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TABLE OF CONTENTS

Ad hoc Networks

An Interference and Link-Quality Aware Routing Metric for Wireless Mesh Networks	1
<i>Usman Ashraf, LAAS-CNRS, France; Slim Abdellatif, LAAS-CNRS, France; and Guy Juanole, LAAS-CNRS, France</i>	
Performance of Efficient CBRP in Mobile Ad Hoc Networks (MANETS)	6
<i>Jane Y. Yu, Nanyang Technological University, Singapore; Peter H.J. Chong, Nanyang Technological University, Singapore; and Mingyang Zhang, Nanyang Technological Univ, Singapore</i>	
Resource Efficiency in MANETs: Effect of Spurious Timeouts and Routing Protocol Dynamics.....	13
<i>Consolee Mbarushimana, Glasgow Caledonian University, UK; and Ali Shahrabi, Glasgow Caledonian University, UK</i>	
Spatially Constrained Dissemination of Traffic Information in Vehicular Ad Hoc Networks	18
<i>Attila Török, Bay Zoltan Foundation for Applied Research, Hungary; Péter Laborczi, Bay Zoltan Foundation for Applied Research, Hungary; and Gábor Gerháth, Bay Zoltan Foundation for Applied Research, Hungary</i>	
Vector Routing for Delay Tolerant Networks.....	23
<i>Hyunwoo Kang, Kyungpook National University, Korea; and Dongkