronics (CIE), Kings College of London, and Tsinghua University, under the supports from major telecommunication operators and industries. Reflecting intensive interests in the rapid developing communication technologies, PIMRC2003 received 1042 paper submissions from 41 countries and regions. After serious peer reviews by the Technical Program Committee and a good number of reviewers, 613 papers were finally selected and edited into the proceedings.

PIMRC2004 will be held in Barcelona, Spain.

Program Schedule

SESSION: WLAN (1)

Monday (September 6th): 10h 50m – 12h 30m

VOICE CAPACITY IN IEEE 802.11 NETWORKS

Moncef Elaoud, *Telcordia Technologies, USA*; Prathima Agrawal, *Auburn University, USA*

-INVITED PAPER-

PERFORMANCE STUDY ON FREQUENCY-DOMAIN LINK ADAPTATION IN IEEE 802.11A WIRELESS LAN

Ming Lei, Hiroshi Harada, Hiromitsu Wakana, *National Institute of Information and Communications Technology (NICT) of Japan, Japan*; Ping Zhang, *Beijing University of Posts and Telecommunications, China*

THE INTEROPERABILITY OF WI-FI HOTSPOTS AND PACKET CELLULAR NETWORKS AND THE IMPACT OF USER BEHAVIOUR

Dilip Joseph, Manoj B.S., C. Siva Ram Murthy, *Indian Institute of Technology, Madras, India*

IEEE 802.11 DCF ENHANCEMENTS FOR NOISY ENVIRONMENTS

Tamer Nadeem, Ashok Agrawala, *University of Maryland, USA*

NOVEL DESIGN OF HIGH CAPACITY BLUETOOTH ACCESS POINT WITH COLLISION AVOIDANCE SCHEDULING

Zhifeng Jiang, Victor Leung, *University of British Columbia, Canada*

SESSION: UMTS (1)

Monday (September 6th): 10h 50m – 12h 30m

MOBILITY MANAGEMENT AND NETWORK DESIGN FOR UMTS

Thomas Winter, *Siemens AG, Germany*

**CAPACITY IN DOWNLINK WCDMA HEXAGONAL AND SECTORIZED
SCENARIOS USING SOFT HANDOVER TECHNIQUES WITH SIR-BASED
POWER CONTROL AND SSDT**

Jorge Larrey, Juan Reig, Narcis Cardona, *Departamento de Comunicaciones.
Universidad Politecnica de Valencia, Spain*

**PERFORMANCE COMPARISON OF STEPWISE PARALLEL AND SERIAL CELL
SEARCH IN WCDMA**

Eung Bae Kim, *ETRI, South Korea*; Moon Kyou Song, *Wonkwang University, South
Korea*

**NOVEL SIR MEASUREMENT METHOD FOR MODIFIED CLOSED LOOP
TRANSMIT DIVERSITY IN W-CDMA**

Akhmad Unggul Priantoro, Minoru Okada, Heiichi Yamamoto, *Graduate School of
Information Science, Nara Institute of Science and Technology, Japan*

**THE PRACTICAL REALITIES OF UTRA TDD AND FDD CO-EXISTENCE AND
THEIR IMPACT ON THE FUTURE SPECTRUM ALLOCATIONS**

Tim Wilkinson, Paul Howard, *IPWireless, UK*

SESSION: Multiple Access Techniques (1)

Monday (September 6th): 10h 50m – 12h 30m

REDUCED-RANK INTERFERENCE SUPPRESSION FOR DS-CDMA USING
ADAPTIVE INTERPOLATED FIR FILTERS WITH ADAPTIVE INTERPOLATORS
Rodrigo de Lamare, Raimundo Sampaio-Neto, *CETUC/PUC-RIO, Brazil*

MULTI-STAGE RLS SUBCARRIER COMBINING METHOD FOR UPLINK
QUASI-SYNCHRONOUS MC-CDMA
Takeo Fujii, Yukihiro Kamiya, Yasuo Suzuki, *Tokyo University of Agriculture and
Technology, Japan*

MODELING AND ANALYSIS OF A CELLULAR MC-CDMA DOWNLINK
SYSTEM
Simon Plass, Stephan Sand, *German Aerospace Center (DLR), Germany*; Gunther
Auer, *DoCoMo Communications Laboratories Europe GmbH, Germany*

PERFORMANCE COMPARISON OF COHERENT AND NON-COHERENT
MULTICARRIER FREQUENCY-HOPPING CODE DIVISION MULTIPLE-ACCESS
SYSTEMS
Zolfa Zeinalpour Yazdi, Masoumeh Nasiri-Kenari, *Sharif University of Technology,
Iran*

SOFT-INTERFERENCE CANCELLATION FOR DOWNLINK AND UPLINK MC-
CDMA SYSTEMS
Nevio Benvenuto, Paola Bisaglia, Matteo Finco, *University of Padova, Italy*

SESSION: Ad-Hoc Networks (1)

Monday (September 6th): 10h 50m – 12h 30m

PATH DIMINUTION IN DISJOINT MULTIPATH ROUTING FOR MOBILE AD HOC NETWORKS

Ash Mohammad Abbas, Bijendra Nath Jain, *IIT Delhi, India*

QOS ROUTING USING LOWER LAYER INFORMATION IN AD HOC NETWORKS

Zhong Fan, *Toshiba, UK*

PERFORMANCE ANALYSIS OF MULTIPLE-ROUTE PACKET COMBINING SCHEME FOR REAL-TIME COMMUNICATIONS IN WIRELESS MULTIHOP NETWORKS

Yasuhiro Hirayama, Nobuyuki Nakagawa, *Graduation School of Engineering, Nagoya University, Japan*; Hiraku Okada, Takaya Yamazato, Masaaki Katayama, *Center for Information Media Studies, Nagoya University, Japan*

DYNAMIC CHANNEL ASSIGNMENT IN CLUSTERED MULTIHOP CDMA/TDMA AD HOC NETWORKS

Ting-Chao Hou, Chien-Min Wu, Ming-Chieh Chan, *Dept. of Electrical Engineering, National Chung Cheng University, Taiwan*

SESSION: Antenna and RF Subsystem (1)

Monday (September 6th): 10h 50m – 12h 30m

CMOS PHASE SHIFTED TRANSMITTERS FOR 4G WIRELESS SYSTEMS

Sotoudeh Hamed-Hagh, C. Andre T. Salama, *University of Toronto, Canada*

**IMPROVING COMPENSATION OF NONLINEAR DISTORTIONS IN OFDM
SYSTEM USING RECURRENT NEURAL NETWORK WITH CONJUGATE
GRADIENT ALGORITHM**

Janusz Pochmara, *Poznan University of Technology, Poland*

**A STUDY ON THE ROBUSTNESS OF A 22 MHZ BANDWIDTH FEEDFORWARD
AMPLIFIER AT THE 2.4 GHZ ISM-BAND**

Pere L. Gilabert, Eduard Bertran, Gabriel Montoro, Jordi Berenguer, *UPC, Spain*

POLYNOMIAL APPROXIMATIONS IN PREDISTORTION WORKFUNCTIONS

Troels Studsgaard Nielsen, *Aalborg University, Denmark*; Saska Lindfors, *Helsinki University, Finland*

**A LOW COMPLEXITY UWB CIRCUIT TRANSCEIVER ARCHITECTURE FOR
LOW COST SENSOR TAG SYSTEMS**

Lucian Stoica, Sakari Tiuraniemi, Alberto Rabbachin, Ian Oppermann, *Centre for Wireless Communications, University of Oulu, Finland*; Heikki Repo, *Electrical and Information Engineering, University of Oulu, Finland*

SESSION: Coding, Modulation and Equalization (1)

Monday (September 6th): 10h 50m – 12h 30m

INTERFERENCE, INFORMATION AND PERFORMANCE IN LINEAR MATRIX MODULATION

Olav Tirkkonen, Mikko Kokkonen, *Nokia Research Center, Finland*

-INVITED PAPER-

NONCOHERENT MT-MFSK SIGNALS WITH DIVERSITY RECEPTION OVER BANDWIDTH CONSTRAINED AND NAKAGAMI FADING CHANNELS

Ibrahim Ghareeb, *Jordan University of Science & Technology, Jordan*

ROBUST MULTI-CARRIER MODULATION IN THE PRESENCE OF FREQUENCY OFFSETS

Roberto Cristi, Murali Tummala, *CT Associates, USA*; Hamadi Jamali, *ITC, USA*

PERFORMANCE ANALYSIS OF DIVERSITY RECEPTION FOR M-QAM WITH COCHANNEL INTERFERENCE AND RAYLEIGH FADING

Sheng-Chou Lin, Sheng-Tao Chiang, *Department of Electronic Engineering, Fu-Jen Catholic University, Taiwan*

BANDWIDTH EFFICIENCY IMPROVEMENT FOR MULTI-CARRIER SYSTEMS

Masanori Hamamura, *Department of Information Systems Engineering, Kochi University of Technology, Japan*; Shin'ichi Tachikawa, *Department of Electrical Engineering, Nagaoka University of Technology, Japan*

SESSION: Network Protocol

Monday (September 6th): 10h 50m – 12h 30m

COPING WITH UNCERTAINTY IN MOBILE WIRELESS NETWORKS

Sajal Das, *University of Texas at Arlington, USA*; Christopher Rose, *Rutgers University, USA*

-INVITED PAPER-

PEER-TO-PEER CONTENT SHARING IN WIRELESS NETWORKS

Kálmán Marossy, Gergely Csúcs, *Budapest University of Technology and Economics, Hungary*; Balázs Bakos, Lóránt Farkas, *Nokia Research Center, Hungary*; Jukka K. Nurminen, *Nokia Research Center, Finland*

ANALYSIS AND OPTIMIZATION OF THE (E)GPRS RLC PROTOCOL BY SIMULATIONS AND MEASUREMENTS

Carsten Ball, Kolio Ivanov, Lothar Bugl, Peter Stöckl, *Siemens AG, Germany*

STUDY ON WINDOW-BASED RELIABLE MULTICAST PROTOCOLS FOR WIRELESS LANS

Huei-Wen Ferng, Pin-Chieh Yeh, *National Taiwan University of Science and Technology, Taiwan*

PROTOCOL BEHAVIOR: MORE EFFORT, MORE GAINS?

Lefteris Mamatras, Vassilis Tsaoussidis, *Demokritos University of Thrace, Greece*

SESSION: MIMO (1)

Monday (September 6th): 10h 50m – 12h 30m

CAPACITY AND PERFORMANCE OF MIMO SYSTEMS UNDER THE IMPACT OF FEEDBACK DELAY

Hung Tuan Nguyen, Jørgen Bach Andersen, Gert Frølund Pedersen, *Department of Communication Technology, Aalborg University, Denmark*

MAXIMUM SINR DESIGN AND PERFORMANCE ANALYSIS OF MIMO COMMUNICATION SYSTEMS WITH TAPPED DELAY LINE STRUCTURE

Tetsuki Taniguchi, Hoang Pham, Nam Tran, Yoshio Karasawa, *The University of Electro-Communications, Japan*

A STATISTICAL POWER ALLOCATION STRATEGY FOR VECTOR BLOCK-FADING CHANNELS

Ying-Chang Liang, *Institute for Infocomm Research, Singapore*; R. Zhang, JM Cioffi, *Stanford University, USA*

OPTIMIZATION OF DELAY DIVERSITY FOR DECISION-FEEDBACK EQUALIZATION

Simon Yiu, Robert Schober, *University of British Columbia, Canada*; Wolfgang Gerstacker, *University of Erlangen-Nuernberg, Germany*

A ROBUST AND LOW COMPLEXITY ADAPTIVE ALGORITHM FOR MIMO EIGENMODE TRANSMISSION SYSTEM

See Ho Ting, Kei Sakaguchi, Kiyomichi Araki, *Tokyo Institute of Technology, Japan*

SESSION: WLAN (2)

Monday (September 6th): 14h 30m – 16h 10m

PROBABILITY OF UNDETECTED ERROR OF HYBRID ARQ OVER THE
GILBERT-ELLIOTT CHANNEL

Matteo Albanese, Antonio Capone, Arnaldo Spalvieri, *Politecnico di Milano, Italia*

DYNAMIC TUNING OF THE CONTENTION WINDOW MINIMUM (CWMIN)
FOR ENHANCED SERVICE DIFFERENTIATION IN IEEE 802.11 WIRELESS AD-
HOC NETWORKS

Lassaâd Gannoune, Stephan Robert, *EIVD, Switzerland*

IEEE 802.11G PERFORMANCE IN PRESENCE OF BEACON CONTROL FRAMES
Elena Lopez-Aguilera, Jordi Casademont, Josep Cotrina, *Technological University of
Catalonia, Spain*

A PRACTICAL MODEL FOR TRANSMISSION DELAY OF IEEE 802.11E
ENHANCED DISTRIBUTED CHANNEL ACCESS

Jeffrey Robinson, *Simon Fraser University, Canada*; Tejinder Randhawa, *British
Columbia Institute of Technology, Canada*

IMPACT OF THE USERS' DISTRIBUTION ON THE IEEE 802.11A MAC
PROTOCOL FAIRNESS AND PERFORMANCE

Jean-Christophe Dunat, Lucas Elicegui, *Motorola Labs, France*; Christian Bonnet,
Institut Eurecom, France

SESSION: UMTS (2)

Monday (September 6th): 14h 30m – 16h 10m

ALWAYS ON: A NEW PARADIGM FOR WIRELESS NETWORKS

Krishan Sabnani, Sarit Mukherjee, Sanjoy Paul, *Bell Laboratories, USA*

-INVITED PAPER-

**IMPROVED PHYSICAL RANDOM ACCESS CHANNEL ESTIMATION IN UTRA
TDD**

Peter Darwood, *IPWireless Inc, UK*

EVOLUTION OF 3GPP UTRA TDD TO HIGHER CHIP RATES

Martin Beale, Alan Jones, *IPWireless Inc, UK*

**TECHNIQUES FOR IMPROVING THE COVERAGE AND THROUGHPUT OF
BROADCAST SERVICES OVER UTRA TDD CELLULAR NETWORKS**

Nicholas Anderson, *IPWireless, UK*

**SIR ESTIMATION FOR CLOSED LOOP POWER CONTROL WITH SPACE TIME
TRANSMIT DIVERSITY IN WCDMA FDD DOWNLINK**

Atta Quddus, Kay Seo, Reza Hoshyar, Yusep Rosmansyah, Rahim Tafazolli, *University
of Surrey, United Kingdom*

SESSION: Sensor

Monday (September 6th): 14h 30m – 16h 10m

A COMMUNICATION PARADIGM FOR HYBRID SENSOR/ACTUATOR NETWORKS

Wen Hu, *University of New South Wales, Australia*; Nirupama Bulusu, *National ICT Australia Ltd., Australia*; Sanjay Jha, *University of New South Wales, Australia*

CODING TRADEOFFS FOR REDUCED ENERGY CONSUMPTION IN SENSOR NETWORKS

Michele Zorzi, *Univ. Ferrara, Italy*; Ramesh Rao, *Uc San Diego, Usa*

DISTRIBUTED AND ENERGY EFFICIENT SELF-ORGANIZATION FOR ON-OFF WIRELESS SENSOR NETWORKS

Liang Zhao, Qilian Liang, *U.T.-Arlington, U.S.*

A PRIORITY-BASED MULTI-PATH ROUTING PROTOCOL FOR SENSOR NETWORKS

Yuzhe Liu, *National University of Singapore, Singapore*; Winston Seah, *Institute for Infocomm Research, Singapore*

ENERGY OPTIMIZATION IN MULTIHOP WIRELESS EMBEDDED AND SENSOR NETWORKS

Zach Shelby, Carlos Pomalaza-Raez, Jussi Haapola, *CWC, Finland*

SESSION: Multiple Access Techniques (2)

Monday (September 6th): 14h 30m – 16h 10m

BLIND SPEECH USER INTERFERENCE CANCELLATION FOR HIGH SPEED
DOWNLINK PACKET ACCESS

Haifeng Wang, Jorma Lilleberg, *NOKIA, Finland*

VIRTUALLY-FIFO BACK-OFF SCHEME FOR COLLISION RESOLUTION IN
WIRELESS NETWORKS

Chih-Peng Li, *National Sun Yat-Sen University, Taiwan., Taiwan*

TO READ TRANSMITTER-ONLY RFID TAGS WITH CONFIDENCE

Bin Zhen, Mamoru Kobayashi, Masashi Shimizu, *NTT Network Innovation Lab, Japan*

PERFORMANCE ANALYSIS OF MULTICELL S-ALOHA DS-CDMA OVER
NAKAGAMI FADING CHANNELS WITH POWER CONTROL ERROR

Loren Carrasco, Guillem Femenias, *UIB, Spain*

SUPPLEMENTAL CODE CHANNELS PERFORMANCE FOR HIGH DATA-RATE
USERS IN THE FORWARD LINK BURST-MODE OF A CDMA
MICROCELLULAR SYSTEM

Jose Ernesto Rojas Lima, Jaime Pedro Abarca Reyna, Domingo Lara Rodriguez,
CINVESTAV IPN, Mexico

SESSION: Ad-Hoc Networks (2)

Monday (September 6th): 14h 30m – 16h 10m

VERTEX-LINKED INFRASTRUCTURE FOR AD HOC NETWORKS

Victor Li, *University of Hong Kong, China*

-INVITED PAPER-

APPROXIMATING MAXIMAL CLIQUES IN AD-HOC NETWORKS

Rajarshi Gupta, Jean Walrand, *University of California, Berkeley, USA*

ADAPT: A MEDIA ACCESS CONTROL PROTOCOL FOR MOBILE AD HOC NETWORKS USING ADAPTIVE ARRAY ANTENNAS

Thrasyvoulos Spyropoulos, Cauligi Raghavendra, *University of Southern California, USA*

ADAPTIVE ROLE SWITCHING PROTOCOLS FOR IMPROVING SCATTERNET PERFORMANCE IN BLUETOOTH RADIO NETWORKS

Chih-Yung Chang, Kuei-Ping Shih, Shih-Chieh Lee, Chih-Hsiung Tseng, *Tamkang University, Taiwan*

HYBRID TURBO FEC/ARQ SYSTEMS AND DISTRIBUTED SPACE-TIME CODING FOR COOPERATIVE TRANSMISSION IN THE DOWNLINK

Adrian Agustin, Josep Vidal, Meritxell Lamarca, Eduard Calvo, Olga Muñoz, *UPC, Spain*

SESSION: Antenna and RF Subsystem (2)

Monday (September 6th): 14h 30m – 16h 10m

**MINIATURIZATION TECHNIQUES FOR LOGARITHMICALLY PERIODIC
PLANAR-ANTENNAS**

Oliver Klemp, Micha Schultz, Hermann Eul, *Universität Hannover, Fachgebiet
Hochfrequenztechnik und Funksysteme, Germany*

**COMPACT TRIPLE-BAND DOUBLE U-SLOTTED PLANAR INVERTED-F
ANTENNA**

Tiago Gandara, Custódio Peixeiro, *Instituto de Telecomunicações, Instituto Superior
Técnico, Portugal*

**COMBINED SPIRAL-DISCONE BROADBAND ANTENNA FOR INDOOR
APPLICATIONS**

Lukasz Januszkiewicz, Slawomir Hausman, *Technical University of Lodz, Poland*

MATCHING NETWORK FOR A SPATIAL DIVERSITY ANTENNA SYSTEM

Stanislas Dossche, Jordi Romeu, Sebastian Blanch, *Universitat Politècnica de
Catalunya, Spain*

**MEAN EFFECTIVE GAIN OF USER EQUIPMENT ANTENNAS IN DOUBLE
DIRECTIONAL CHANNELS**

Andres Alayon Glazunov, *TeliaSonera Sweden, Mobile Networks R&D, Sweden*

SESSION: Coding, Modulation and Equalization (2)

Monday (September 6th): 14h 30m – 16h 10m

**IMPACT OF NEAR SHANNON-LIMIT CODES ON WIRELESS
COMMUNICATIONS TECHNOLOGY**

Mustafa Eroz, Lin-Nan Lee, Feng-Wen Sun, *Hughes Network Systems, USA*
-INVITED PAPER-

**ITERATIVE INTERFERENCE CANCELLATION AND DECODING FOR
CONVOLUTIONAL CODED PRE-TRANSFORMED COMMUNICATION
SYSTEMS**

Yan Wu, Yuan Li, Sumei Sun, *Institute for Infocomm Research, Singapore*

**CONVOLUTIONAL SELF-DOUBLY ORTHOGONAL CODES AND THEIR
ITERATIVE THRESHOLD DECODING**

Christian Cardinal, David Haccoun, *École Polytechnique de Montreal, Canada*

REDUCED COMPLEXITY MIMO TURBO EQUALIZATION FOR STTRC-CODES

Nenad Veselinovic, Tadashi Matsumoto, *Centre for Wireless Communications, Univ. of
Oulu, Finland*

**REDUCED COMPLEXITY LIST SINGLE-WRONG-TURN (SWT) VITERBI
DECODING ALGORITHM**

Laolu Lijofi, *Icera Inc., United Kingdom*; David Cooper, Bahadir Canpolat, *Panasonic
Mobile Communications Development of Europe Limited (PMCDE), United Kingdom*

SESSION: RADIO RESOURCE MANAGEMENT (1)

Monday (September 6th): 14h 30m – 16h 10m

DYNAMIC ENHANCEMENT AND OPTIMAL UTILIZATION OF CDMA NETWORKS

Joseph Shapira, *Comm&Sens Ltd., Israel*

-INVITED PAPER-

NULLS PREALLOCATION IN DISTRIBUTED DRA FOR MULTICELL SDMA PACKET ACCESS NETWORKS

Riccardo Veronesi, Velio Tralli, *University of Ferrara, Italy*

QUALITY OF SERVICE IN SPECTRUM POOLING SYSTEMS

Timo Weiss, Marcus Spiering, Friedrich Jondral, *Universitaet Karlsruhe (TH), Germany*

IMPACT OF HANDOVER BLOCKING ON CONTROL LOAD, CAPACITY AND COVERAGE OF W-CDMA DOWNLINK

Mikio Iwamura, Hamid Aghvami, *Centre for Telecommunications Research, King's College London, United Kingdom*

DESIGN AND EVALUATION OF A LINK ADAPTATION ALGORITHM FOR ENHANCED VIDEO SERVICE PROVISION WITHIN MOBILE RADIO ENVIRONMENTS

Javier Gozalvez, Miguel López-Benítez, *University Miguel Hernández, Signal Theory and Communications Division, Spain*; Oscar Lázaro, *Institute for Multimedia, Communications & Computing (IMCO2), Universidad Politécnica de Valencia, Spain*; Javier Evangelio, *University Miguel Hernández, Signal Theory and Communications Division, Spain*

SESSION: MIMO (2)

Monday (September 6th): 14h 30m – 16h 10m

A DISTRIBUTED MIMO SCHEME FOR OPEN AREAS AND URBAN STREET MICROCELLS

Jose-Maria Molina-Garcia-Pardo, Domingo Pardo-Quiles, Jose-Victor Rodriguez, Leandro Juan-Llacer, *UPCT, Spain*

ROBUSTNESS OF SPACE-TIME CODES IN THE PRESENCE OF CHANNEL ESTIMATION ERRORS IN OFDM SYSTEMS

Diao Zhifeng, Shen Dongxu, Victor O. K. Li, *Dept of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong, China*

RANDOM BEAMFORMING FOR MIMO SYSTEMS WITH MULTIUSER DIVERSITY

Ying-Chang Liang, *Institute for Infocomm Research, Singapore*; R Zhang, *Stanford University, USA*

EXPERIMENTAL AND ANALYTICAL INVESTIGATION OF MIMO CHANNEL CAPACITY IN AN INDOOR LINE-OF-SIGHT (LOS) ENVIRONMENT

Hai Yeow Eugene Chua, Kei Sakaguchi, Kiyomichi Araki, *Tokyo Institute of Technology, Japan*

CHANNEL ESTIMATION FOR SPACE-TIME BLOCK CODES IN FREQUENCY-FLAT CHANNELS

Nikolai Nefedov, *Nokia Research Center / HUT, Finland*

SESSION: WLAN (3)

Monday (September 6th): 16h 30m – 18h 10m

PERFORMANCE ANALYSIS OF CRTP IN IEEE 802.11 NETWORK

Zhenhua Xiao, Tejinder S. Randahawa, Steve Hardy, *Simon Fraser University, Canada*

**A PRIORITY CONTROL METHOD FOR WIRELESS MULTI-HOP ACCESS
USING IEEE 802.11 DCF MECHANISM**

Kenichi Kawamura, Yasuhiko Inoue, Shuji Kubota, *NTT access network service systems laboratories, Japan*

**IMPROVING FAIRNESS AND THROUGHPUT FOR VOICE TRAFFIC IN 802.11e
EDCA**

Carla Fabiana Chiasserini, Claudio Casetti, *Politecnico di Torino, Italy*

**A COMMON FPGA BASED SYNCHRONIZER ARCHITECTURE FOR
HIPERLAN/2 AND IEEE 802.11a WLAN SYSTEMS**

M^aJosé Canet Subiela, Vicenç Almenar, Javier Valls, Eduardo Rodríguez, *Universidad Politécnica De Valencia, Spain*, Felip Vicedo, *Universidad Miguel Hernández De Elche, Spain*

**AUTOMATIC CHANNEL ALLOCATION FOR SMALL WIRELESS LOCAL AREA
NETWORKS USING GRAPH COLOURING ALGORITHM APPROACH**

Janne Riihijärvi, Petri Mähönen, Marina Petrova, *Aachen University, Germany*

SESSION: Multiple Access Techniques (3)

Monday (September 6th): 16h 30m – 18h 10m

**LOCATION BASED ADAPTIVE SUB-BAND ALLOCATION FOR MULTI
CARRIER MULTIPLE ACCESS SYSTEMS**

Elena Costa, *Siemens AG, Germany*; Peter Trifonov, *St.Petersburg State Polytechnic
University, Russia*; Alessio Filippi, Egon Schulz, *Siemens AG, Germany*

**PERFORMANCE OF MULTIUSER DIVERSITY IN THE PRESENCE OF
FEEDBACK ERRORS**

Jyri Hämäläinen, *Nokia Networks, Finland*; Risto Wichman, *Helsinki University Of
Technology, Finland*

**EFFECT OF TIME DIVERSITY IN HYBRID ARQ CONSIDERING SPACE AND
PATH DIVERSITY FOR VSF-OFCDM DOWNLINK BROADBAND WIRELESS
ACCESS**

Nobuhiko Miki, Hiroyuki Atarashi, Mamoru Sawahashi, *IP Radio Network
Development Department, NTT DoCoMo, Inc., Japan*

OPTIMAL RANDOM ACCESS IN NETWORKS WITH TWO-WAY TRAFFIC

Eitan Altman, *INRIA, France*; Vivek Borkar, *TIFR, India*; Arzad Kherani, *INRIA,
France*

SOME EXTENSIONS TO SYNCHRONOUS O/O SYSTEMS

Frederik Vanhaverbeke, Marc Moeneclaey, *Ghent University, Belgium*

SESSION: Ad-Hoc Networks (3)

Monday (September 6th): 16h 30m – 18h 10m

AD HOC WIRELESS NETWORKS WITH MOBILE BACKBONES

Izhak Rubin, Arash Behzad, Huei-Jiun Ju, Runhe Zhang, Xiaolong Huang, Yichen Liu, Rima Khalaf, *UCLA, USA*

-INVITED PAPER-

E2WTRP: AN ENERGY-EFFICIENT WIRELESS TOKEN RING PROTOCOL

Zhenhua Deng, Yan Lu, Wenbo Wang, Chunjiang Wang, *Center for Wireless Communications, Beijing University of Posts and Telecommunications, China*

INTEGRATED IP MULTICAST IN MOBILE AD HOC NETWORKS WITH MULTIPLE ATTACHMENTS TO WIRED IP NETWORKS

Pedro M. Ruiz, Antonio F. Gomez-Skarmeta, *University of Murcia, Spain*

ANALYSIS OF DISTRIBUTED ROUTE SELECTION SCHEME IN WIRELESS AD HOC NETWORKS

Koji Yamamoto, Susumu Yoshida, *Graduate School of Informatics, Kyoto University Japan*

A CROSS-LAYER DESIGN FOR AD HOC WIRELESS NETWORKS WITH SMART ANTENNAS AND QOS SUPPORT

Imanol Martinez, Jon Altuna, *Mondragon Unibertsitatea Spain*

SESSION: Antenna and RF Subsystem (3)**Monday (September 6th)**: 16h 30m – 18h 10m**ANTENNA EFFECTS ON THE CAPACITY OF MIMO COMMUNICATION SYSTEMS IN RAYLEIGH CHANNELS**Efstratios Skafidas, *Bandspeed Inc. USA*; Robin Evans, *University of Melbourne Australia***INVESTIGATION OF PLANAR ANTENNAS WITH PHOTOVOLTAIC SOLAR CELLS FOR MOBILE COMMUNICATIONS**Norbert Henze, Martin Weitz, Henning Fruechting, *University of Kassel, Germany*; Christian Bendel, Joerg Kirchhof, *ISET e.V., Germany*; Pascal Hofmann, *DaimlerChrysler AG, Germany***COMPARISON OF MEG AND TRPG OF PRACTICAL ANTENNAS**Andres Alayon Glazunov, *TeliaSonera Sweden, Mobile Networks R&D, Sweden*; Ermin Pasalic, *AMC Centurion, Sweden***COMPACT MULTI-PROBE ANTENNA TEST STATION FOR RAPID TESTING OF ANTENNAS AND WIRELESS TERMINALS**Luc Duchesne, Philippe Garreau, Nicolas Robic, Arnaud Gandois, *SATIMO, France*; Per Olaf Iversen, *SATIMO, United States*; Gianni Barone *SATIMO, Italy***NOVEL APPROACH FOR DIVERSITY AND MIMO ANTENNAS AT SMALL MOBILE PLATTFORMS**Heinz Chaloupka, Xin Wang, *University of Wuppertal, Germany*

SESSION: RADIO RESOURCE MANAGEMENT (2)**Monday (September 6th): 16h 30m – 18h 10m****DOWNLINK RESOURCE ALLOCATION FOR MULTISERVICE CDMA NETWORKS**Emmanuelle Vivier, *ISEP, France*; Michel Terre, Bernard Fino, *CNAM, France***DYNAMIC RADIO RESOURCE MANAGEMENT IN GSM/GPRS USING SCALABLE RESOURCE ALLOCATION TECHNIQUE**Seok Y Tang, Shyamalie Thilakawardana, Rahim Tafazolli, *Centre For Communication Systems Research, United Kingdom***EXTRACTING THE CHANNEL ALLOCATION INFORMATION IN A SPECTRUM POOLING SYSTEM EXPLOITING CYCLOSTATIONARITY**Menguc Oner, *University of Karlsruhe, Institut fur Nachrichtentechnik, Germany*; Friedrich Jondral, *University of Karlsruhe, Institut fur Nachrichtentechnik, Germany***DATA SERVICE PERFORMANCE ANALYSIS IN GPRS SYSTEMS**Majid Ghaderi, Raouf Boutaba, *University of Waterloo, Canada***ESTIMATING POSITION AND VELOCITY OF MOBILE TERMINALS IN A MICROCELLULAR NETWORK USING AN ADAPTIVE LINEAR REGRESSION SETUP**Marco Porretta, Paolo Nepa, Giuliano Manara, Filippo Giannetti, *Department of Information Engineering University of Pisa, Italy*; Mischa Dohler, Ben Allen, Hamid Aghvami, *Centre for Telecommunications Research (CTR) King's College London, UK*

SESSION: Coding, Modulation and Equalization (3)**Monday (September 6th): 16h 30m – 18h 10m****PARTIALLY CLIPPING (PC) METHOD FOR THE PEAK-TO-AVERAGE POWER RATIO (PAPR) REDUCTION IN OFDM**

Marc Deumal, Carles Vilella, Joan Lluís Pijoan, Pau Bergada, *E.T.S.E.E.I. La Salle (Ramon Llull University), Spain*

THE ROLE OF VIRTUAL NOISE IN UNCONSTRAINED FREQUENCY DOMAIN EQUALIZATION

Maurizio Magarini, Arnaldo Spalvieri, *Politecnico di Milano, Italy*

EQUALIZATION AND CHANNEL ESTIMATION FOR OFDM SYSTEMS IN TIME-VARYING MULTIPATH CHANNELS

Chi Kuo, *Wireless Communication Lab. Chunghwa Telecom Laboratories, Taiwan*; Jin-Fu Chang, *Department of Electrical Engineering, National Chi Nan University, Taiwan*

DECISION FEEDBACK EQUALIZATION IN THE CONTEXT OF ENHANCED HIGH RATE MOBILE COMMUNICATIONS SYSTEMS - BASED ON THE CONCEPT OF SC/FDE

Harald Witschnig, *University of Linz, Austria*; Robert Weigel, *University of Erlangen-Nuremberg, Germany*

AN ITERATIVE METHOD FOR NON-LINEAR CHANNEL EQUALIZATION IN OFDM SYSTEMS

Natalia Ermolova, *Helsinki University of Technology, Finland*; Nikolai Nefedov, *Nokia / HUT, Finland*; Sven-Gustav Haggman, *Helsinki University of Technology, Finland*

SESSION: UMTS (3)

Monday (September 6th): 16h 30m – 18h 10m

**CROSS-LAYER PERFORMANCE IN CELLULAR WCDMA/3G NETWORKS:
MODELLING AND ANALYSIS**

Ekram Hossain, *University of Manitoba, Canada*; Vijay Bhargava, *University of British
Columbia, Canada*

-INVITED PAPER-

PERFORMANCE OF UMTS TO GSM HANDOVER ALGORITHMS

Delphine Lugara, Joël Tartiere, Laurent Girard, *FRANCE TELECOM R&D, France*

**A COEXISTENCE STUDY OF HIGHER CHIP RATE UTRA-TDD AND FDD
SYSTEMS IN MACRO CELL ENVIRONMENT**

Shin Horng Wong, *IPWireless, United Kingdom*

ASSIGNMENT OF MULTIPLE OVSF CODES AT THE DOWNLINK IN WCDMA

Angelos Rouskas, Iraklis Athanasakis, *Dep. of Information and Communication
Systems Eng. - University of the Aegean, Greece*

FORWARD LINK CAPACITY ANALYSIS OF CDMA SYSTEMS

Margarita Ruiz García, Juan Manuel Romero Jerez, Francisco Bravo Encinas,
Concepción Tellez Labao, *University of Málaga, Spain*

SESSION: MIMO (3)

Monday (September 6th): 16h 30m – 18h 10m

ADAPTIVE BIT AND POWER ALLOCATION ALGORITHM IN V-BLAST SYSTEM

Xingle Feng, Shihua Zhu, Linjun Wu, *School of Electronics and Information Engineering, Xi'an Jiaotong University, China*

PERFORMANCE ANALYSIS OF SPACE-TIME BLOCK CODING WITH ADAPTIVE MODULATION

Héctor Carrasco, Javier Fonollosa, José Antonio Delgado-Penín, *Universitat Politècnica de Catalunya, Spain*

MIMO CHANNEL ESTIMATION IN SPATIALLY CORRELATED ENVIRONMENTS

Yen-Chih Chen, Yu T. Su, *Department of Communication Engineering, National Chiao Tung University, Taiwan*

PRECODING OF ORTHOGONAL STBC WITH CHANNEL COVARIANCE FEEDBACK FOR MINIMUM ERROR PROBABILITY

Yi Zhao, Raviraj Adve, Teng Joon Lim, *University of Toronto, Canada*

EFFECT OF CHANNEL ESTIMATION ERROR ON THE PERFORMANCE OF SVD-BASED MIMO COMMUNICATION SYSTEMS

Alejandro Cano Gutiérrez, *UPC-MIT, Spain*; Milica Stojanovic, *MIT, USA*; Josep Vidal, *UPC, Spain*

POSTER: 4G or beyond 3G systems**Monday (September 6th): 16h 30m – 18h 10m****OPTIMAL POWER ALLOCATION FOR NON-REGENERATIVE RELAYING
SYSTEM BASED ON STBC**Zhang Jingmei, Shao Chunju, Wang Ying, Zhang Ping, *Wireless Technologies
Innovation Labs, BUPT, P.R.China***GENERATION OF PERFECT ORTHOGONAL COMPLEMENTARY CODES FOR
THEIR APPLICATIONS IN INTERFERENCE-FREE CDMA SYSTEMS**Hsiao-Hwa Chen, Hsin-Wei Chiu, *Institute of Communications Engineering, National
Sun Yat-Sen University, Taiwan***PERFORMANCE ANALYSIS OF VARIABLE BIT RATE MULTICLASS
SERVICES IN THE DOWNLINK OF A DYNAMIC COMPLETE PARTITIONING
ROUND-ROBIN CARRIER-HOPPING MULTIRATE MULTI-CARRIER DS-CDMA
SYSTEM**Tung Chong Wong, *Institute for Infocomm Research, Singapore*; Jon W. Mark,
University of Waterloo, Canada; Kee Chaing Chua, *National University of Singapore,
Singapore***CAPACITY ANALYSIS FOR A POWER CONTROLLED UWB INDOOR SYSTEM**
Romeo Giuliano, *RadioLabs, Italy*; Franco Mazzenga, *University of Rome Tor Vergata,
Italy***CELLULAR CDMA CAPACITY IMPROVEMENT USING AD HOC RELAYING**
Dongmei Zhao, Terence Todd, *McMaster University, Canada***IMPACT OF TIMING ERROR ON BER PERFORMANCE OF TDD PRE-
EQUALIZED OFDM SYSTEMS**Liu Dawei, *National Key Laboratory of Communication, UESTC, China***AN EFFICIENT BLIND ADAPTIVE RECEIVER BASED ON PARALLEL
INTERFERENCE CANCELLATION FOR ASYNCHRONOUS DS-CDMA
SYSTEMS**Min Li, Walaa Hamouda, *Concordia University, Canada***WAVELET BASED CHANNEL MODEL FOR OFDM SYSTEMS**
Emmanuel Jaffrot, *ENSTA, France***COMPARISON BETWEEN RAKE AND FREQUENCY DOMAIN DETECTORS IN
ULTRA-WIDEBAND INDOOR COMMUNICATIONS**Simone Morosi, Tiziano Bianchi, *University di Firenze, Italy***WISE: ENERGY-EFFICIENT INTERFACE SELECTION ON VERTICAL
HANDOFF BETWEEN 3G NETWORKS AND WLANS**Minji Nam, Nakjung Choi, Yongho Seok, *Seoul National University, Korea*

MOBILITY-AWARE WEB PREFETCHING OVER HETEROGENEOUS WIRELESS NETWORKS

Stephen Drew, Ben Liang, *University of Toronto, Canada*

A MULTISLOT-INTERLEAVED TURBO-CODED MC-CDMA/TDD UPLINK SYSTEM WITH PRE-EQUALIZATION USING POLYNOMIAL FITTING AND EXTENSION FOR UPLINK CHANNEL ESTIMATION

Moon Il Lee, Seong Keun Oh, Myung Hoon Sunwoo, *School of Electrical and Computer Engineering, Ajou University, KOREA*

MC-CDMA IN THE UPLINK: A TRANSMISSION SCHEME WHICH TOLERATES FREQUENCY OFFSETS AND FREQUENCY SELECTIVE CHANNELS

Wei Zhang, Jürgen Lindner, *Department of Information Technology, University of Ulm,, Germany*

CELLULAR MULTICODE CDMA CAPACITY WITH SIR-BASED POWER CONTROL IN A MULTIPATH FADING ENVIRONMENT

Concepción Téllez Labao, Juan Manuel Romero Jerez, Margarita Ruiz García, *University of Málaga, Spain*

DESIGN AND IMPLEMENTATION OF ALL IP ARCHITECTURE FOR BEYOND 3G SYSTEM

Cui Hongyan, *WTI of BUPT, China, R.P.China*; Cai Yunlong, *EE of Tsinghua University 100084, R.P.China*; Wang Ying, *WTI Labs of BUPT, China, R.P.China*; Zhang Ping, *WTI Labs of BUPT, P.R.China*

POSITION LOCATION AND DIRECTION ASSISTED HANDOFF ALGORITHM IN DWCS

Zheng Li, Yu Wang, Weiling Wu, *School of Information Engineering, Beijing University of Posts and Telecommunications, China*

DETECTION PERFORMANCE OF PILOT-AIDED BASE STATION ACQUISITION IN OFDM BASED CELLULAR NETWORKS

Jungmin Ro, Seokhyun Yoon, Youngkwon Cho, *Samsung electronics, South Korea*

REDUCTION OF DOPPLER-INDUCED ICI BY INTERFERENCE PREDICTION

Yen-Hui Yeh, *MediaTek Inc, Taiwan*; Sau-Gee Chen, *National Chiao Tung University, Taiwan*

ON THE PERFORMANCE OF A NOVEL MULTI-HOP PACKET RELAYING AD HOC CELLULAR SYSTEM

Jie Yang, Zhaoyang Zhang, Zhenzhou Tang, *Zhejiang University, P.R.China*

PERSPECTIVE OF THE NEXT GENERATION MOBILE COMMUNICATIONS AND SERVICES

Seungwan Ryu, Donsung Oh, Gyungchul Sihm, Kichul Han, *ETRI, Korea*

SESSION: WLAN (4)

Tuesday (September 7th): 9h 00m – 10h 40m

**IMPACT OF INTER-CELL INTERFERENCE IN A IEEE 802.11A NETWORK
WITH OVERLAPPING CELLS**

Jean-Christophe Dunat, Lucas Elicegui, *Motorola Labs, France*; Christian Bonnet,
Institut Eurecom, France

**PERFORMANCE EVALUATION OF QOS CONTROL SCHEME THAT USES
BACK PRESSURE TRAFFIC CONTROL**

Fusao Nuno, Ichihiko Toyoda, Masahiro Umehira, *NTT Network Innovation
Laboratories, NTT Corporation, Japan*

**REDUCED COMPLEXITY DECORELLATING DETECTOR FOR MULTICODE
SYSTEM**

Rafal Krenz, *Poznan University of Technology, Poland*

BEHAVIOR BASED STRATEGIES IN RADIO RESOURCE SHARING GAMES

Lars Berlemann, Bernhard Walke, *Aachen University, ComNets, Germany*; Stefan
Mangold, *Philips Research Laboratories, USA*

**WI-FI (IEEE802.11) AND BLUETOOTH COEXISTENCE:ISSUES AND
SOLUTIONS**

Lior Ophir, Yigal Bitran, Itay Sherman, *Texas Instruments Inc., Israel*

SESSION: 4G or Beyond (1)

Tuesday (September 7th): 9h 00m – 10h 40m

PERFORMANCE EVALUATION OF A FIXED RELAY CONCEPT FOR NEXT
GENERATION WIRELESS SYSTEMS

Norbert Esseling, *T-Mobile, Germany*; Bernhard Walke, Ralf Pabst, *Aachen University, Germany*

-INVITED PAPER-

A FRAMEWORK FOR THE EVALUATION OF CONVERGED MOBILE AND
WIRELESS COMMUNICATION SYSTEMS

Jorge Aguiar, Luis M. Correia, *IT/IST, Technical University of Lisbon, Portugal*

INTEGRATION OF MULTI-RADIO ACCESS IN A BEYOND 3G NETWORK

Joachim Sachs, Henning Wiemann, *Ericsson Research, Germany*; Johan Lundsjö, Per Magnusson, *Ericsson Research, Sweden*

QOS AND MICROMOBILITY COUPLING INTEGRATED WITH UMTS

Luis Angel Galindo, *Telefonica Moviles España, Spain*; Pedro M. Ruiz, *Universidad de Murcia, Spain*

ADHOC RELAY NETWORK PLANNING FOR IMPROVING CELLULAR DATA
COVERAGE

Hung-yu Wei, *Columbia University, USA*; Samrat Ganguly, Rauf Izmailov, *NEC Labs America, USA*

SESSION: Multiple Access Techniques (4)

Tuesday (September 7th): 9h 00m – 10h 40m

CONNECTION ADMISSION CONTROL CAC FOR A MIXED BURST/PACKET
SERVICE BASED ON SERVICE DIFFERENTIATION IN A LOW EARTH ORBIT
LEO SATELLITE CONSTELLATION

Rima Abi Fadel, *Ecole Supérieure d'Ingénieurs de Beyrouth, Lebanon*; Samir Tohmé,
Université de Versailles Saint Quentin, France

DYNAMIC AND EFFICIENT TUNING OF IEEE 802.11 FOR MULTIMEDIA
APPLICATIONS

Fethi Filali, *Institut Eurécom, France*

POINTER CONTROLLED POWER SAVING MEDIUM ACCESS CONTROL
PROTOCOL FOR IEEE 802.11 INFRASTRUCTURE NETWORKS

Ghazanfar Safdar, William Scanlon, *Queen's University, Belfast, United Kingdom*

A NEW LINEAR HYBRID MULTIUSER DETECTOR FOR CDMA SYSTEMS

Abdelouahab Bentrchia, Asrar Sheikh, Azzedine Zerguine, *King Fahd University of
Petroleum and Minerals, Saudi Arabia*

BLIND ADAPTIVE DECISION FEEDBACK DS-CDMA RECEIVERS FOR
FREQUENCY SELECTIVE CHANNELS

Rodrigo de Lamare, Raimundo Sampaio-Neto, *CETUC/PUC-RIO, Brazil*

SESSION: Ad-Hoc Networks (4)

Tuesday (September 7th): 9h 00m – 10h 40m

ARCHITECTURE AND PROTOTYPING OF AN 802.11-BASED SELF-ORGANIZING HIERARCHICAL AD-HOC WIRELESS NETWORK (SOHAN)

Sachin Ganu, Lalit Raju, Bhaskar Anepu, S Zhao, I Sesar, D Raychaudhuri, *WINLAB, Rutgers University, USA*

-INVITED PAPER-

TRANSPARENT INFLUENCE OF PATH SELECTION IN HETEROGENEOUS AD HOC NETWORKS

Ian Chakeres, Elizabeth Belding-Royer, *University of California Santa Barbara, USA*

AN ALGORITHM FOR ENERGY-EFFICIENT BLUETOOTH SCATTERNET FORMATION AND MAINTENANCE

Canan Pamuk, Ezhan Karasan, *Bilkent University, Turkey*

ON BLUETOOTH PERFORMANCE WITH DIVERSITY RECEPTION IN FADING CHANNELS

Gianni Pasolini, Andrea Conti, Davide Dardari, Barbara Mavi Masini, *IEIIT-BO/CNR, Univ. of Bologna, Italy*

PERFORMANCE OF A MULTI-HOPS CONFIGURATION WITH 802.11: FROM SIMULATION TO EXPERIMENTATION

Dominique Dhoutaut, *INSA de Lyon, France*; Isabelle Guérin Lassous, *INRIA, France*

SESSION: Smart Adaptive Antennas (1)

Tuesday (September 7th): 9h 00m – 10h 40m

MULTIPLE ANTENNA SYSTEMS: FRONTIER OF WIRELESS ACCESS

Enrico Del Re, L. Pierucci, *University of Florence, Italy*

-INVITED PAPER-

A DOWNLINK PATTERN OPTIMISATION ALGORITHM FOR A SMART ANTENNA IN AN INDOOR INFRASTRUCTURE WLAN

Karim Nasr, Fumie Costen, Stephen Barton, *The University of Manchester, UK*

OUTAGE PROBABILITY WITH MAXIMAL RATIO COMBINING IN THE PRESENCE OF MULTIPLE INTERFERERS UNDER RAYLEIGH AND NAKAGAMI FADING CHANNELS

Juan P. Peña-Martín, Juan M. Romero-Jeréz, *University of Malaga, Electronic Technology Dpt., Spain*

DOA ESTIMATION USING ARRAY ANTENNA WITH ARBITRARY GEOMETRY

Qiaowei Yuan, *Intelligent Cosmos Research Institute Co. Ltd, Japan*; Qiang Chen, Kunio Sawaya, *Tohoku University, Japan*

LINEAR SPACE-TIME PRECODING FOR OFDM SYSTEMS BASED ON LONG-TERM CSI

Katsutoshi Kusume, *DoCoMo Communications Laboratories Europe GmbH, Germany*

SESSION: Coding, Modulation and Equalization (4)

Tuesday (September 7th): 9h 00m – 10h 40m

CONVERGENCE OF ITERATIVE DECODING WITHOUT CHANNEL
ESTIMATION

Lutz Lampe, Robert Schober, *University of British Columbia, Canada*

NONCOHERENT REDUCED STATE DIFFERENTIAL SEQUENCE DETECTION
OF CONTINUOUS PHASE MODULATION

Jinhua Sun, Jiandong Li, Lijun Jin, *State Key Lab. of Integrated Service Networks, Xidian University, China*; Xiaojun Wu, *Department of Computer Science and Engineering, Northwestern Polytechnical University, China*

ITERATIVE DECODING NETWORKS WITH ITERATIVELY DATA
ELIMINATING SDD AND EM BASED CHANNEL STATE ESTIMATOR

Jan Sykora, *Czech Technical University in Prague, Czech Republic*; Alister Burr, *University of York, U.K.*

A REDUCED-STATE SISO ALGORITHM FOR MULTILEVEL MODULATION IN
TURBO EQUALIZATION

Maurizio Magarini, Luca Reggiani, Arnaldo Spalvieri, *Politecnico di Milano, Italy*

PERFORMANCE OF TURBO CODED PARTIAL RESPONSE QUATERNARY
CPM OVER CORRELATED FADING CHANNELS

Manjeet Singh, *Institute for Infocomm Research, Singapore*

SESSION: RADIO RESOURCE MANAGEMENT (3)

Tuesday (September 7th): 9h 00m – 10h 40m

ON SOME PROPERTIES OF THE PROPORTIONAL FAIR SCHEDULING POLICY

Dan Avidor, Sayandev Mukherjee, Jonathan Ling, Constantinos Papadias, *Bell Laboratories, Lucent Technologies, USA*

COMPENSATION OF INTERFERENCE NON-RECIPROCITY IN ADAPTIVE TDD SYSTEMS

Antti Tölli, Marian Codreanu, *CWC, University of Oulu, Finland*

ADAPTIVE NEURAL-FUZZY CONTROLLERS FOR DYNAMIC CHANNEL BORROWING IN WIRELESS CELLULAR NETWORKS

Wang Yao-Tien, *Department of Information Management Kai-Nan University, Taiwan*

A SIMULATION TOOL FOR PERFORMANCE ASSESSMENT OF REALISTIC MOBILE

Alberto Zanella, Luca Zuliani, Roberto Verdone, Oreste Andrisano, *IEIIT-BO/CNR, DEIS UNiversity of Bologna, Italy*; Alessandro Marazzi, Roberto Moretti, Ettore Agrati, *Siemens Mobile Comm., Italy*

OPTIMAL HARQ PROCEDURES FOR REVERSE LINK

Jian Gu, Sen Nie, Daqing Wang, Xiangguang Che, *Nokia Research Center, Nokia China Investment Co., China*

SESSION: MIMO (4)

Tuesday (September 7th): 9h 00m – 10h 40m

SPATIAL MULTIPLEXED CODED MC-CDMA WITH ITERATIVE RECEIVER

Pierre-Jean Bouvet, Vincent Le Nir, Maryline H  lard, Rodolphe Le Gouable, *France Telecom R&D, France*

CHANNEL FEEDBACK QUANTIZATION METHODS FOR MISO AND MIMO SYSTEMS

June Chul Roh, Bhaskar D. Rao, *University of California, San Diego, USA*

A REDUCED-COMPLEXITY SOFT-INPUT SOFT-OUTPUT DETECTION SCHEME FOR WIDEBAND MIMO CHANNELS

Yvo de Jong, Tricia Willink, *Communications Research Centre, Canada*

CHOICE OF INTERLEAVERS FOR SPACE-DIVERSITY CODES IN HIPERMAN AND 802.16A BROADBAND WIRELESS SYSTEMS

Roshano Roberts, Reza Hoshyar, M. Sadegh Fazel, Rahim Tafazolli, *University of Surrey, United Kingdom*

TURBO PIC AND ANTENNA DIVERSITY FOR DS-CDMA COMMUNICATIONS IN WIRELESS BLOCK FADING CHANNEL

Simone Morosi, Enrico Del Re, Ottavio Gremigni, *University of Firenze, Italy*

POSTER: Ad-hoc networks**Tuesday (September 7th)**: 9h 00m – 10h 40m**MESH VS. POINT-TO-MULTIPOINT TOPOLOGY: A COVERAGE AND SPECTRUM EFFICIENCY COMPARISON**Siamäk Naghian, *Nokia, Finland***CLOCK DRIFT REDUCTION FOR RELATIVE TIME SLOT TDMA-BASED SENSOR NETWORKS**Randolph Tjoa, *National University of Singapore, Singapore*; Kim Loon Chee, Sivaprasad P. K., S. V. Rao, Joo Ghee Lim, *Institute for Infocomm Research, Singapore***A SIMPLE PERFORMANCE ANALYSIS OF SENSOR LOCALIZATION WITH TWO BEACONS**Gianluca Mazzini, *University of Ferrara, Italy***A NOVEL CLUSTER-BASED LOCATION ROUTING ALGORITHM FOR INTER-VEHICULAR COMMUNICATION**Raul Aquino, Robert Edwards, *University of Sheffield, United Kingdom***TOPOLOGY MANAGEMENT IN DENSE MANET**Zhao Chun-xiao, *University, China***AN ACCESS-BASED ENERGY EFFICIENT CLUSTERING PROTOCOL FOR WIRELESS SENSOR NETWORK**Xiang Hong, Qilian Liang, *University of Texas at Arlington, United States***INFLUENCE OF TRANSMISSION POWER CONTROL ON THE TRANSPORT CAPACITY OF WIRELESS MULTIHOP NETWORKS**Michael Gerharz, Christian de Waal, Matthias Frank, Peter Martini, *Institute of Computer Science IV, University of Bonn, Germany***SPLAST: A NOVEL APPROACH FOR MULTICASTING IN MOBILE WIRELESS AD HOC NETWORKS**Yehuda Ben-Shimol, Amit Dvir, Michael Segal, *Department of Communication Systems Engineering Ben Gurion University, ISRAEL***A DYNAMIC HIERARCHICAL RADIO RESOURCE ALLOCATION SCHEME FOR MOBILE AD-HOC NETWORKS**Oliver Holland, Qi Fan, Hamid Aghvami, *King's College London, United Kingdom***MULTICAST ROUTING FOR AD HOC NETWORKS WITH A QUALITY OF SERVICE SCHEME FOR SESSION EFFICIENCY**Kaan Bür, Cem Ersoy, *Bogaziçi University, Turkey*

A BATTERY AWARE MEDIUM ACCESS CONTROL (BAMAC) PROTOCOL FOR AD HOC WIRELESS NETWORKS

Jayashree Subramanian, Manoj B. S., C. Siva Ram Murthy, *Indian Institute of Technology Madras, India*

END-TO-END RELIABLE EVENT TRANSFER IN WIRELESS SENSOR NETWORKS

Nurcan Tezcan, *Bogazici University, Turkey*; Erdal Cayirci, *Istanbul Technical University, Turkey*; M. Ufuk Caglayan, *Bogazici University, Turkey*

FINDING SENSING COVERAGE AND BREACH PATHS IN SURVEILLANCE WIRELESS SENSOR NETWORKS

Ertan Onur, Cem Ersoy, Hakan Delic, *Bogazici University, Turkey*

THROUGHPUT ANALYSIS FOR WIRELESS MULTI-HOP CSMA

Athanasios Gkelias, Mischa Dohler, Hamid Aghvami, *Centre for Telecommunication Research, King's College London, UK*

DOWNLINK POWER CONTROL AND BEAMFORMING FOR A COOPERATIVE WIRELESS SYSTEM

Gema Piñero, Carmen Botella, Alberto González, María De Diego, Narcis Cardona, *Universidad Politécnica de Valencia (IMCO2), Spain*

AD-HOC WIRELESS NETWORK BASED ON THE UWB TECHNOLOGY

Vasily Aristarhov, Andrei Gainulin, Andrei Kalinin, Vladimir Krylov, Roman Levchenko, Andrei Pluzhnikov, Victor Shkunov, *Nizhny Novgorod State Technical University, Russia*

DISTRIBUTED SCHEDULING FOR MOBILE AD HOC NETWORKS - A NOVEL APPROACH

Jimmi Gronkvist, *Swedish Defence Research Agency, Sweden*

ALARM MODEL SPECIFICATION AND DYNAMIC MULTI-LAYER SELF-HEALING MECHANISMS FOR COMMERCIAL AND AD-HOC WIRELESS NETWORKS

Latha Kant, Wai Chen, *Telcordia Technologies, USA*

MODELING EFFECTS OF CO-CHANNEL INTERFERENCE OVER PERFORMANCE IN SINGLE-SLAVE BLUETOOTH PICONETS

Daniel Cascado, Jose Luis Sevillano, Saturnino Vicente, Fernando Diaz, Gabriel Jimenez, Alejandro Linares, Anton Civit, *University of Seville, Spain*

SESSION: 4G or Beyond (2)**Tuesday (September 7th)**: 11h 00m – 12h 40m

COMPANDING SYSTEM WITH TIME CLUSTERING

Osamu Takyu, *Department of Information and Computer Science, Keio University, Japan*; Tomoaki Ohtsuki, *Department of Electrical Engineering, Tokyo University of Science, Japan*; Masao Nakagawa, *Department of Information and Computer Science, Keio University, Japan*

SIMULATIVE EVALUATION OF LOCATION AIDDED HANDOVER IN WIRELESS HETEROGENEOUS SYSTEMS

Stephan Goebbels, Matthias Siebert, Marc Schinnenburg, *Comnets, Germany*; Matthias Lott, *Siemens, Germany*

ADVANCED POSITIONING AND LOCATION BASED SERVICES IN 4G MOBILE-IP RADIO ACCESS NETWORKS

Alberto Montilla Bravo, *Motorola España S.A., Spain*; Jose Ignacio Moreno, Ignacio Soto, *Universidad Carlos III de Madrid, Spain*

MEASUREMENT AND USAGE OF POWER CONSUMPTION PARAMETERS OF WIRELESS INTERFACES IN ENERGY-AWARE MULTI-SERVICE MOBILE TERMINALS

Khaled Mahmud, Masugi Inoue, Homare Murakami, Mikio Hasegawa, *Communications Research Laboratory, Japan*; Hiroyuki Morikawa, *University of Tokyo, Japan*

LOW COMPLEXITY ENERGY EFFICIENT JOINT TRANSMISSION FOR OFDM MULTIUSER DOWNLINKS

Tobias Weber, Michael Meurer, *Technical University of Kaiserslautern, Germany*; Wolfgang Zirwas, *Siemens AG, Germany*

SESSION: Application and Services

Tuesday (September 7th): 11h 00m – 12h 40m

TOPICS IN PROBABILISTIC LOCATION ESTIMATION IN WIRELESS NETWORKS

Henry Tirri, Petri Kontkanen, Petri Myllymaki, Teemu Roos, Kimmo Valtonen,
Hannes Wettig, *University of Helsinki, Finland*

-INVITED PAPER-

A NOVEL HYBRID PARAMETERS BASED KALMAN LOCATION ESTIMATOR IN CELLULAR NETWORKS

Xiong Jinyu, Zhu Zhongliang, *Key Lab. of Southwest Electrics and Telecommunications, China*

SERVICE CREATION WITH A COMMON LANGUAGE

Oliver Rocholl, *Vodafone Group RnD – D, Germany*

A FLEXIBLE LOCATION-CONTEXT REPRESENTATION

Filipe Meneses, Adriano Moreira, *University of Minho, Portugal*

PROTOTYPE OF CONTEXT-BASED ADAPTIVE COMMUNICATION SYSTEM ON SEAMLESS NETWORKING PLATFORM

Masugi Inoue, Khaled Mahmud, Homare Murakami, Mikio Hasegawa, *National Institute of Information and Communications Technology, Japan*; Hiroyuki Morikawa, *The University of Tokyo, Japan*

SESSION: Mobile Internet (1)

Tuesday (September 7th): 11h 00m – 12h 40m

PROXY SERVICES FOR THE MOBILE INTERNET

Victor Leung, *University of British Columbia, Canada*

-INVITED PAPER-

AN EMPIRICAL 3-D USER SATISFACTION MODEL IN WIRELESS DATA NETWORKS

Milosh Ivanovich, Paul Fitzpatrick, Michael Beresford, Anthony Saliba, *Telstra Research Laboratories, Australia*

A NETWORK-BASED SOLUTION FOR TCP IN WIRELESS SYSTEMS WITH OPPORTUNISTIC SCHEDULING

Yi Wu, Zhisheng Niu, Junli Zheng, *Department of Electronic Engineering, Tsinghua University, China*

L7-MOBILITY : A FRAMEWORK FOR HANDLING MOBILITY AT THE APPLICATION LEVEL

Jean Tourrilhes, *HP-Labs, USA*

TWO-WAY REGISTRATION: A FAST HANDOFF SCHEME FOR IPV4 MACRO-MOBILITY MANAGEMENT

Ji Zhang, David Pearce, Tim Tozer, *University of York, United Kingdom*

SESSION: OFDM (1)**Tuesday (September 7th)**: 11h 00m – 12h 40mSYMBOL SPREADING FOR ULTRA WIDEBAND SYSTEMS BASED ON
MULTIBAND OFDMIyappan Ramachandran, *Dept. of EE, Univ. of Washington, U. S. A*; Philip Orlik, Yves-Paul Nakache, Andreas Molisch, Jinyun Zhang, *Mitsubishi Electric Research Labs, U. S. A*A NEW SYMBOL TIMING SYNCHRONIZATION FOR OFDM BASED WLANS
UNDER MULTIPATH FADING CHANNELSLiang Zhou, Miyoshi Saito, *Advanced Mobile Phones DIV, Mobile Phones Group, Fujitsu Limited., Japan*COMBINATION OF ADAPTIVE BEAMFORMING AND ADAPTIVE LOADING
FOR OFDM PACKET TRANSMISSIONMing Lei, Hiroshi Harada, Hiromitsu Wakana, *National Institute of Information and Communications Technology (NICT) of Japan, Japan*; Ping Zhang, *Beijing University of Posts and Telecommunications, China*A UNIFORM POWER AND CONSTELLATION SIZE BIT-LOADING SCHEME
FOR OFDM BASED WLAN SYSTEMSDavide Dardari, *DEIS - University of Bologna, Italy*SER EVALUATION OF OFDM WITH NYQUIST RATE AND OVERSAMPLED
CLIPPING USING ESTIMATED CHANNEL INFORMATIONBingyang Wu, Shixin Chen, *National Mobile Communications Research Lab., China*; Haifeng Wang, *Nokia Mobile Phones, Finland*; Ming Chen, *National Mobile Communications Research Lab., China*

SESSION: Smart Adaptive Antennas (2)**Tuesday (September 7th)**: 11h 00m – 12h 40m

FIELD EXPERIMENTS ON ADAPTIVE ANTENNA ARRAY-BEAM FORMING
WITH SIMULTANEOUS PATH TIMING AND ITS DOA ESTIMATIONS
EMPLOYING DIRECTIVE BEAM RECEPTION FOR BROADBAND CDMA
PACKET ACCESS IN REVERSE LINK

Takashi Kataoka, Hidekazu Taoka, Kenichi Higuchi, Mamoru Sawahashi, *NTT
DoCoMo, Inc., Japan*

INTEGRATION, MEASUREMENTS AND CALIBRATION OF A UMTS SMART
ANTENNA

Manuel Sierra-Perez, Miguel Calvo, Leandro de Haro, Manuel Sierra-Castañer, Ramón
Martínez, Laura Garcia, Alberto Martínez, Francisco Javier García-Madrid, José Luis
Masa, *Universidad Politécnica de Madrid, Spain*

THE EFFECT OF AN ELECTROMAGNETIC BAND-GAP STRUCTURE ON A
PIFA ANTENNA ARRAY

Luiz Kretly, Alexandre Silva, *UNICAMP, Brazil*

A NOVEL BLIND ADAPTIVE BEAMFORMING ALGORITHM FOR SMART
ANTENNA IN MC-CDMA UPLINK SYSTEM

Kiattisak Maichalernnukul, Somchai Jitapunkul, *Chulalongkorn University, Thailand*

ON CLOSED-LOOP TRANSMIT BEAMFORMING WITH SIMPLE BEAM-
CONTROL COMMANDS

Wookwon Lee, Brian Sepko, *University of Arkansas, USA*

SESSION: WLAN (5)

Tuesday (September 7th): 11h 00m – 12h 40m

MULTI-RATE PERFORMANCE INDEX FOR WIRELESS LANS

Hector Velayos, Gunnar Karlsson, *KTH, Royal Institute of Technology, Sweden*

UML 2.0 IMPLEMENTATION OF AN EMBEDDED WLAN PROTOCOL

Petri Kukkala, Väinö Helminen, Marko Hännikäinen, Timo D. Hämäläinen, *Tampere University of Technology, Finland*

TURBO DETECTION AND DECODING FOR SINGLE-CARRIER BLOCK TRANSMISSION SYSTEMS

Dongming Wang, Jingyu Hua, Xiqi Gao, Xiaohu You, *National Mobile Communication Research Lab., China*; Martin Weckerle, Elena Costa, *Siemens AG, ICM N PG SP RC FR, Germany*

A FRAMEWORK FOR INTERFERENCE ANALYSIS OF HETEROGENEOUS RADIO NETWORKS

Andre Stranne, Ove Edfors, *Lund University, Sweden*; Bengt-Arne Molin, *Axis Communications AB, Sweden*

PARALLEL FFT WITH CORDIC FOR ULTRA WIDE BAND

Guoping Zhang, Francois Chin, *Institute for Infocomm Research, Singapore*

SESSION: Coding, Modulation and Equalization (5)**Tuesday (September 7th): 11h 00m – 12h 40m****FIELD EXPERIMENTS ON LOW-RATE TURBO CODING AND SOFT-DECISION
DECODING FOR BROADBAND PACKET DS-CDMA WIRELESS ACCESS IN
REVERSE LINK**

Shingo Suwa, Nobuhiko Miki, Motohiro Tanno, Kenichi Higuchi, Mamoru Sawahashi,
NTT DoCoMo, Inc., Japan

**INCREASING CAPACITY IN A FEC CODED DS-CDMA SYSTEM OVER
FREQUENCY-SELECTIVE CHANNELS**

Martin Luna, *Universidad Autonoma de San Luis Potosi, Mexico*; Emad Al-Susa,
University of Manchester Institute of Science and Technology, UK

**PERFORMANCE COMPARISON OF PARALLEL CONCATENATED CODES
USING EXIT CHART PREDICTION**

Alexander Golitschek Edler von Elbwart, Joachim Loehr, Eiko Seidel, *Panasonic
European Laboratories GmbH, Germany*

**ITERATIVE DECODING ALGORITHM AND TERMINATING CRITERIA FOR
INTER-BLOCK PERMUTED TURBO CODES**

Yan-Xiu Zheng, Yu T. Su, *Dept. of Commun. Eng. NCTU, Taiwan*

**AN IMPROVED SOVA ALGORITHM FOR TURBO CODES OVER AWGN AND
FADING CHANNELS**

Chuan Xiu Huang, Ali Ghayeb, *Concordia University, Canada*

SESSION: RADIO RESOURCE MANAGEMENT (4)

Tuesday (September 7th): 11h 00m – 12h 40m

PERFORMANCE OF LINK ADMISSION CONTROL IN A WCDMA SYSTEM
WITH HS-DSCH AND MIXED SERVICES

Kimmo Hiltunen, *Ericsson Research, Finland*; Magnus Lundevall, Sverker Magnusson,
Ericsson Research, Sweden

ENHANCING BLUETOOTH PERFORMANCE IN INTERFERENCE
ENVIRONMENTS VIA CHANNEL-STATE-DEPENDENT PACKET SCHEDULING
WITH ADAPTIVE PACKET SELECTION

Chen-Han Shih, Kuochen Wang, Ae-Yun Liu, *National Chiao Tung University, Taiwan*

A PLAYOUT-BUFFER-SENSITIVE TIME SLOT SCHEDULING FOR
INTEGRATION OF REAL-TIME AND ELASTIC TRAFFIC IN WIRELESS
NETWORKS

Masaki Fukushima, Hajime Nakamura, Shinichi Nomoto, *KDDI R&D Laboratories
Inc., Japan*

SI2R-DMA: SELF-ORGANIZING INTER- AND INTRA-SITE INTERFERENCE
REDUCTION DMA FOR GERAN NETWORKS

Carsten Ball, Kolio Ivanov, Robert Müllner, *Siemens AG, Germany*; Hubert Winkler,
Siemens AG, Austria

DYNAMIC CHANNEL ASSIGNMENT FOR SYSTEMS WITH CONSTRAINED
DOWNLINK POWER CONTROL

Joseph Kang, Krishna Balachandran, *Bell Labs, Lucent Technologies, USA*

SESSION: MIMO (5)**Tuesday (September 7th)**: 11h 00m – 12h 40m**ANALYSIS OF BER PERFORMANCES USING CHANNEL MATRIX
EIGENVALUE IN MIMO SYSTEMS UNDER RAYLEIGH AND RICIAN FADING
CHANNELS**

Yutaka Murakami, Kiyotaka Kobayashi, Masayuki Orihashi, Takashi Matsuoka,
Matsushita Electric Industrial Co., Ltd., Japan

NON-GRAY LABELING OF ERROR-PRONE FEEDBACK SIGNALS

Olav Tirkkonen, *Nokia Research Center, Finland*

**PERFORMANCE OF ALAMOUTI SCHEME WITH TRANSMIT ANTENNA
SELECTION**

Zhuo Chen, *the University of Sydney, Australia*; Jinhong Yuan, *the University of New
South Wales, Australia*; Branka Vucetic, Zhendong Zhou, *the University of Sydney,
Australia*

**LIKELIHOOD FUNCTION FOR QRM-MLD SUITABLE FOR SOFT-DECISION
TURBO DECODING AND ITS PERFORMANCE FOR OFCDM MIMO
MULTIPLEXING IN MULTIPATH FADING CHANNEL**

Kenichi Higuchi, Hiroyuki Kawai, Noriyuki Maeda, Mamoru Sawahashi, *NTT
DoCoMo, Inc., Japan*; Takumi Itoh, Yoshikazu Kakura, Akihisa Ushirokawa, *NEC
Corporation, Japan*; Hiroyuki Seki, *Fujitsu Laboratories Ltd., Japan*

**TRANSMITTER AND RECEIVER DESIGNS FOR THE MIMO FADING
BROADCAST CHANNEL**

Roya Doostnejad, Teng Joon Lim, Elvino Sousa, *University of Toronto, Canada*

POSTER: Coding and Modulation**Tuesday (September 7th): 11h 00m – 12h 40m****A FREQUENCY OFFSET COMPENSATION METHOD FOR ULTRA-NARROWBAND DIGITAL WIRELESS MODEMS**

Young-Jun Chong, Sung-Jin You, Min-Soo Kang, Myung-Sun Song, *ETRI, Korea*;
Seung-Hyeub Oh, *Chungnam National University, Korea*

ROBUST NON DATA-AIDED FREQUENCY OFFSET ESTIMATION TECHNIQUE FOR OFDM SYSTEMS IN RAYLEIGH FADING CHANNELS

Arafat Al-Dweik, *Etisalat College of Engineering, UAE*

AN EFFICIENT ESTIMATOR FOR OFDM INTEGER FREQUENCY OFFSET SYNCHRONIZATION

Chen Chen, Jiandong Li, Linjing Zhao, *Broadband Wireless Communications Laboratory, Information Science Institute, State Key Laboratory of Integrated Service Networks, Xidian University, China*

COMPUTATION OF THE FREE DISTANCE AND LOW WEIGHT DISTRIBUTION OF TURBO CODES WITH CONVOLUTIONAL INTERLEAVERS

Sina Vafi, Tadeusz Wysocki, *University of Wollongong, Australia*

THRESHOLD CONTROLLING SCHEME FOR ADAPTIVE MODULATION AND CODING SYSTEM

Daisuke Takeda, *Toshiba R&D Center, Japan*; Yuk Chow, Paul Strauch, *Toshiba Research Europe Ltd., United Kingdom*; Hiroshi Tsurumi, *Toshiba R&D Center, Japan*

AN EQUIVALENCE PRINCIPLE FOR SEPARABLE CPM SIGNALS

Gianfranco Cariolaro, Antonio M. Cipriano, *Universita' di Padova, Italy*

AN ITERATIVE ADAPTIVE RECEIVER DESIGN USING THE MULTI-LAYER RLS ALGORITHM WITH APPLICATIONS TO LAYERED SPACE-TIME CODED

Joseph Chueh, Hayoung Yang, Branka Vucetic, *University of Sydney, Australia*

PERFORMANCE OF 2D FFT MODULATED SIGNAL OVER MULTIPATH FADING CHANNELS

Kainan Zhou, *National University of Singapore, Singapore*; Yong Huat Chew, *Institute for Infocomm Research, A*STAR, Singapore*

PERFORMANCE ANALYSIS OF ITERATIVE DETECTION FOR PRE-TRANSFORMED OFDM

Chin Keong Ho, Zhongding Lei, Sumei Sun, Yan Wu, *Institute for Infocomm Research, Singapore*

ITERATIVE CHANNEL ESTIMATION FOR TURBO EQUALIZATION

Huiheng Mai, Alister Burr, Simon Hirst, *Dept of Electronics, Univ. of York, UK*

A VARIABLE REED-SOLOMON DECODER USING SEPARATE CLOCKS IN ITS PIPELINED STEPS

Moon Kyou Song, Min Han Kong, *Wonkwang University, KOREA*; Hee Sun Won, *ETRI, Korea*

EFFECT OF THE PHASE ERROR, QUADRATURE ERROR, AND I-Q GAIN MISMATCH ON SYMBOL ERROR PROBABILITY FOR AN M-PSK SYSTEM IN FADING CHANNELS

Seungkeun Park, *ETRI, South Korea*; Byung Wook Lee, Sung Ho Cho, *Hanyang University, South Korea*

ERROR ANALYSIS OF THE CMOS BASED SOFT GATE FOR ANALOG TURBO DECODER

Kalle Ruttik, *Communication Laboratory HUT, Finland*

PERFORMANCE EVALUATION OF LINEAR TURBO RECEIVERS USING ANALYTICAL EXIT FUNCTIONS

Cesar Hermosilla, *UTFSM, Valparaiso., Chile*; Leszek Szczecinski, *INRS-EMT, Canada*

CO-CHANNEL INTERFERENCE SUPPRESSION WITH MODEL SIMPLIFICATION IN TDMA SYSTEMS

Jiang Li, Qilian Liang, Michael T. Manry, *University of Texas at Arlington, USA*

EQUALIZATION SCHEME FOR OFDM SYSTEMS IN LONG DELAY SPREAD CHANNELS

Heejung Yu, Myung-Soon Kim, Taehyun Jeon, Sok-Kyu Lee, *ETRI, Korea*

FUNCTIONAL STUDY OF FDD EQUALIZER IN THE CONTEXT OF TDD RECONFIGURATION

David Cibaud, *France Telecom, France*; Genevieve Jourdain, *LIS-INPG, France*; Marilyn Arnd, *France Telecom, France*

COMPLEXITY AND EFFICIENCY OF DATA DETECTION ALGORITHMS FOR TD-SCDMA

Jung-Lin Pan, Jaeyoung Kwak, Aykut Bultan, Yuejin Huang, Donald Grieco, *InterDigital Communications Corporation, USA*

VARIABLE PACKET SIZE ADAPTIVE MODULATION SR-ARQ SCHEME FOR RAYLEIGH FADING CHANNELS

Junli Wu, Xiaolin Hou, Changchuan Yin, Guangxin Yin, *Beijing University of Posts and Telecommunications, China*

SESSION: WLAN (6)

Tuesday (September 7th): 14h 30m – 16h 10m

COGNITIVE TRENDS IN MAKING: FUTURE OF NETWORKS

Petri Mahonen, *Aachen University, Germany*

-INVITED PAPER-

TRACKING OF MOVING WIRELESS LAN TERMINALS

Michael Wallbaum, *RWTH Aachen University, Germany*

**PERFORMANCE EVALUATION FOR IEEE802.11G HOT SPOT COVERAGE
USING SECTORISED ANTENNAS**

Arif Otyakmaz, Ulrich Fornefeld, Jelena Mirkovic, Daniel Schultz, Erik Weiss,
ComNets, Aachen University, Germany

**NOVEL ARCHITECTURE FOR RELIABLE H.26L VIDEO TRANSMISSION OVER
IEEE 802.11E**

Ksentini Adlen, *LICP, France*; Gueroui Abdelhak, *PRISM, France*; Naimi Mohamed,
LICP, France

**CAPTURE EFFECT IN WIRELESS LANS WITH RAKE RECEPTION OF
DSSS/DPSK SIGNALS**

Zoran Hadzi-Velkov, Boris Spasenovski, *Ss. Cyril and Methodius University, Faculty of
Electrical Engineering, Macedonia*

SESSION: 4G or Beyond (3)**Tuesday (September 7th)**: 14h 30m – 16h 10m**NON-REAL TIME CONTENT SCHEDULING IN WIRELESS DATA NETWORKS**

Samrat Ganguly, Nan Tu, *NEC Laboratories America, USA*; Mainak Chatterjee, *University of Central Florida, USA*; Rauf Izmailov, *NEC Laboratories America, USA*

A COMBINED APPROACH OF SCHEDULING AND POWER DISTRIBUTION STRATEGIES FOR MIMO MOBILE COMMUNICATIONS SYSTEM

Xinsheng Zhao, Tao Ju, *National Mobile Communications Research Lab., Southeast University, China*; Hui Li, *3,4,5Information & Communications Mobile Network, Siemens AG, Munich*

SYSTEM LEVEL PERFORMANCE OF OFDMA FORWARD LINK WITH PROPORTIONAL FAIR SCHEDULING

Seokhyun Yoon, Youngkwon Cho, Chan-Byoung Chae, Hyunwoo Lee, *Samsung Electronics, Co. Ltd, South Korea*

EFFICIENT RESOURCE ALLOCATION FOR STATISTICAL QOS ASSURANCES IN HDR BASED WIRELESS PACKET DATA

Ferit Ozan Akgul, Oguz Sunay, *Koc University, Turkey*

RMP: RECONFIGURATION MANAGEMENT PLANE FOR THE SUPPORT OF POLICY-BASED NETWORK RECONFIGURATION

Nancy Alonistioti, Aristotelis Glentis, Fotis Foukalas, Alexandros Kaloxylos, *UoA, Greece*

SESSION: Mobile Internet (2)**Tuesday (September 7th)**: 14h 30m – 16h 10m**FAST-HANDOFF SCHEMES FOR APPLICATION LAYER MOBILITY
MANAGEMENT**

Ashutosh Dutta, Sunil Madhani, Wai Chen, *Telcordia Technologies, USA*; Onur Altintas, *Toyota InfoTechnology Center, USA*; Henning Schulzrinne, *Columbia University, USA*

**PERFORMANCE ANALYSIS OF IP PAGING AND POWER SAVE MODE IN IP-
BASED MOBILE NETWORKS**

Yun Won Chung, Jee Hyeon Na, Yeong Jin Kim, *Electronics and Telecommunications Research Institute, Korea*; Ho-Shin Cho, *Kyungpook National University, Korea*

**MODELING USER MOBILITY FOR RELIABLE PACKET DELIVERY IN MOBILE
IP NETWORKS**

Jiunn Ru Lai, Wanjiun Liao, *National Taiwan University, Taiwan*

**CROSS-LAYER ANALYSIS OF WIRELESS TCP/ARQ SYSTEMS OVER
CORRELATED CHANNELS**

Yi Wu, Zhisheng Niu, Junli Zheng, *Department of Electronic Engineering, Tsinghua University,, China*

**A COST-AWARE CONTROL SCHEME FOR EFFICIENT AUTHENTICATION IN
WIRELESS NETWORKS**

Wei Liang, *NC State University, United States*; Wenye Wang, *IEEE Member, United States*

SESSION: OFDM (2)

Tuesday (September 7th): 14h 30m – 16h 10m

ON LINEAR PREDISTORTION TECHNIQUES FOR SINGLE-CARRIER AND OFDM SD/CDMA SYSTEMS

Christoph Degen, Lars Brühl, *IHF, RWTH Aachen University, Germany*

NONLINEAR DISTORTION CANCELLATION IN OFDM SYSTEMS USING AN ADAPTIVE LINC STRUCTURE

Paloma Garcia, Alfonso Ortega, Jesús de Mingo, Antonio Valdovinos, *University of Zaragoza, Spain*

JOINT ADAPTIVE TRANSMITTER/RECEIVER IQ IMBALANCE CORRECTION FOR OFDM SYSTEMS

Jian Lin, Ernest Tsui, *Intel Corporation, USA*

LATTICE-REDUCTION-AIDED RECEIVERS FOR MIMO-OFDM IN SPATIAL MULTIPLEXING SYSTEMS

Inaki Berenguer, Jaime Adeane, Ian Wassell, *University of Cambridge, UK*; Xiaodong Wang, *Columbia University, United States*

PERFORMANCE AND IMPLEMENTATION COMPLEXITY OF RECEIVER ALGORITHMS FOR MIMO-OFDM BASED WIRELESS LAN SYSTEMS

Julian Penketh, Manel Collados, *Philips Research, The Netherlands*

SESSION: Wireless Propagation (1)

Tuesday (September 7th): 14h 30m – 16h 10m

**MULTI-ENVIRONMENT RADIO PREDICTIONS INVOLVING AN IN-BUILDING
WLAN NETWORK AND OUTDOOR UMTS BASE STATIONS**

Yves Lostanlen, Yoann Corre, *SIRADEL, France*

**CHANGES IN THE DIFFERENCE BETWEEN RECEIVED LEVELS OF SECTOR
ANTENNA**

Koshiro Kitao, Shinichi Ichitsubo, *NTT DoCoMo, Inc., Japan*

**PARTIAL DECISION ORDERED SUCCESSIVE INTERFERENCE
CANCELLATION DETECTION ALGORITHM FOR VBLAST**

Yang Lan, *National Mobile Communication Research Lab., Southeast University, Nanjing, China, China*; Shixin Cheng, *National Mobile Communication Research Lab., Southeast University, China*; Haifeng Wang, *Nokia Mobile Phones, Elektriikkate 3, PL 50,90571, Oulu, Finland*

FHSS TRANSCEIVER OVER WIRELESS INDOOR OPTICAL CHANNELS

Francisco Delgado, José Rabadán, Santiago Pérez, Rafael Pérez-Jiménez, *ETSI Telecomunicacion-ULPGC, Spain*

**COMPARISON OF MIMO CHANNELS FROM MULTIPATH PARAMETER
EXTRACTION AND DIRECT CHANNEL MEASUREMENTS**

Arindam Pal, Chor Min Tan, Mark A. Beach, *University of Bristol, United Kingdom*

SESSION: Coding, Modulation and Equalization (6)

Tuesday (September 7th): 14h 30m – 16h 10m

PERFORMANCE OF ADAPTIVE EQUALIZERS FOR SYSTEMS WITH CODE-MULTIPLEXED PILOT

Ivan Fernandez, Srikant Jayaraman, *Qualcomm Inc, USA*

PERFORMANCE OF LDPC BASED TURBO EQUALIZATION FOR SPATIAL MULTIPLEXING

Takaaki Zakoji, Hidekazu Murata, Kiyomichi Araki, *Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan*

SINR MAXIMIZATION APPROACH FOR PARTIAL EQUALIZATION IN OFDM SYSTEMS

Hossein Zamiri-jafarian, Subbarayan Pasupathy, *University of Toronto, Canada*

FREQUENCY-DOMAIN SC/MMSE ITERATIVE EQUALIZER WITH MF APPROXIMATION IN LDPC-CODED MIMO TRANSMISSIONS

Toshiaki Koike, *Kyoto University, Japan*; Hidekazu Murata, *Tokyo Institute of Technology, Japan*; Susumu Yoshida, *Kyoto University, Japan*

ADAPTIVE SCHEME FOR JOINT FREQUENCY AND TIME OFFSET CORRECTION OVER OFDM SYSTEMS

Yeheskel Bar-Ness, Rubén Solá, *CCSPR, United States*

SESSION: RADIO RESOURCE MANAGEMENT (5)**Tuesday (September 7th)**: 14h 30m – 16h 10m**PERFORMANCE COMPARISON OF FRACTIONAL GUARD CHANNEL
POLICIES IN MOBILE CELLULAR NETWORKS**José Vázquez-Ávila, Felipe Cruz-Pérez, *CINVESTAV-IPN, Mexico*; Lauro Ortigoza-Guerrero, *WFI, USA***POWER CONTROL WITH OUTAGE PROBABILITY SPECIFICATIONS FOR
WIRELESS CELLULAR SYSTEMS IN Rician/Rician FADING CHANNELS**Chin Choy Chai, *Institute for Infocomm Research, Singapore*; Ying Lu, *National University of Singapore, Singapore*; Yong Huat Chew, Tjeng Thiang Tjhung, *Institute for Infocomm Research, Singapore***CHANNEL ALLOCATION AND HANDOVER FOR THE HSCSD SERVICE IN
SDMA SYSTEMS**Christian Hartmann, *Technische Universität München, Institute of Communication Networks, Germany***SELECTIVE LOAD SHARING FOR HANDOVER ADMISSION IN OVERLAPPING
COVERAGE**Ki-Dong Lee, *ETRI, Korea*; Deock Gil Oh, Ho-Jin Lee, *ETRI, Korea***IMPLEMENTATION OF A QOS MANAGEMENT MECHANISM TO SUPPORT
APPLIED ALGORITHMS ON AN IEEE 802.11 WLAN TEST-BED**Jose Luis Valenzuela, Marc Portoles, David Perez, *Universitat Politècnica de Catalunya, Spain*

SESSION: MIMO (6)

Tuesday (September 7th): 14h 30m – 16h 10m

BER PERFORMANCE OF SPACE-TIME BLOCK CODED MIMO SYSTEM IN THE PRESENCE OF INTERFERENCE

Zhuo Wu, Alister Burr, *Department of Electronics, University of York, UK*; Simon Hirst, *Communications Group, Department of Electronics, UK*

VARYING INTERLEAVE PATTERNS WITH ITERATIVE DECODING FOR IMPROVED PERFORMANCE IN MIMO SYSTEMS

Kiyotaka Kobayashi, Yutaka Murakami, Masayuki Orihashi, Takashi Matsuoka, *Matsushita Electric Industrial Co., Ltd., Japan*

IMPACT OF RF FRONT-END IMPAIRMENTS AND MOBILITY ON CHANNEL RECIPROCITY FOR CLOSED-LOOP MULTIPLE ANTENNA TECHNIQUES

Alexandre Ribeiro Dias, David Bateman, Karine Gosse, *Motorola Labs, France*

MIMO CAPACITY LOSS FOR REAL WORLD SIGNAL CONSTELLATIONS AND CHANNEL DEGRADATIONS

Gerhard Bauch, *DoCoMo Euro-Labs, Germany*

NOVEL REDUCED COMPLEXITY ALGORITHM BASED ON GROUP DETECTION IN MULTIPLE ANTENNA SYSTEMS

Tsuguhide Aoki, Hidehiro Matsuoka, Hiroki Shoki, *TOSHIBA, Japan*

POSTER: MIMO**Tuesday (September 7th)**: 14h 30m – 16h 10m**JOINT TIMING AND PILOT SYMBOL CHANNEL ESTIMATION FOR DIVERSITY RECEIVERS IN RAYLEIGH FADING CHANNELS**Pawel Dmochowski, Peter McLane, *Queen's University, Canada***ON THE CAPACITY OF SPECTRALLY OVERLAID MULTIPLE-SYMBOL-RATE SPACE-TIME BLOCK CODED MULTICARRIER CDMA SYSTEMS OVER FREQUENCY SELECTIVE RAYLEIGH FADING CHANNEL**Xiaoyu Hu, *Department of Electrical and Computer Engineering, National University of Singapore, Singapore*; Yong Huat Chew, *Institute for Infocomm Research, Singapore, Singapore***ON THE SEARCH FOR HIGH-RATE QUASI-ORTHOGONAL SPACE-TIME BLOCK CODE**Chau Yuen, Yong Liang Guan, *Nanyang Technological University, Singapore*; Tjeng Thieng Tjhung, *Institute for Infocomm Research, Singapore***ADAPTIVE RECEIVE ANTENNA SELECTION FOR SPACE-TIME BLOCK CODING UNDER CHANNEL ESTIMATION ERRORS**Kai Zhang, Zhisheng Niu, *Tsinghua University, China***EFFECT OF FADING CORRELATION ON CAPACITY OF DISTRIBUTED MIMO**Zhi Ni, *Beijing University of Posts and Telecommunications, China***REVERSE-ORDERED ITERATIVE DECODING SCHEME FOR COMBINING OF SPATIAL DIVERSITY AND MULTIPLEXING**Kwang Don Choe, *Anyang University, South Korea*; Byung Min Song, Sang Kyu Park, *Hanyang University, South Korea***PERFORMANCE ANALYSIS OF PROPORTIONAL FAIR UPLINK SCHEDULING WITH CHANNEL ESTIMATION ERROR IN MULTIPLE ANTENNAS SYSTEM**Meilong Jiang, Vincent K. N. Lau, *the University of Hong Kong, China***ANTENNA SELECTION FOR SPACE-TIME TRELLIS CODES IN FAST FADING**Abdollah Sanei, Ali Ghayeb, Yousef Shayan, *Concordia University, Canada*; Tolga Duman, *Arizona State University, USA***UNIFIED APPROACH TO SINGLE- AND MULTI-ANTENNA TURBO-TCM: UNION BOUND AND CONSTITUENT CODE OPTIMIZATION OVER AWGN AND FADING CHANNELS**Djordje Tujkovic, *Centre for Wireless Communications (CWC), University of Oulu, Finland*

CAPACITY STUDIES OF MIMO CHANNEL MODELS BASED ON THE
GEOMETRICAL ONE-RING SCATTERING MODELBjørn Olav Hogstad, Matthias Pätzold, *Agder University College, Norway*

PREDICTION FOR TIME-VARYING SVD SYSTEMS

Shane Spiteri, Guillaume Lebrun, Mike Faulkner, *Centre for Telecommunications and
MicroElectronics, Victoria University, Australia*A SUBSPACE-BASED CHANNEL MODEL FOR FREQUENCY SELECTIVE TIME
VARIANT MIMO CHANNELSGiovanni Del Galdo, Martin Haardt, Marko Milojevic, *Ilmenau University of
Technology, Germany*MULTIUSER DIVERSITY FOR MIMO BROADCAST AND MULTIPLE ACCESS
CHANNEL WITH LINEAR PRECODER AND RECEIVERXun Shao, Jinhong Yuan, Predrag Rapajic, *University of New South Wales, Australia*A NOVEL SIC-PIC ITERATIVE DETECTOR WITH TURBO CODE UNDER
MULTI-PATH RAYLEIGH FADING MIMO CHANNELHuiqiang Zhou, Shidong Zhou, Jing Wang, *Dept. of Electronic Engineering, Tsinghua
University, China*

AN IMPROVED TURBO-BLAST SYSTEM FOR QUASI-STATIC CHANNEL

Chen Qifan, Chen Ming, *Southeast University, National Mobile Communicatios
Research Lab, China*PERFORMANCE ANALYSIS OF THE MAXIMUM-SNR DESIGN IN RAYLEIGH
FADING MIMO CHANNELSJonathan Letessier, Philippe Rostaing, Gilles Burel, *LEST-UMR 6165 UBO, Brest*A SUBOPTIMAL DETECTION SCHEME FOR MIMO SYSTEMS WITH NON-
BINARY CONSTELLATIONSMaurizio Magarini, Arnaldo Spalvieri, *Politecnico di Milano, Italy*

SESSION: 4G or Beyond (4)

Tuesday (September 7th): 16h 30m – 17h 50m

**POWER ALLOCATION IN WIRELESS MULTIHOP NETWORKS WITH
APPLICATION TO VIRTUAL ANTENNA ARRAYS**

Zaher Dawy, Munich University of Technology, Germany

**EXPERIMENTS ON FAST SECTOR SELECTION WITH ENTIRE-BANDWIDTH
ASSIGNMENT IN FORWARD LINK FOR OFCDM BROADBAND PACKET
WIRELESS ACCESS**

Akihito Morimoto, Sadayuki Abeta, Mamoru Sawahashi, NTT DoCoMo, Inc., Japan

**IMPACT OF CODE ORTHOGONALITY, POWER CONTROL ERROR AND
SOURCE ACTIVITY ON THE CAPACITY OF MULTICAST TRANSMISSIONS IN
WCDMA**

Robert Rümmler, Imran Ashraf, A. Hamid Aghvami, King's College London, United Kingdom

ANALYSIS OF MC-CDM AND CYCLICALLY PREFIXED DS-CDM

Shinsuke Hara, Osaka University, Japan; Yoshitaka Hara, Mitsubishi Electric Co., France; Shigehiko Tsumura, Osaka University, Japan

SESSION: Software Radio (1)

Tuesday (September 7th): 16h 30m – 17h 50m

HALF-FRAME PIPELINING FOR MODULAR SOFTWARE DEFINED RADIO

Arnd-Ragnar Rhiemeier, Timo Weiss, Friedrich Jondral, *Universitaet Karlsruhe (TH), Germany*

DESIGN OF A NOVEL DIGITAL-IF RECEIVER BASED ON SOFTWARE RADIO

Yingwei Cui, Xiaolin Zhang, *Beijing University of Aeronautics and Astronautics, China*

EFFICIENT IMPLEMENTATION OF SHARPENED CIC DECIMATION FILTERS FOR SOFTWARE RADIO RECEIVERS

Goran Rajic, *Ericsson d.o.o., Croatia*; Hrvoje Babic, *University of Zagreb, FER, Croatia*

COMPENSATION TECHNIQUE FOR IMPAIRMENTS OF WIDEBAND QUADRATURE DEMODULATORS FOR DIRECT CONVERSION RECEIVERS

Munehiro Matsui, Tadao Nakagawa, Kiyoshi Kobayashi, Katsuhiko Araki, *NTT Network Innovation Laboratories, NTT corporation, Japan*

SESSION: OFDM (3)

Tuesday (September 7th): 16h 30m – 17h 50m

CHANNEL ESTIMATION FOR MIMO-OFDM WITH TRAINING OVERHEAD
TRADE-OFF

Christian Oberli, Babak Daneshrad, *University of California, Los Angeles, USA*

CHANNEL ESTIMATION FOR OFDM WITH CYCLIC DELAY DIVERSITY

Gunther Auer, *DoCoMo Euro-Labs, Germany*

PROPOSAL OF OFDM CHANNEL ESTIMATION METHOD USING DISCRETE
COSINE TRANSFORM

Hideo Kobayashi, Kazuo Mori, *Mie University, Japan*

ANTENNA SELECTION FOR MIMO-OFDM WLAN SYSTEMS

Manel Collados, *Philips Research, Netherlands*; Alexei Gorokhov, *Qualcomm Inc, USA*

SESSION: Wireless Propagation (2)**Tuesday (September 7th)**: 16h 30m – 17h 50m**A STOCHASTIC MODEL OF SPATIO-TEMPORALLY CORRELATED
NARROWBAND MIMO CHANNEL BASED ON INDOOR MEASUREMENT**

Hung Tuan Nguyen, Jørgen Bach Andersen, Gert Frølund Pedersen, *Department of
Communication Technology, Aalborg University, Denmark*

**A SPATIAL SIMULATION MODEL FOR SHADOW FADING PROCESSES IN
MOBILE RADIO CHANNELS**

Matthias Pätzold, Van Duc Nguyen, *Agder University College, Norway*

**STOCHASTIC MAXIMUM LIKELIHOOD METHOD FOR PROPAGATION
PARAMETER ESTIMATION**

Cassio Ribeiro, *Helsinki University of Technology / Federal University of Rio de
Janeiro, Finland / Brazil*; Esa Ollila, Visa Koivunen, *Helsinki University of Technology,
Finland*

**A DISCRETE MODEL FOR RADIOWAVE SCATTERING IN VEGETATION
SCREENS AT MILLIMETRIC WAVE FREQUENCIES**

Telmo Fernandes, Rafael Caldeirinha, *Polytechnic Institute of Leiria – ESTG / Institute
of Telecommunications, Portugal*; Juergen Richter, Miqdad Al-Nuaimi, *Radiowave
Propagation & System Design Research Unit, UNIV. OF GLAMORGAN, United
Kingdom*

SESSION: WLAN (7)**Tuesday (September 7th)**: 16h 30m – 17h 50m**A 16-BIT CORDIC ROTATOR FOR HIGH-SPEED WIRELESS LAN**

Alfonso Troya, Eckhard Grass, Milos Krstic, *IHP, Germany*; Koushik Maharatna, *University of Bristol, United Kingdom*; Swapna Banerjee, *IIT Kharagpur, India*

PNC CANDIDATE INQUIRY METHOD FOR PNC HANDOVER ON WPAN

HeonJu Jeong, SungHee Kim, DaeSik Kim, *ETRI, Korea*; Mooho Cho, *Gyeongju University, Korea*; JungTae Lee, *Pusan National University, Korea*

ACCURACY IMPROVEMENT ALGORITHMS FOR PREDICTION OF USER LOCATION USING RECEIVE SIGNAL STRENGTH INDICATION IN INFRASTRUCTURE WLANS

Tadhg P. Deasy, William G. Scanlon, *School of Electrical & Electronic Engineering, The Queens University Belfast, United Kingdom*

A NOVEL POSITIONING SYSTEM FOR STATIC LOCATION ESTIMATION EMPLOYING WLAN IN INDOOR ENVIRONMENT

Reetu Singh, Matteo Gandetto, Marco Guainazzo, Daniele Angiati, Carlo S. Regazzoni, *DIBE-University of Genova, Italy*

SESSION: RADIO RESOURCE MANAGEMENT (6)

Tuesday (September 7th): 16h 30m – 17h 50m

DESIGN AND EVALUATION OF COEXISTENCE MECHANISMS FOR
BLUETOOTH AND IEEE 802.11B SYSTEMS

Yu-Kwong Kwok, *The University of Hong Kong, China*

RESOURCE CONTROL FOR HYBRID CODE AND TIME DIVISION
SCHEDULING

Vasilios Siris, *Institute of Computer Science, FORTH, Greece*

ON DIMENSIONING UTRA-FDD DOWNLINK SHARED CHANNEL

Jordi Perez-Romero, Oriol Sallent, Ramon Agusti, *Universitat Politecnica de Catalunya (UPC), Spain*

LATENCY-AWARE AND ENERGY EFFICIENCY TRADEOFFS FOR WIRELESS
SENSOR NETWORKS

Xinsheng Xia, Qilian Liang, *U of Texas at Arlington, USA*

SESSION: Mobile multimedia (1)

Tuesday (September 7th): 16h 30m – 17h 50m

**SESSION INFORMATION BASED ADMISSION CONTROL STRATEGY FOR
STREAMING SERVICES OVER ALL-IP 3G NETWORKS**

David Viamonte, Anna Calveras, *Technical University of Catalonia, Spain*

**ENHANCED PACKET-BASED TRANSMISSION OF MULTI-RATE SIGNALS
OVER GERAN**

Günther Liebl, *Munich University of Technology, Germany*; Markus Kaendl, *Munich
University of Technology, Germany*; Wen Xu, *Siemens AG - Mobile Phones, Germany*

**RTCP FEEDBACK BASED TRANSMISSION RATE CONTROL FOR 3G
WIRELESS MULTIMEDIA STREAMING**

Nicola Baldo, *University of Ferrara, Italy*; Uwe Horn, Markus Kampmann, Frank
Hartung, *Ericsson Research, Germany*

**UDP AND TCP PERFORMANCE INVESTIGATION IN ENERGY EFFICIENT AD
HOC NETWORKS**

Federico Bertocchi, *University of Ferrara, Italy*; Alessandra Giovanardi, Gianluca
Mazzini, Michele Zorzi, *University of Ferrara, Italy*

SESSION: Coding, Modulation and Equalization (7)

Tuesday (September 7th): 16h 30m – 17h 50m

**CAPACITY LOWER BOUND FOR CHANNELS WITH A MEMORYLESS
NONLINEARITY**

Siegfried Grob, Jürgen Lindner, *University Of Ulm, Germany*

**CAPACITY OF MOBILE WIRELESS RADIO CHANNELS UNDER DIFFERENT
ADAPTIVE TRANSMISSION SCHEMES**

Adrian Kotelba, *VTT Electronics, Finland*

MULTIPLE SYMBOL DIFFERENTIAL DETECTION IN JAMMED FH SYSTEMS

Sami Koivu, *University of Oulu, Finland*; Sami Siltala, *VTT Electronics, Finland*; Jari
Iinatti, *University of Oulu, Finland*

ADAPTIVE TRANSFORM SCHEME TO REDUCE PAR OF AN OFDM SIGNAL

Kanagaratnam Sathananthan, *Monash University, Australia*; Chandra Athaudage,
University of Melbourne, Australia

SESSION: MIMO (7)

Tuesday (September 7th): 16h 30m – 17h 50m

**A FIXED RADIO SYSTEM USING MIMO CANCELLATION AND
EQUALIZATION AND ITS PERFORMANCE MODEL**

Mohsen Kavehrad, Haiping Wu, Sangwoo Lee, *The Pennsylvania State University, USA*

**A SYSTEM LEVEL EVALUATION OF MULTIPLE ANTENNA SCHEMES FOR
HIGH SPEED DOWNLINK PACKET ACCESS**

Adam Pollard, *Vodafone Group Research & Development, UK*; Markku Heikkilä, *Nokia Corporation - Technology Platforms, Finland*

**COMPARISON OF MULTIAN TENNA TECHNIQUES FOR HIGH-SPEED PACKET
COMMUNICATION**

Kari Majonen, Markku J. Heikkilä, *Nokia, Finland*

**QRM-MLD COMBINED WITH MMSE-BASED MULTIPATH INTERFERENCE
CANCELLER FOR MIMO MULTIPLEXING IN BROADBAND DS-CDMA**

Noriyuki Maeda, Kenichi Higuchi, Junichiro Kawamoto, Mamoru Sawahashi, *NTT DoCoMo, Inc., Japan*; Masayuki Kimata, Shousei Yoshida, *NEC Corporation, Japan*

POSTER: WLAN and Wireless IP**Tuesday (September 7th):** 16h 30m – 17h 50m**AMACA-A NEW MULTIPLE ACCESS COLLISION AVOIDANCE SCHEME FOR WIRELESS LANS**Kaveh Ghaboosi, Babak Khalaj, *Sharif University of Technology, Iran***SIP AND MOBILE IP INTEGRATION TO SUPPORT SEAMLESS MOBILITY**Sherali Zeadally, Farhan Siddiqui, Niveditha DeepakMavatoor, Pavneet Randhawa, *Wayne State University, USA***A STUDY OF SELF-ADAPTIVE TRANSMISSION FOR INTEGRATED VOICE AND DATA SERVICES OVER AN IEEE 802.11 WLAN**Changle Li, Jiandong Li, Xuelian Cai, *State Key Lab. of ISN, Information Science Inst., Broadband Wireless Communications Lab., Xidian University, China***CONGESTION CONTROL IN WIRELESS ENVIRONMENTS: EXPERIMENTAL ASSESSMENTS AND SIMULATION**Maurizio Casoni, Maria Luisa Merani, *Dept. of Information Engineering - Univ. of Modena and Reggio Emilia, Italy***ANALYSIS OF A FRAME SYNCHRONIZATION METHOD USING PERIODIC PREAMBLE FOR OFDM BASED WLANS**Ryan Pacheco, Dimitrios Hatzinakos, *University of Toronto, Canada***CN-TOAG: A NEW ALGORITHM FOR INDOOR GEOLOCATION**Muzaffer Kanaan, *Verizon Laboratories, USA*; Kaveh Pahlavan, *Worcester Polytechnic Institute, USA***COMMON PHASE ERROR DUE TO PHASE NOISE IN OFDM - ESTIMATION AND SUPPRESSION**Denis Petrovic, Wolfgang Rave, Gerhard Fettweis, *Vodafone Chair for Mobile Communications, Dresden University of Technology, Germany***GEO-PAGING: A NOVEL MULTICAST APPROACH TO IP PAGING DELIVERY**Rafael Vidal, Josep Paradells, *UPC, Spain***REDUCED-STATE SEQUENCE ESTIMATION FOR COMPLEMENTARY CODE KEYING**Christof Jonietz, Wolfgang H. Gerstacker, *Chair of Mobile Communications, University of Erlangen, Germany*; Robert Schober, *Dep. of Elect. and Comp. Eng., University of British Columbia, Canada***A CMOS FREQUENCY SYNTHESIZER WITH SELF-BIASING CURRENT SOURCE FOR A 5-GHZ WIRELESS LAN RECEIVER**Carlos Quemada, Jaizki Mendizabal, Jorge Presa, Iñigo Adin, Jon Legarda, *CEIT, Spain*; Guillermo Bistue, *TECNUN, Spain*

**A STATISTICAL ANALYSIS OF IP PACKET DELAY AND JITTER IN
CELLULAR NETWORKS**

Hubert Graja, Philip Perry, *Performance Engineering Laboratory, School of Electronic Engineering, Dublin City University, Ireland*; John Murphy, *Performance Engineering Laboratory, Computer Science Department, University College Dublin, Ireland*

REDUCING PACKET LOSS IN HIERARCHICAL MOBILE IPV6

Enrico Natalizio, Antonella Molinaro, Salvatore Marano, *DEIS- UNICAL, Italy*

**SATURATION THROUGHPUT ANALYSIS OF DIFFERENT BACKOFF
ALGORITHMS IN IEEE 802.11**

Ivan Vukovic, Natt Smavatkul, *Motorola Inc., USA*

**ON THE USE OF IEEE 802.15.4 TO ENABLE WIRELESS SENSOR NETWORKS
IN BUILDING AUTOMATION**

Jose Gutierrez, *Eaton Corporation, USA*

**EASISHOP: DELIVERING CROSS MERCHANT PRODUCT COMPARISON
SHOPPING FOR THE MOBILE USER**

Stephen Keegan, Gregory O'Hare, *University College Dublin, Ireland*

**A MULTICAST PROTOCOL FOR REDUCING DISCONNECTED TIME WITH
CHANGING ROUTE BY MOBILE MULTICAST GATEWAY IN MOBILE IP
ENVIRONMENT**

Yasuhiro Tsutsui, Takeshi Murakami, Tomoaki Takazawa, Masaki Bandai, Iwao Sasase, *Keio Univ., Japan*

SEMI-BLIND CHANNEL ESTIMATION FOR MIMO-OFDM

Hongyi FU, Patrick Fung, Sumei Sun, *Institute for Infocomm Research, Singapore*

SESSION: Cellular Mobile Systems (1)

Wednesday (September 8th): 9h 00m – 10h 40m

A FEASIBILITY STUDY OF TWO USER DOWNLINK TRANSMISSION FOR IS-856 SYSTEM

Serkan Dost, *Electrical & Computer Engineering, University of British Columbia, Canada*; M. Oguz Sunay, *Electrical & Electronics Engineering, Koc University, Turkey*; Vijay Bhargava, *Electrical & Computer Engineering, University of British Columbia, Canada*

END-TO-END QOS OF MULTI-CLASS TRAFFIC IN WCDMA AND DIFFSERV NETWORK

Lei Xiao, Tung Chong Wong, Yong Huat Chew, *Institute for Infocomm Research, Singapore*

REVERSE-LINK CONTROL MECHANISMS IN CDMA2000 REVISION D: PERFORMANCE EVALUATION

Stein Lundby, Avinash Jain, *QUALCOMM Incorporated, United States of America*

EFFECT OF IMPERFECT POWER CONTROL ON THE PERFORMANCE OF HARQ IN CDMA2000 REVERSE LINK

Younsun Kim, Jin-kyu Han, Hwanjoon Kwon, Donghee Kim, *Samsung Electronics, Republic of Korea*

ON CELL PARAMETER ID ASSIGNMENT IN UTRA-TDD

Vishakan Ponnampalam, Alan Jones, *IPWireless Inc, UK*

SESSION: 4G or Beyond (5)

Wednesday (September 8th): 9h 00m – 10h 40m

SPECTRUM ESTIMATION METHODOLOGY FOR NEXT GENERATION
WIRELESS SYSTEMS

Tim Irnich, Bernhard Walke, *RWTH Aachen University, Germany*

ON THE PERFORMANCE OF SINGLE FREQUENCY CELLULAR NETWORK
(SFCN)

Huiling Jia, Zhaoyang Zhang, *Zhejiang University, P.R.China*

FAST AND EFFICIENT VERTICAL HANDOFFS IN WIRELESS OVERLAY
NETWORKS

Hakim Badis, Khaldoun Alagha, *LRI, INRIA, France*

AN APPROACH FOR DESIGNING HANDOFF MANAGEMENT PROTOCOLS

Dung Van Dinh, *Research Institute of Posts and Telecoms (RIPT), Vietnam*

SESSION: Software Radio (2)

Wednesday (September 8th): 9h 00m – 10h 40m

WIDEBAND ANALOG FRONT-END FOR MULTI-STANDARD SOFTWARE
DEFINED RADIO RECEIVER

Puvaneswari Munusamy, Othman Sidek, *University of Science, Malaysia*

THE COST OF AN ABSTRACTION LAYER ON FPGA DEVICES FOR
SOFTWARE RADIO APPLICATIONS

Xavier Reves, Vuk Marojevic, Antoni Gelonch, Ramon Ferrús, *Universitat Politècnica de Catalunya, Spain*

AIR INTERFACE RECOGNITION FOR A SOFTWARE RADIO SYSTEM
EXPLOITING CYCLOSTATIONARITY

Menguc Oner, Friedrich Jondral, *University of Karlsruhe, Institut für Nachrichtentechnik, Germany*

AN APPROACH FOR INTER-OPERATOR SPECTRUM SHARING FOR 3G
SYSTEMS AND BEYOND

Maran Kumar Pereirasamy, Jijun Luo, Markus Dillinger, *Siemens AG, Germany*;
Christian Hartmann, *Technical University of Munich (TUM), Germany*

SESSION: Mobile Multimedia (2)**Wednesday (September 8th)**: 9h 00m – 10h 40m**PERCEPTUAL QUALITY ADAPTATION (PQA) ALGORITHM FOR 3GP AND MULTI-TRACKED MPEG-4 CONTENT OVER WIRELESS IP NETWORKS**Nicola Cranley, Liam Murphy, *University College Dublin, Ireland*; Philip Perry, *Dublin City University, Ireland***A QOS-AWARE WLAN RESOURCE REQUEST MECHANISM FOR DELAY SENSITIVE TRAFFIC**Francisco Delicado, Pedro Cuenca, Luis Orozco-Barbosa, *University of Castilla La Mancha, Spain***CHASER: CONTENT AND CHANNEL AWARE OBJECT SCHEDULING AND ERROR CONTROL FOR WIRELESS WEB ACCESS IN 3G NETWORKS**Debashis Panigrahi, *University of California, San Diego, U.S.A.*; Sujit Dey, *University of California, San Diego, U.S.A***H.263 VIDEO TRAFFIC MODELLING FOR LOW BIT RATE WIRELESS COMMUNICATIONS**Oscar Lazaro, *Universidad Politecnica de Valencia, Spain*; Demessie Girma, John Dunlop, *University of Strathclyde, UK***APPLICATION LAYER MULTIPOINT CONFERENCE USING SIP**Hsiaokuang Wu, Ming-I Hsieh, Zhi-Hao Wu, Jen-Yuan Chiang, *Dept of CSIE, NCU, Taiwan*

SESSION: OFDM (4)**Wednesday (September 8th)**: 9h 00m – 10h 40m**A CODED FREQUENCY-DOMAIN LINK ADAPTATION SCHEME FOR OFDM PACKET TRANSMISSION IN TDD MODE**

Ming Lei, Hiroshi Harada, Hiromitsu Wakana, *National Institute of Information and Communications Technology (NICT) of Japan, Japan*; Ping Zhang, *Beijing University of Posts and Telecommunications, China*

PWM CODING AND FILTERING OF AN OFDM ENVELOPE SIGNAL IN A C BAND EER TRANSMITTER ARCHITECTURE

Antoine Diet, Corinne Berland, Martine Villegas, Genevieve Baudoin, *ESIEE-ESYCOM, France*

AN EFFICIENT MULTIUSER FREQUENCY-TIME GRID(FTG) ALLOCATION ALGORITHM FOR OFDM-BASED BROADBAND WIRELESS SYSTEMS

Xing Zhang, Wenbo Wang, Yuan'an Liu, *Beijing University of Posts and Telecommunications, P.R.China*

PERFORMANCE INVESTIGATION OF SPACE-DIVISION OFDM OVER VECTOR BROADCAST FREQUENCY SELECTIVE FADING CHANNELS

Zhengang Pan, Kai-kit Wong, Tung-sang Ng, *Department of EEE, HKU, Hongkong*

DYNAMIC SUBCHANNEL AND BIT ALLOCATION FOR MULTICAST OFDM SYSTEMS

Changho Suh, *Samsung Electronics., Korea (ROK)*; Chan-Soo Hwang, *Samsung AIT, Korea (ROK)*

SESSION: Wireless Propagation (3)**Wednesday (September 8th): 9h 00m – 10h 40m****A NEW DETERMINISTIC PROCESS BASED GENERATIVE MODEL FOR
CHARACTERIZING BURSTY ERROR SEQUENCES**Cheng-Xiang Wang, Matthias Paetzold, *Agder University College, Norway***SECOND ORDER STATISTICS AND CHANNEL SPECTRAL EFFICIENCY FOR
SELECTION DIVERSITY RECEIVERS IN WEIBULL FADING**Nikos Sagias, *Laboratory of Electronics, Physics Department, University of Athens, Greece*; George Karagiannidis, *Institute for Space Applications and Remote Sensing, National Observatory of Athens, Greece*; Dimitris Zogas, *Electrical and Computer, Engineering Department, University of Patras, Greece*; Panagiotis Mathiopoulos, *Institute for Space Applications and Remote Sensing, National Observatory of Athens, Greece*; George Tombras, *Laboratory of Electronics, Physics Department, University of Athens, Greece*; Fotini-Niovi Pavlidou, *Electrical and Computer Engineering Department, Aristotle University of Thessaloniki, Greece***THE IMPACT OF HIGHLY REFLECTIVE CEILINGS ON WIRELESS SYSTEMS
IN OCCUPIED OPEN PLAN OFFICES**Derek Lee, Kevin Sowerby, Michael Neve, *The University of Auckland, New Zealand***NEW BLOCK ERROR RATE MODEL FOR RAYLEIGH FADING CHANNELS**Vanja Subotic, Serguei L. Primak, *Bell Centre for Information Technologies, Department of Electrical and Computer Engineering, The University of Western Ontario, Canada*

SESSION: Coding, Modulation and Equalization (8)

Wednesday (September 8th): 9h 00m – 10h 40m

A LOW-COMPLEXITY CHANNEL ESTIMATOR FOR OFDM SYSTEMS IN
MULTIPATH FADING CHANNELS

Jie Zhu, Wookwon Lee, *University of Arkansas, USA*

METHODS FOR CARRIER SYNCHRONIZATION OF SHORT PACKET TURBO
CODED SIGNALS

Yossef Rahamim, Avraham Freedman, Arie Reichman, *Tel-Aviv University, Israel*

ENHANCED FREQUENCY SYNCHRONIZATION FOR OFDM SYSTEMS USING
TIMING ERROR FEEDBACK COMPENSATION

Chandranath Athaudage, *The University of Melbourne, Australia*; Satha Sathananthan,
Monash University, Australia; Ravi Angiras, *The University of Melbourne, Australia*

DETERMINANT MAXIMIZING COST FUNCTION IMPULSE RESPONSE
SHORTENING FOR DISCRETE MULTITONE TRANSCEIVERS

Ejaz Khan, Conor Heneghan, *University College Dublin, Ireland*

RECEIVER ALGORITHMS FOR OFDM SYSTEMS IN PHASE NOISE AND
AWGN

Florent Munier, Thomas Eriksson, Arne Svensson, *Chalmers Univ. Of Technology,
SWEDEN*

SESSION: Satellite Network (1)

Wednesday (September 8th): 9h 00m – 10h 40m

ROLE OF SATELLITES IN MOBILE/WIRELESS SYSTEMS

Barry Evans, *University of Surrey, United Kingdom*

-INVITED PAPER-

**RLC PROTOCOL ENHANCEMENT FOR SIP-BASED SESSION
ESTABLISHMENT OVER SATELLITE-UMTS**

Victor Kueh, Rahim Tafazolli, Barry Evans, *Centre for Communication Systems
Research, University of Surrey, United Kingdom*

**PERFORMANCE ANALYSIS OF CONNECTION ADMISSION CONTROL
SCHEME IN A DVB-RCS SATELLITE SYSTEM**

Pasquale Pace, Gianluca Aloï, Salvatore Marano, *University of Calabria - Dept. DEIS,
Italy*

**DYNAMIC CONGESTION CONTROL FOR SATELLITE NETWORKS
EMPLOYING TCP PERFORMANCE ENHANCEMENT PROXIES**

Lijuan Wu, Fei Peng, Victor Leung, *The University of British Columbia, Canada*

**OPTIMIZATION OF THE COST OF PROVIDING LOCATION SERVICES IN
MOBILE CELLULAR NETWORKS**

Israel Martin-Escalona, Francisco Barcelo, *Technical University of Catalonia, Spain*

SESSION: MIMO (8)**Wednesday (September 8th)**: 9h 00m – 10h 40m**POWER ALLOCATION IN MULTI-ANTENNA COMMUNICATION WITH
STATISTICAL CHANNEL INFORMATION AT THE TRANSMITTER**

Antonia Tulino, *Universita di Napoli "Federico II", Italy*; Angel Lozano, *Bell Labs
(Lucent Technologies), USA*; Sergio Verdu, *Princeton University, USA*

**LLR BASED BER ANALYSIS OF ORTHOGONAL STBCS USING QAM ON
RAYLEIGH FADING CHANNELS**

Surendra Raju, *Insilica Semiconductors India, India*; Annavajjala Ramesh,
University of California, San Diego, USA; Ananthanarayanan Chockalingam, *Indian
Institute of Science, India*

**SPACE-TIME TECHNIQUE FOR WIRELESS MULTIUSER MIMO SYSTEMS
WITH SIC RECEIVERS**

Hojin Kim, *Samsung Advanced Insitute of Technology, Korea*; Sung Jin Kim, Chang
Soon Park, Kwang Bok (Ed) Lee, *Seoul National University, Korea*

**LARGE MIMO SYSTEM CHANNEL CAPACITY USING REPLICA ANALYSIS
AND GRASSMANN VARIABLES: A CLOSED FORM SOLUTION**

Ejaz Khan, Conor Heneghan, *University College Dublin, Ireland*

**ML FREQUENCY ESTIMATION IN SYSTEMS WITH TRANSMIT DIVERSITY:
PILOT SIGNALS, COMPLEXITY, AND ACCURACY**

Yuriy Zakharov, Tim Tozer, *University of York, UK*; Vladimir Baronkin,
N.N.Andreev Acoustics Institute, Russia

POSTER: Cellular Mobile Systems and Radio Resource Management**Wednesday (September 8th): 9h 00m – 10h 40m****A SOFT CAPACITY METHOD FOR CDMA CELLULAR NETWORKS BASED ON ADAPTIVE HOMOGENOUS SIR THRESHOLD**Sam Nourizadeh, Rahim Tafazolli, *CCSR, United Kingdom***W-CDMA UPLINK CAPACITY AND INTERFERENCE STATISTICS OF A LONG TUNNEL CIGAR-SHAPED MICROCELLS (UNDERGROUND TRAIN CASE)**Bazil Taha-Ahmed, Miguel Calvo-Ramon, Leandro Haro-Ariet, *UPM, ETSI de Telecom., Spain***ON THE EFFECT OF ADJACENT GSM SYSTEM TO FDSS UPLINK CAPACITY**Bazil Taha-Ahmed, Miguel Calvo-Ramon, Leandro Haro-Ariet, *UPM, ETSI de Telecom., Spain***A RESOURCE ALLOCATION ALGORITHM FOR DOWNLINK CDMA SYSTEM**Adrian Boariu, *Nokia, Inc., USA***DISTRIBUTION OF UPLINK SIGNAL TO INTERFERENCE RATIO IN WCDMA RANDOM ACCESS CHANNEL (RACH)**Juan Reig, Oscar Lopez-Jimenez, Lorenzo Rubio, Narcis Cardona, *Departamento de Comunicaciones. Universidad Politecnica de Valencia, Spain***PCS LOCATION AREA OPTIMISATION USING AN AGGREGATE MOBILITY MODEL**Ronan J. Skehill, Dr. Sean McGrath, *University of Limerick, Ireland***CREST FACTOR REDUCTION ENGINE FOR MULTI-CARRIER WCDMA TRANSMITTED SIGNALS**Dimitrios Efstathiou, *Analog Devices, USA*; Kasyap Yadavelli, Manish Manglani, *Analog Devices Inc., USA***DESIGN AND PERFORMANCE EVALUATION OF PACKET SCHEDULER ALGORITHMS FOR VIDEO TRAFFIC IN THE HIGH SPEED DOWNLINK PACKET ACCESS**Pasquale Falconio, Paolo Dini, *INFO.COM Dept - University of Rome 'La Sapienza', Italy***PERFORMANCE OF A COMPLEX SPREAD MULTI-CODE CDMA RAKE RECEIVER WITH IMPERFECT CHANNEL ESTIMATION**Yu T. Su, Chih-Hsiang Hsiao, Yuan-Bin Lin, *Department of Communication Engineering, Taiwan***DOWNLINK ADAPTIVE POWER CONTROL ALGORITHM FOR 3G CELLULAR CDMA NETWORKS**Jad Nasreddine, Loutfi Nuaymi, Xavier Lagrange, *Enst De Bretagne, France*

SYSTEM-LEVEL BENEFIT OF COMBINED POWER CONTROL AND MULTI-USER DETECTION FOR CDMA UPLINK OVER A FREQUENCY SELECTIVE CHANNEL

Stefan Ataman, Armelle Wautier, *Supelec, France*

MIMO/HSDPA WITH FAST FADING AND MOBILITY: CAPACITY AND COVERAGE STUDY

Mohamad Assaad, Djamal Zeghlache, *Institut National des Telecommunications, France*

ATM TRANSPORT BETWEEN UMTS BASE STATIONS AND CONTROLLERS: SUPPORTING TOPOLOGY AND DIMENSIONING DECISIONS

Ana B. García, Manuel Alvarez-Campana, Enrique Vázquez, Guillermo Guénou, Julio Berrocal, *DIT-UPM, Spain*

DYNAMIC CHANNEL ALLOCATION SCHEME SUPPORTING MULTIPLE SERVICES IN CELLULAR SYSTEMS

Ming Yang, Peter Chong, *Nanyang Technological University, Singapore*

EFFECTS OF DOWNTILTING ON RRM PARAMETERS

Mario Garcia-Lozano, Silvia Ruiz, *Universitat Politecnica de Catalunya, Spain*

ADVANCED QUALITY OF SERVICE STRATEGIES FOR GERAN MOBILE RADIO NETWORKS

Robert Müllner, Carsten Ball, Kolio Ivanov, *Siemens AG, Germany*; Hubert Winkler, *Siemens AG, Austria*

RRM PARAMETERS IN MULTILAYER MULTISERVICE SCENARIOS

Federico Panizzi, *University of Padova, Italy*; Mario Garcia-Lozano, Juan Olmos, Silvia Ruiz, *UPC, Spain*

SESSION: Cellular Mobile Systems (2)

Wednesday (September 8th): 11h 00m – 12h 40m

HSDPA PERFORMANCE WITH PARALLEL INTERFERENCE CANCELLATION

Ville Haikola, Marko Lampinen, Tuomas Saukkonen, *Nokia, Finland*

DEVELOPMENT OF CELLULAR REPEATER SYSTEM WITH MULTIPLE RADIO ECHO SUPPRESSER

Toshiyuki Maeyama, Takashi Inoue, *KDDI R&D Labs, Japan*

INCREASING HSDPA THROUGHPUT BY EMPLOYING SPACE-TIME EQUALIZATION

Markku Heikkilä, Kari Majonen, *Nokia, Finland*

MIMO PROCESSING FOR HSDPA IN UTRA TDD

Vishakan Ponnampalam, Peter Darwood, *IPWireless Inc, UK*

A TIMING SYNCHRONIZATION METHOD FOR UPLINK DPC-OF/TDMA

Ryota Kimura, Ryuhei Funada, Hiroshi Harada, Shoji Shinoda, *Graduate School of Science and Engineering, Chuo University, Japan*

SESSION: Mobile Multimedia (3)

Wednesday (September 8th): 11h 00m – 12h 40m

A NOVEL MAC PROTOCOL FOR DYNAMIC AD HOC WIRELESS NETWORKS
WITH DYNAMIC SELF-CONFIGURABLE MASTER-SLAVE ARCHITECTURE
Jesús Alonso, Luis Alonso, *UPC, Spain*

A PREDICTIVE FAIR CALL ADMISSION CONTROL IN PACKET RADIO
NETWORKS
Ki-Il Kim, Sang-Ha Kim, *Chungnam National University, Korea*

A FREQUENCY-DOMAIN CHANNEL PREDICTION ALGORITHM IN
WIDEBAND WIRELESS COMMUNICATION SYSTEMS
Weifeng Cao, Wenbo Wang, *Beijing University of Posts and Telecommunications,
China*

DYNAMIC PARTITIONING BASED CALL ADMISSION CONTROL FOR
INTEGRATED SERVICES WIRELESS MOBILE NETWORKS
Nagla Mohamed, Dervis Deniz, *Eastern Mediterranean University, Turkey*

SESSION: OFDM (5)**Wednesday (September 8th): 11h 00m – 12h 40m****A MULTI-DIMENSIONAL RADIO RESOURCE SCHEDULING SCHEME FOR MIMO-OFDM SYSTEMS WITH CHANNEL DEPENDENT PARALLEL WEIGHTED FAIR QUEUEING (CDPWFQ)**Lei Li, Zhisheng Niu, *Dept. of Electronic Engineering, Tsinghua University, China***PERFORMANCE ANALYSIS OF DYNAMIC PACKET ASSIGNMENT IN OFDMA BASED CELLULAR SYSTEMS**Jayaparvathy R, *AU-KBC Research Centre, Anna University, Chennai, India*; S Anand, *Samsung India Software Operations, India*; S Srikanth, *AU-KBC Research Centre, Anna University, Chennai, India***ITERATIVE AND GREEDY RESOURCE ALLOCATION IN AN UPLINK OFDMA SYSTEM**Keunyoung Kim, Hoon Kim, Youngnam Han, Seong-Lyun Kim, *Information and Communications Univ., Korea***ADAPTIVE MIMO-OFDM WITH LOW SIGNALLING OVERHEAD FOR UNBALANCED ANTENNA SYSTEMS**Marian Codreanu, Djordje Tujkovic, Matti Latva-aho, *Centre for Wireless Communications, University of Oulu, Finland***A NEW SIGNAL DETECTION SCHEME COMBINING ZF AND K-BEST ALGORITHMS FOR OFDM/SDM**Takafumi Fujita, *NTT Network Innovation Laboratories, NTT Corporation, Japan*; Takeshi Onizawa, Wenjie Jiang, *NTT Access Network Service Systems Laboratories, NTT Corporation, Japan*; Daisei Uchida, *NTT Network Innovation Laboratories, NTT Corporation, Japan*; Takatoshi Sugiyama, *Wireless Laboratories, NTT DoCoMo, Inc., Japan*; Atsushi Ohta, *NTT Access Network Service Systems Laboratories, NTT Corporation, Japan*

SESSION: Wireless Propagation (4)**Wednesday (September 8th)**: 11h 00m – 12h 40mSHORT-TERM FADING DEPTH DEPENDENCE ON ANTENNA
CHARACTERISTICS IN WIDEBAND MOBILE COMMUNICATIONSFilipe D. Cardoso, *EST/IPS - IT/IST, Portugal*; Luis M. Correia, *IT/IST, Portugal*AN IMPROVED CHANNEL ESTIMATOR WITH REAL-TIME ISI FREE WINDOW
TRACKING FOR OFDM SYSTEMSZhigang Zhou, Shixin Cheng, Ming Chen, *National Mobile Communications
Research Lab., China*; Haifeng Wang, *Nokia Mobile Phones, Finland*DETERMINISTIC PROPAGATION MODEL INFLUENCE ON A WIRELESS
DIGITAL TRANSMISSION SIMULATION IN REAL ENVIRONMENTCombeau Pierre, Aveneau Lilian, Vauzelle Rodolphe, Chatellier Christian, *SIC
CNRS FRE 2731, France*

THE SYMMETRICAL ETA-KAPPA DISTRIBUTION

Michel Daoud Yacoub, Gustavo Fraidenraich, Hermano Barros Tercius, Fábio César
Martins, *University of Campinas, Brazil*A SPATIO-TEMPORAL RADIO CHANNEL CHARACTERIZATION WITH A 3D
RAY TRACING PROPAGATION MODEL IN URBAN ENVIRONMENTCharitois Yannick, *GET-ENST Bretagne / Dép MO - LEST UMR CNRS n°6165, France*;
Pousset Yannis, Vauzelle Rodolphe, *SIC FRE CNRS n°2731, France*

SESSION: Satellite Network (2)

Wednesday (September 8th): 11h 00m – 12h 40m

**DEVELOPMENT AND FUTURE APPLICATIONS OF SATELLITE
COMMUNICATIONS**

Erich Lutz, *DLR, Germany*

-INVITED PAPER-

**A HYBRID POSITIONING ALGORITHM FOR CELLULAR RADIO NETWORKS
BY USING A COMMON RAKE RECEIVER ARCHITECTURE**

Guenter Heinrichs, *IfEN GmbH, Germany*; Paolo Mulassano, *Istituto Superiore Mario
Boella, Italy*; Fabio Dovis, *Politecnico di Torino, Electronics Department, Italy*

**SELECTION OF THE MULTIPLE-DWELL HYBRID-SEARCH STRATEGY FOR
THE ACQUISITION OF GALILEO SIGNALS IN FADING CHANNELS**

Elena Simona Lohan, Abdelmonaem Lakhzouri, Markku Renfors, *Tampere University
of Technology, Finland*

QOS DIFFERENTIATION IN DVB-RCS MULTIMEDIA PLATFORMS

Antonio Iera, Antonella Molinaro, Carla Follino, Mariangela Costabile, *University
"mediterranea" of Reggio Calabria, Italy*

**AN IPSEC-AWARE TCP PEP FOR INTEGRATED MOBILE SATELLITE
NETWORKS**

Luigi Patrono, Mario De Blasi, Giovanni Ciccarese, Pierluigi Marra, *University of
Lecce, Italy*; Giuseppe Tomasicchio, *Alenia Spazio S.p.A Rome, Italy*

SESSION: 4G or Beyond (6)**Wednesday (September 8th): 11h 00m – 12h 40m****SYSTEM PERFORMANCE OF MULTI-BEAM ANTENNAS FOR HS-DSCH
WCDMA SYSTEM**Afif Osseiran, Mårten Ericson, *Ericsson Research, Sweden***HIGH DATA RATE ENHANCEMENT FOR BEYOND 3G SERVICES USING
COMPLETE COMPLEMENTARY CODES**Chadi Khirallah, Paul Coulton, Syed Mohsin, *Lancaster University, U.K*; Nader Zein, *NEC Europe Ltd., UK***SIMULATOR FOR PERFORMANCE ANALYSIS IN UMTS FDD NETWORKS
WITH HSDPA**Hermann Buddendick, Gerd Woelfle, Stefan Burger, *AWE-Communications, Germany*;
Philipp Wertz, *University of Stuttgart, Germany***INVESTIGATION OF LINK LAYER ALGORITHMS AND PLAY-OUT BUFFER
REQUIREMENTS FOR EFFICIENT MULTICAST SERVICES IN 3G CELLULAR
SYSTEMS**Michele Rossi, Michele Zorzi, *University of Ferrara, Italy*; Frank Fitzek, *Aalborg
University, Denmark***ADAPTIVE TRANSMIT DIVERSITY WITH QUADRANT PHASE
CONSTRAINING FEEDBACK**Jingxian Wu, *University of Missouri - Columbia, US*; Jinyun Zhang, *Mitsubishi Electric
Research Lab, US*; Chengshan Xiao, *University of Missouri - Columbia, US*; Henry
Horng, *Mitsubishi Electric Research Lab, US*

SESSION: Coding, Modulation and Equalization (9)

Wednesday (September 8th): 11h 00m – 12h 40m

**FREQUENCY-DOMAIN EQUALIZATION FOR CONTINUOUS PHASE
MODULATION**

Jun Tan, Gordon Stuber, *Georgia Tech, USA*

-INVITED PAPER-

**A PRE-DISTORTION FILTERING FOR MAI REDUCTION WITH SELECTIVE
TRANSMIT DIVERSITY**

Mario Silva, *Institute for Telecommunications, Portugal*; Americo Correia, *ADETTI, Portugal*

**ESTIMATOR-CORRELATOR RECEIVER IN FADING CHANNELS FOR
SIGNALS WITH PILOT SYMBOLS**

Marja Matinmikko, Aarne Mämmelä, *VTT Electronics, Finland*

**LOW COMPLEXITY 2D PROJECTION-BASED CHANNEL ESTIMATORS FOR
MC-CDMA**

Olivier Seller, *France Telecom R&D, France*

**MAXIMIZING THROUGHPUT WITH ADAPTIVE M-QAM BASED ON
IMPERFECT CHANNEL ESTIMATES**

Mikael Sternad, Sorour Falahati, *Uppsala University, Sweden*

SESSION: Space Time Coding (1)**Wednesday (September 8th): 11h 00m – 12h 40m****RATE ADAPTIVE M-QAM IN MIMO DIVERSITY SYSTEMS USING SPACE-TIME BLOCK CODES**Amine Maaref, Sonia Aissa, *INRS-Telecommunications, University of Quebec, Canada***CAPACITY OF ITERATIVE DETECTION AND DECODING OF SPACE-TIME BIT-INTERLEAVED CODED-MODULATION BPSK CODES**Simon Hirst, *University of York, UK*; Alister Burr, *University of York, UK***NON-ORTHOGONAL SPACE-TIME BLOCK CODE FOR MULTIPATH CHANNEL**Sassan Iraji, Olav Tirkkonen, Ari Hottinen, Kiran Kuchi, *Nokia Research Center, Finland***PERFORMANCE EVALUATION OF TURBO AND SPACE-TIME TURBO CODED MC-CDMA DOWNLINK IN MULTI-CELL ENVIRONMENT**Shigehiko Tsumura, *Osaka University, Japan*; Mikko Vehkaperä, Zexian Li, Djordje Tujkovic, Markku Juntti, *Centre for Wireless Communications, University of Oulu, Finland*; Shinsuke Hara, *Osaka University, Japan***CHIP SPACE-TIME BLOCK CODING USING ITERATIVE CHANNEL ESTIMATION WITH INTER-ANTENNA INTERFERENCE CANCELLATION FOR W-CDMA SYSTEMS USING LONG SCRAMBLING CODES**Ivan Casella, *Universidade De São Paulo, Brazil*; Elvino Sousa, *University Of Toronto, Canada*; Paul Jean Jeszensky, *Universidade De Sao Paulo, Brasil*

POSTER: Multiple Access, Network Protocols and Spread Spectrum Techniques
Wednesday (September 8th): 11h 00m – 12h 40m

OPTIMUM SINR RECEIVER IN DISPERSIVE CDMA CHANNELS

Shujun Chen, Anthony G. Constantinides, *Imperial College London, U.K.*OVERSATURATING SYNCHRONOUS CDMA SYSTEMS USING
COLLABORATIVE CODINGJarkko Paavola, *University of Turku, Finland*; Valery Ipatov, *University of Turku, Russia*A NOVEL RATE-ADAPTATION ALGORITHM FOR MULTIPLE ACCESS OFDM
SYSTEMSEhsan Bakhtiari, Babak Hossein Khalaj, *Sharif University of Technology, IRAN*ON-DEMAND QOS MULTICAST ROUTING AND RESERVATION PROTOCOL
FOR MANETSJim M. Ng, Chor Ping Low, Hui Seong Teo, *Nanyang Technological University, Singapore*

A NOVEL TCP OVER WIRELESS FADING CHANNEL

Ling Yao, Tian Wu, Hong Ji, Guangxin Yue, Changchuan Yin, *Beijing University of Posts and Telecommunications, China*PERFORMANCE MODEL OF RLP FOR PACKET DATA SERVICES IN UMTS
SYSTEMSYi Wu, Zhisheng Niu, Junli Zheng, *Department of Electronic Engineering, Tsinghua University, China*ADAPTIVE BURST TARGETED DEMAND ASSIGNMENT MULTIPLE ACCESS
(BTDAMA) FOR GEOSTATIONARY SATELLITE SYSTEMSPaul Mitchell, David Grace, Tim Tozer, *University of York, United Kingdom*A UKF-BASED LINK ADAPTATION SCHEME TO ENHANCE ENERGY
EFFICIENCY IN WIRELESS SENSOR NETWORKSSong Ci, *University of Michigan Flint, USA*; Hamid Sharif, Krishna Nuli, *University of Nebraska Lincoln, USA*A GAME THEORETIC FLOW AND ROUTING CONTROL POLICY FOR TWO-
NODE PARALLEL LINK COMMUNICATION NETWORKS WITH MULTIPLE
USERSMarwan Simaan, Ismet Sahin, *University of Pittsburgh, USA*JTCP: CONGESTION DISTINCTION BY THE JITTER-BASED SCHEME OVER
WIRELESS NETWORKSHsiaokuang Wu, Ming-I Hsieh, Mei-zhen Chen, Shao-Yi Hung, *Dept of CSIE, NCU, Taiwan*

IMPLEMENTATION OF SEAMLESS ROAMING SERVICE IN HYBRID NETWORK

Seongsoo Park, *SK Telecom R&D center, Korea*

FURTHER RESULTS ON CHANNEL OVERLOADING USING COMBINED TDMA/OCDMA WITH ITERATIVE INTERFERENCE CANCELLATION

Florence Nadal, Antoine Berthet, Hikmet Sari, *SUPELEC, France*

SPECTRUM PRICING FOR EXCESS BANDWIDTH IN RADIO NETWORKS

Fatih Capar, Friedrich Jondral, *Universitaet Karlsruhe, Germany*

FAST ACQUISITION AND LOW CORRELATION MULTI-COMPONENT CODE

Masaya Tanigawa, Takao Hara, *Nara institute of science and technology, Japan*;
Mamoru Fukui, *Fujitsu limited, Japan*; Heiichi Yamamoto, *Nara institute of science and technology, Japan*

MODIFIED MAXIMAL RATIO COMBINING HARQ SCHEME FOR HSDPA

Sergei Semenov, *Nokia, Finland*

OUTAGE EVALUATION OF ULTRA WIDEBAND SPREAD SPECTRUM SYSTEM WITH RAKE COMBINING IN LOGNORMAL FADING MULTIPATH CHANNELS

Pekka Pirinen, *University of Oulu/Centre for Wireless Communications, Finland*

GBN AND STP/SP: BEYOND TCP/IP CRISIS OVER WIRELESS NETWORKS

Guy Pujolle, Hakima Chaouchi, *University of Paris, France*

ON A GENERAL EXPRESSION OF THE RAKE RECEIVER PERFORMANCE

Thierry CLESSIENNE, *FRANCE TELECOM R&D, France*; Sheng YANG, *ENST Paris, France*

SESSION: Cellular Mobile Systems (3)**Wednesday (September 8th): 14h 30m – 16h 10m****RELATION BETWEEN BASE STATION CHARACTERISTICS AND COST
STRUCTURE IN CELLULAR SYSTEMS**

Klas Johansson, *Wireless@KTH, Sweden*; Anders Furuskär, *Ericsson AB, Sweden*; Peter Karlsson, *TeliaSonera Sweden, Sweden*; Jens Zander, *Wireless@KTH, Sweden*

**APPLICATION QOS MANAGEMENT FOR THE REVERSE LINK OF A 3G
NETWORK**

Patrick Hosein, *Ericsson Wireless Communications Inc., USA*

**ADAPTIVE PLANNING OF 3G/4G SYSTEMS USING Q-ANALYSIS OR
POLYHEDRAL DYNAMICS**

Andres Navarro, *Universidad Icesi, Colombia*; Narcis Cardona, *Universitat Politecnica de Valencia, Spain*

CDMA2000 REVISION D REVERSE LINK ENHANCEMENTS

Tao Chen, Sandip Sarkar, Stein Lundby, Edward Tiedemann, Yongbin Wei, Aleksandar Damnjanovic, Avinash Jain, David Puig Oses, Joseph Odenwalder, Peter Gaal, *QUALCOMM Incorporated, USA*

**DYNAMIC PARAMETER CONTROLLED ORTHOGONAL FREQUENCY AND
TIME DIVISION MULTIPLE ACCESS**

Hiroshi Harada, Chang-Jun Ahn, Satoshi Takahashi, Yuki Yoshi Kamio, *National Institute of Information and Communications Technology, Japan*; Seiichi Sampei, *Osaka University, Japan*

SESSION: CDMA (1)**Wednesday (September 8th)**: 14h 30m – 16h 10m**UPLINK CAPACITY AND OUTAGE PROBABILITY OF A CDMA CELLULAR SYSTEM**Stefan Ataman, Armelle Wautier, *Supélec, France***ON PERFORMANCE IMPACT IN DS-CDMA SYSTEMS DUE TO SAMPLING INSTANT ERROR**Bengt Lindoff, Bo Bernhardsson, *Ericsson Mobile Platforms AB, Sweden***A CELL PLANNING SCHEME FOR WCDMA SYSTEMS USING GENETIC ALGORITHM AND PERFORMANCE SIMULATION PLATFORM**Hsin-Piao Lin, Rong-Terng Juang, *Institute of Computer and Communication, National Taipei University of Technology, Taiwan*; Shiann-Shiu Jeng, Chen-Wan Tsung, *Department of Electrical Engineering, National Dong Hwa University, Taiwan***SOVA EQUALIZATION FOR MULTI-CODE CDMA SYSTEM WITH LOW SPREADING FACTOR**Junhui Zhao, Sanghoon Lee, *School of Electrical and Electronic Engineering, Yonsei University, Korea*; Dongming Wang, *National mobile communications research lab, Southeast University, China*; Xiaohu You, *National Mobile communications Research Lab, Southeast University, China***ESTIMATION OF TIME-VARYING MULTIPATH RAYLEIGH FADING CHANNELS IN ASYNCHRONOUS DS-CDMA SYSTEMS**Pei Xiao, *University of Wolverhampton, United Kingdom*; Erik Strom, *Chalmers University of Technology, Sweden*; Rolando Carrasco, *University of Wolverhampton, United Kingdom*

SESSION: Experiments, trials and deployment

Wednesday (September 8th): 14h 30m – 16h 10m

IMPLEMENTATION OF ADAPTIVE CHANNEL INVERSION IN A REAL-TIME
MIMO TRANSMISSION SYSTEM

Thomas Haustein, Andreas Forck, Holger Gäbler, Clemens v. Helmolt, Volker
Jungnickel, Udo Krüger, *FhG HHI, Germany*

A BATTERYLESS OPTICAL-WIRELESS SYSTEM WITH WHITE-LED
ILLUMINATION

Takakuni Douseki, *NTT Microsystem Integration Labs., Japan*

QUANTIFICATION AND ROUND INFLUENCE ON FPGA IMPLEMENTED
OFDM ALGORITHMS FOR AN OFDM RADIO INTERFACE

Maria Belen Castán, Juan Manuel Vázquez, *TELEFÓNICA MÓVILES ESPAÑA, Spain*;
Luis Miguel Campoy, *TELEFÓNICA I+D, Spain*

EXPERIMENTAL VERIFICATION OF SPACE-TIME ALGORITHMS USING THE
SMART ANTENNA SOFTWARE RADIO TEST SYSTEM (SASRATS) PLATFORM

Peter Green, Desmond Taylor, *University of Canterbury, New Zealand*

AUTOMATIC PLANNING OPTIMAL QUALITY-COST WIRELESS NETWORKS,
THE INDOOR PARETO ORIENTED ABSPAD APPROACH

Oscar Molina, Itziar Gonzalez, *UNIVERSIDAD DE LAS PALMAS DE GC, Spain*

SESSION: Mobile Computing

Wednesday (September 8th): 14h 30m – 16h 10m

A BACKWARD UPDATE STRATEGY FOR LOCATION MANAGEMENT IN
PERSONAL COMMUNICATION NETWORKS

Chih-Lin Hu, *BenQ Corp., Taiwan*

FAULT-TOLERANT MULTIPATH TRANSPORTATION AIDED WITH CHANNEL
CODING AND INTERLEAVER FOR WIRELESS SENSOR NETWORKS

Qilian Liang, Lingming Wang, *U of Texas at Arlington, USA*

AN EFFICIENT MICROMOBILITY IMPLEMENTATION FOR 802.1X WLANS

Artur Hecker, Houda Labiod, *ENST Paris, France*

AN AVERAGE DEGRADATION DEGREE AND RATIO BASED RATE
ADAPTATION ALGORITHM FOR WIRELESS MOBILE NETWORKS

Floriano De Rango, Salvatore Marano, *University of Calabria, Italy*

AN EARLY RETRANSMISSION TECHNIQUE TO IMPROVE TCP
PERFORMANCE FOR MOBILE AD HOC NETWORKS

Dongkyun Kim, *Kyungpook National University, South Korea*; Chai-Keong Toh, *Queen Mary, University of London, UK*; Hong-Jong Jeong, *Kyungpook National University, South Korea*

SESSION: RF and BB

Wednesday (September 8th): 14h 30m – 16h 10m

CAPACITY GAINS OF SINGLE ANTENNA INTERFERENCE CANCELLATION
IN GSM

Martti Moision, Sami Nikkarinen, *Nokia Research Center, Finland*

A NOVEL ARCHITECTURE FOR SIX-PORT DIRECT CONVERSION RECEIVER

Mehrbod Mohajer, Abbas Mohammadi, *Amirkabir University of Technology(Tehran Polytechnic), Iran*

I/Q MISMATCH CANCELLATION FOR MIMO-OFDM SYSTEMS

Raghu Rao, Babak Daneshrad, *University of California, Los Angeles, U.S.A*

AN ADAPTIVE FEEDFORWARD POWER AMPLIFIER FOR UMTS
TRANSMITTERS

Jon Legarda, Jorge Presa, Hector Solar, Juan Melendez, *CEIT, Spain*; Armando Muñoz, *TECNUN, Spain*; Andrés García-Alonso, *CEIT, Spain*

WIDE-BAND, LOW CONSUMPTION, HIGH FREQUENCY DIVIDER BASED ON
A QUADRATURE LC OSCILLATOR ARCHITECTURE

Carla Ghidini, Danilo Gerna, *Newlogic, Austria*

SESSION: Coding, Modulation and Equalization (10)

Wednesday (September 8th): 14h 30m – 16h 10m

WATERFALL REGION ANALYSIS FOR ITERATIVE DECODING

Ali Ozgur Yilmaz, *Middle East Technical University, Turkey*

**PERFORMANCE COMPARISON BETWEEN CODED V-BLAST AND GSTTC
MIMO-OFDM SYSTEMS**

Yongmei Dai, Sumei Sun, Zhongding Lei, *Institute for Infocomm Research, Singapore*

**EFFICIENT LIST DECODING FOR PARALLEL CONCATENATED
CONVOLUTIONAL CODES**

Chunlong Bai, Bartosz Mielczarek, Witold Krzymien, Ivan J. Ivan J., *University of
Alberta/TRLabs/iCORE, Canada*

EXPURGATED SPHERE BOUND FOR LDPC

Vu Duc Ngo, Hae-Wook Choi, Sin-Chong Park, *Information and Communications
University, Korea*

**PERFORMANCE OF BANDWIDTH EFFICIENT MULTILEVEL HARQ SCHEMES
OVER WIRELESS CHANNELS**

Qinglin Luo, Peter Sweeney, *Centre for Communication Systems Research, University
of Surrey, United Kingdom*

SESSION: Spread Spectrum (1)

Wednesday (September 8th): 14h 30m – 16h 10m

APPLYING FREQUENCY ESTIMATION IN WCDMA

Niels Mørch, Ole Nørklit, *Nokia, Denmark*

**FORWARD LINK HANDOFF DISTRIBUTION WITH CORRELATED
LOGNORMAL FADING**

Dongdong Li, *University of Texas at Arlington, USA*; Jaber Khoja, *Microtune Inc.,
Plano, TX, USA*; Vasant Prabhu, *University of Texas at Arlington, USA*

**TRANSMIT DIVERSITY SCHEMES FOR AN OVERLOADED SPACE-TIME
SPREADING SYSTEM OVER A FLAT RAYLEIGH FADING CHANNEL**

Dianjun Chen, Takeshi Hashimoto, *Dept. of Electronics Engineering, Univ. of Eletro-
Communications, Japan*

**PERFORMANCE EVALUATION OF ANALOGUE PAL-G SIGNALS DUE TO
SPREAD SPECTRUM OVERLAY**

Demetris Dres, *NTUA, Greece*

SESSION: Space Time Coding (2)**Wednesday (September 8th): 14h 30m – 16h 10m**

ITERATIVE JOINT DECISION FEEDBACK EQUALIZATION AND DECODING
FOR CHIP SPACE-TIME BLOCK CODING IN WCDMA SYSTEMS USING LONG
SCRAMBLING CODES

Ivan Casella, *Universidade De Sao Paulo, Brazil*; Elvino Sousa, *University Of Toronto, Canada*; Paul Jean Jeszensky, *Universidade De Sao Paulo, Brasil*

DYNAMIC TRANSMIT POWER ALLOCATION STRATEGY FOR SPACE-TIME
TRELLIS CODED SYSTEMS

Agus Santoso, Yonghui Li, Branka Vucetic, *The University of Sydney, Australia*

SIMPLE DESIGN METHOD FOR SPACE-TIME TRELLIS CODES WITH AND
WITHOUT SERIAL CONCATENATION

Thomas Wu, *University of Toronto, Canada*; Peter McLane, *Queen's University, Canada*

PERFORMANCE FACTORS FOR SPACE-TIME TRELLIS CODES IN BLOCK
FADING CHANNELS

Amane Inoue, Tomoaki Ohtsuki, *Tokyo University of Science, Japan*

EFFICIENT MMSE-BASED TURBO-DECODING OF SPACE-TIME BICM OVER
MIMO BLOCK FADING ISI CHANNEL WITH IMPERFECT CSIR

Antoine Berthet, *Ecole Supérieure d'Electricité (SUPELEC), France*; Raphaël Visoz, Sami Chtourou, *France Télécom, France*

POSTER: MISCELANEOUS (1): Satellites, Wireless Propagation, Antennas & RF, Smart Antennas, Software Radio**Wednesday (September 8th): 14h 30m – 16h 10m****MULTI-ANTENNA WCDMA RECEIVER DESIGN WITH CORDIC**

Guoping Zhang, *Institute for infocomm research, Singapore*; Francois Chin, *Institute for infocomm research, Singapore*

LOWER AND UPPER BOUNDS OF FEEDBACK RATE ON MIMO CHANNELS

Duo Zhang, Guo Wei, Jinkang Zhu, *PCN&SS Lab, Dept 6, University of Science & Technology of China, P.R.China*

SIMULATION OF RAIN EVENTS TIME SERIES WITH MARKOV MODEL

Clémence Alasseur, Lionel Husson, *Supélec, France*; Fernanco Perez--Fontan, *Universidad de Vigo, Spain*

MOBILE STATION POSITIONING USING RADIAL BASIS FUNCTION NETWORKS

Hossein Zamiri-Jafarian, *University of Toronto, Canada*; Mirmojtaba Mirsalehi, Iman Ahadi-Akhlaghei, *Ferdowsi University, Iran*; Kostas Plataniotis, *University of Toronto, Canada*

KU-BAND HELICOPTER SATELLITE COMMUNICATIONS FOR ON SCENE DISASTER INFORMATION TRANSMISSION

Huan-Bang Li, Masaki Sato, Amane Miura, Shinichi Taira, Hiromitsu Wakana, *National Institute of Information and Communications Technology (NICT), Japan*

THE ROLE OF PATH LOSS ON THE SELECTION OF THE OPERATING BANDS OF UWB SYSTEMS

Dajana Cassioli, Annalisa Durantini, Walter Ciccognani, *RADIOLABS, Italy*

MINIMISING HANDOVER DELAY BETWEEN UMTS AND DVB NETWORKS

Amel Al-Bazi, Paul Pangalos, Hamid Aghvami, *King's College London, UK*

CONTROLLED LOAD SERVICES MANAGEMENT BASED ON SMOOTHING FACTOR AND REQUEST TIMEOUT ON SATELLITE SYSTEMS

Florian De Rango, Mauro Tropea, Salvatore Marano, *University of Calabria, Italy*

ENHANCED PERFORMANCE OF ROF LINK FOR CELLULAR MOBILE SYSTEMS USING POSTDISTORTION COMPENSATION

Chin Hee Lee, Vas Postoyalko, Tim O'Farrell, *University of Leeds, UK*

RAIN GAUGE NETWORK DESIGN APPLIED TO MILLIMETRE RADIOCOMMUNICATIONS PERFORMANCE ANALYSIS

Perfecto Mariño, Fernando P. Fontan, Fernando Machado, Cristina Enjamio, Santiago Otero, *University of Vigo, Spain*

NETWORK CONTROLLED ADAPTIVE ANTENNA TILTING IN MULTI-BAND UMTS FDD

Roger Abou-Jaoude, Jijun Luo, Markus Dillinger, Eiman Mohyeldin, Egon Schulz,
Siemens Mobile, Germany

ON THE GENERATION OF CORRELATED RAYLEIGH ENVELOPES FOR REPRESENTING THE VARIANT BEHAVIOR OF THE INDOOR RADIO PROPAGATION CHANNEL

Carlos Adrián Gutiérrez Díaz de León, Margarita Cabrera Bean, *Universidad Politecnica de Cataluña, Spain*; Jaime Sánchez García, *CICESE Research Center, México*

DESIGN OF A FACILITY FOR MEASURING ANTENNA PATTERNS FROM 400MHZ TO 40GHZ

Vicente Rodriguez, *ETS-Lindgren L.P., Spain*; Brian Lawrence, *ETS-Lindgren, UK*

NOVEL MIMO-SDMA CONFIGURATION ADOPTING DIRECTIVITY AND POLARIZATION CONTROL

Kentaro Nishimori, Yasushi Takatori, Riichi Kudoh, Nobuhiko Tachikawa, Kouichi Tsnekawa, *NTT Corporation, Japan*

CAPACITY OF MIMO SYSTEM WITH FINITE SCATTERING IN THE PRESENCE OF INTERFERENCE

Li Zhang, Alister Burr, Simon Hirst, *Communications research group, Department of Electronics, University of York, UK*

CAPACITY ENHANCEMENT IN SDMA SCHEME WITH ORTHOGONAL CODE

Chee Kyun Ng, Borhanuddin Mohd. Ali, Sabira Khatun, Sudhanshu Shekhar Jamuar, *Universiti Putra Malaysia, Malaysia*; Mahamod Ismail, *Universiti Kebangsaan Malaysia, Malaysia*

CAPACITY ESTIMATION OF POLARIZATION-DIVERSITY MIMO SYSTEMS IN URBAN MICROCELLULAR ENVIRONMENTS

Jesus Perez, Jesus Ibañez, Luis Vielva, Ignacio Santamaria, *University of Cantabria, Spain*

A MODIFIED TRANSPOSED FARROW SOLUTION TO MULTIPURPOSE MULTIRATE FILTERING IN SOFTWARE DEFINED RADIO (SDR)

Wenzehn Li, Masayuki Tomisawa, *OKI Techno Centre (Singapore) Pte Ltd., Singapore*

SESSION: CDMA (2)

Wednesday (September 8th): 16h 30m – 18h 10m

INTERCELL INTERFERENCE MARGIN FOR CDMA UPLINK RADIO NETWORK PLANNING

Zaher Dawy, Saronchan Jaranakaran, Sanaa Sharafeddine, *Munich University of Technology, Germany*

ON THE IMPACT OF PRIORITISED RADIO RESOURCE CONTROL ON TCP CONNECTIONS IN A DOWNLINK UMTS

Ramon Ferrus, *UPC, Spain*; Juan Rendon, *UPF, Spain*; Xavier Revés, Ferran Casadevall, *UPC, Spain*; Anna Sfairopoulou, *UPF, Spain*

A SUBOPTIMUM BASE-STATION ASSIGNMENT FOR CDMA CELLULAR NETWORKS WITH CLOSED-LOOP POWER CONTROL

Luis Mendo, *Polytechnic University of Madrid, Spain*

HARQ FOR WCDMA ENHANCED UPLINK: LINK LEVEL PERFORMANCE IN SHO

Massimo Bertinelli, Esa Malkamäki, *Nokia Research Center, Finland*

IMPACT OF INDOOR TRAFFIC ON W-CDMA CAPACITY

Jordi Pérez-Romero, Oriol Sallent, Ramon Agustí, *UPC, Spain*

SESSION: Intelligent Transportation Systems

Wednesday (September 8th): 16h 30m – 18h 10m

PREDICTING THE LIFETIME OF REPAIRABLE UNICAST ROUTING PATHS IN
VEHICLE-FORMED MOBILE AD HOC NETWORKS ON HIGHWAYS

Shie-Yuan Wang, *National Chiao Tung University, Taiwan*

A CONTEXT-BASED VEHICULAR COMMUNICATION PROTOCOL

Ioan Chisalita, Nahid Shahmehri, *Linköping University, Sweden*

DESIGN AND IMPLEMENTATION OF A J2EE PLATFORM TO HANDLE
STANDARDISED TELEMATICS EMERGENCY CALLS ORIGINATED FROM
VEHICLES

Josep Laborda, *RACC & Universitat Politècnica de Catalunya, Spain*; Xavier
Castells, *RACC Automobile Club, Spain*; Xavier Hesselbach, *Universitat Politècnica
de Catalunya, Spain*

PERFORMANCE OF EDCF MAC SCHEME FOR FUTURE MULTI-SERVICE
DSRC BASED ROAD-TO-VEHICLE COMMUNICATION SYSTEMS IN ITS

Xin Xia, ZhiSheng Niu, *Dept. of E.E. Tsinghua Univ., China*

MOBILE LOCATION ESTIMATION AND TRACKING FOR GSM SYSTEMS

Ding-Bing Lin, Rong-Terng Juang Juang, Hsin-Piao Lin, *Institute of Computer and
Communication, National Taipei University of Technology, Taiwan*

SESSION: Multiuser Detection

Wednesday (September 8th): 16h 30m – 18h 10m

**LOW COMPLEXITY SEMI-BLIND MAXIMUM-LIKELIHOOD MULTIUSER
RECEIVER FOR MC-CDMA SYSTEMS**

Zexian Li, Markku Juntti, Matti Latva-aho, *Centre for Wireless Communications,
University of Oulu, Finland*

**MULTIUSER DETECTION ALGORITHM BASED ON ITERATIVE
INTERFERENCE CANCELLATION FOR MC-MFSK SYSTEMS**

Zhan Yu, *ECE Department, National University of Singapore, Singapore*; Tjeng
Thiang Tjhung, Chin Choy Chai, *Institute for Infocomm Research, Singapore*

AN ITERATIVE GROUPWISE MULTIUSER DETECTOR WITH SOFT OUTPUT

Brad Zarikoff, James Cavers, *Simon Fraser University, Canada*

**BLIND SOURCE SEPARATION FOR MULTIUSER DETECTION IN MIMO MC-
CDMA SYSTEMS**

Daniel I. Iglesia, Adriana Dapena, Carlos J. Escudero, *Universidade da Coruña, Spain*

SESSION: Wireless IP

Wednesday (September 8th): 16h 30m – 18h 10m

ROAMING IN THE GLOBAL WIRELESS INTERNET

Chip Elliott, *BBN Technologies, USA*

-INVITED PAPER-

FAIRNESS MEASURES FOR BEST EFFORT TRAFFIC IN WIRELESS NETWORKS

Krister Norlund, *Ericsson AB, Sweden*; Tony Ottosson, *Chalmers University of Technology, Sweden*; Anna Brunstrom, *Karlstad University, Sweden*

802.11G WLAN MODELING FOR REAL TIME PACKET COMMUNICATION

Joao Angeja, Luis Carvalho, Antonio Navarro, *Telecommunications Institute - Aveiro University, Portugal*

SOFT HANDOVER AND ROUTING MECHANISMS FOR MOBILE DEVICES

Jukka Mäkelä, *University of Jyväskylä, Department of Mathematical Information Technology, Finland*; Gábor Fekete, *Jyväskylä Polytechnic, School of Information Technology, Hungary*; Jorma Narikka, *Jyväskylä Polytechnic, School of Information Technology, Finland*; Timo Hämäläinen, *University of Jyväskylä, Department of Mathematical Information Technology, Finland*; Anna-Maija Virkki, *Jyväskylä Polytechnic, School of Information Technology, Finland*

SESSION: Ultra Wide Band

Wednesday (September 8th): 16h 30m – 18h 10m

A NEW ANALYTICAL METHOD FOR EXACT BIT ERROR RATE
COMPUTATION OF TH-PPM UWB MULTIPLE ACCESS SYSTEMS

Somasundaram Niranjayan, *I2R, Singapore, Singapore*; Arumugam Nallanathan, *NUS, Singapore, Singapore*; Balakrishnan Kannan, *I2R, Singapore, Singapore*

EXPERIMENTAL ASSESSMENT OF THE UWB CHANNEL VARIABILITY IN A
DYNAMIC INDOOR ENVIRONMENT

Pascal Pagani, Patrice Pajusco, *France Telecom R&D, France*

TH-UWB AND DS-UWB IN LOGNORMAL FADING CHANNEL AND 802.11A
INTERFERENCE

Eduardo Cano, Sean McGrath, *University of Limerick, Ireland*

ADAPTATION OF THE IEEE 802.15.4 MAC LAYER TO AN ULTRA WIDE BAND
RADIOFREQUENCY PHYSICAL LAYER

Jérôme Vernez, Stephan Robert, *University of Applied Sciences of Western Switzerland (EIVD), Switzerland*; Alexandre Pollini, Andréas Hutter, *Centre Suisse d'Electronique et de Microtechnique (CSEM), Switzerland*

SESSION: Security

Wednesday (September 8th): 16h 30m – 18h 10m

MOBILE PERSONAL FIREWALL

Ying Qiu, Jianying Zhou, Feng Bao, *Institute for Infocomm Research, Singapore*

**LEVEL-BASED KEY ESTABLISHMENT FOR MULTICAST COMMUNICATION
IN MOBILE AD HOC NETWORKS**

Anindo Mukherjee, Meetu Gupta, Hongmei Deng, Dharma Agrawal, *University of Cincinnati, USA*

**ON THE IMPACT OF GSM ENCRYPTION AND MAN-IN-THE-MIDDLE
ATTACKS ON THE SECURITY OF INTEROPERATING GSM/UMTS NETWORKS**

Ulrike Meyer, *Darmstadt University of Technology, Department of Computer Science, Germany*; Susanne Wetzel, *Stevens Institute of Technology, Department of Computer Science, USA*

**TAP – PRACTICAL SECURITY PROTOCOLS FOR WIRELESS PERSONAL
DEVICES**

Anantharaman Lakshminarayanan, *Institute for Infocomm research, Singapore*

SESSION: Spread Spectrum (2)

Wednesday (September 8th): 16h 30m – 18h 10m

DESIGNING ADAPTIVE FILTERS-BASED MMSE RECEIVERS FOR
ASYNCHRONOUS MULTICARRIER DS-CDMA SYSTEMS

Ali Jamoos, Eric Grivel, Mohamed Najim, *Equipe Signal et Image, UMR 5131 LAP, France*

LOWER PHASE ESTIMATION BOUNDS FOR CDMA SYSTEMS IN AWGN AND
RAYLEIGH FADING CHANNELS

Mohamed El-Tarhuni, *American University of Sharjah, United Arab Emirates*

IMPULSE NOISE MITIGATION TECHNIQUE BASED ON DECISION MARGIN
ADAPTATION FOR MC-SS TRANSMISSION

Hanna Bogucka, *Poznan University of Technology, Poland*

COMPARISON OF PN CODE TRACKING DIGITAL DLL'S FOR
DIRECT
COMPARISON OF PN CODE TRACKING DIGITAL DLL'S FOR DIRECT
SEQUENCE SPREAD SPECTRUM SYSTEMS

Ivo Maljevic, *Univirsity of Toronto, Canada*; Elvino Sousa, *University of Toronto, Canada*

SESSION: Miscellaneous

Wednesday (September 8th): 16h 30m – 18h 10m

WIRELESS OVER CATV: AN ALTERNATIVE WIRELESS TOPOLOGY

Erez Biton, Adi Raichel, Dan Shklarsky, Mota Zussman, *PassOver Ltd., Israel*

A SEQUENTIAL ALGORITHM FOR OPTIMAL BASE STATIONS LOCATION IN A MOBILE RADIO NETWORK

Raul Chavez Santiago, Vladimir Lyandres, *Ben-Gurion University of the Negev, Israel*

A WIRELESS IN LOCAL LOOP ARCHITECTURE UTILIZING DIRECTIONAL MULTIHOP RELAYING

Mythili Vutukuru, Manoj B. S., Siva Ram Murthy C., *IIT Madras, India*

STAGE-BY-STAGE DETECTION OF DISTRIBUTED SPACE-TIME BLOCK ENCODED RELAYING NETWORKS

Mischa Dohler, Hamid Aghvami, *Kings College London, UK*; Branka Vucetic, Yonghui Li, *University of Sydney, Australia*

POSTER: MISCELANEOUS (2): Applications and Services, Experiments & Trials, Mobile Multimedia, Mobile Computing, Others
Wednesday (September 8th): 16h 30m – 18h 10m

A SCHEME OF DIGITAL TICKET FOR PERSONAL TRUSTED DEVICE
Feng Bao, *Institute for Infocomm Research, Singapore*

LAYERED SPACE-TIME CDMA RECEIVER WITH JOINT ITERATIVE
DETECTION, CHANNEL ESTIMATION AND DECODING
Ka Leong Lo, *DSpace Pty Ltd, Australia*; Branka Vucetic, Zhuo Chen, *University of Sydney, Australia*

ADAPTIVE SUB-CHANNEL ALLOCATION BASED UEP FOR VIDEO
TRANSMISSION IN SPACE-TIME CODED OFDM SYSTEMS
Guang-Hua Yang, Dongxu Shen, Victor O.K. Li, *The University of Hong Kong, Hong Kong, China*

JOINT CHANNEL & POLARIZATION ASSIGNMENT FOR CAPACITY
ENHANCEMENT IN NON LINE-OF-SIGHT FIXED WIRELESS NETWORKS
Konstantinos Ntagkounakis, Panos Dallas, *INTRACOM S.A., Greece*; Bayan Sharif, *University of Newcastle upon Tyne, U.K.*

FPGA IMPLEMENTATION OF 4X4 MIMO TEST-BED FOR SPATIAL
MULTIPLEXING SYSTEMS
Mengfei Cui, Hitekazu Murata, Kiyomichi Araki, *Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan*

ERROR RESILIENT VIDEO CODING FOR WIRELESS CHANNELS
Stefania Colonnese, Gianpiero Panci, Gaetano Scarano, *Dip. INFOCOM, Univ. "La Sapienza", Roma, Italy*

SUBSTITUTION OF RS422 NAVIGATION SENSOR NETWORKS USING
BLUETOOTH COMMUNICATION FOR INTEGRATED BRIDGES ON VESSELS
Hans-Dieter Schütte, Hans-Jürgen Naumann, *Westcoast University of Applied Sciences, Germany*

DYNAMIC IMAGE ADAPTATION TECHNIQUE AND ARCHITECTURE TO
ENHANCE SERVER PERFORMANCE IN WIRELESS IMAGE SERVICES
Dong-Gi Lee, Sujit Dey, *University of California, San Diego, USA*

SECURE MEDIA ACCESS CONTROL (MAC) IN WIRELESS SENSOR
NETWORKS: INTRUSION DETECTIONS AND COUNTERMEASURES
Qingchun Ren, Qilian Liang, *University of Texas at Arlington, U.S.*

AN ANALYTICAL APPROACH TO THE PERFORMANCE EVALUATION OF
MOBILITY PROTOCOLS: THE OVERALL MOBILITY COST CASE
Stefano Galli, Anthony McAuley, Raquel Morera, *Telcordia Technologies, USA*

AN ARCHITECTURE ENABLING BLUETOOTH™/JIN™
INTEROPERABILITY

On Shun Chau, Pan Hui, Victor Li, *The University of Hong Kong, Hong Kong*

NUMERICAL ANALYSIS METHOD FOR WIRELESS CHANNEL OF MIMO
SYSTEM

Qiang Chen, Kenji Yamaguchi, Xiaopeng Yang, Kunio Sawaya, *Tohoku University, Japan*

DOMOTIC PLATFORM BASED ON MULTIPURPOSE WIRELESS
TECHNOLOGY WITH DISTRIBUTED PROCESSING CAPABILITIES

Alvaro Araujo, David Fraga Aydillo, Jose Manuel Moya Fernández, Octavio Nieto-Taladriz, *IEL-UPM, Spain*

ON THE IMPORTANCE OF ERROR MEMORY IN UMTS RADIO CHANNEL
EMULATION USING HIDDEN MARKOV MODELS (HMM)

Anna Umbert, Pilar Diaz, *Universitat Politècnica De Catalunya, Spain*

A GENERIC DYNAMIC FEC SOLUTION FOR VIDEO CODING

J Tavares, Antonio Navarro, *University of Aveiro-University Campus, Portugal*

PERFORMANCE EVALUATION OF THE CDMA/GPS-DW MODEL FOR
MULTIMEDIA TRAFFIC CONSIDERING A PREEMPTIVE PRIORITY SCHEME

Aldo Mendez, David Covarrubias, Carlos Brizuela, *CICESE Research Centre, Mexico*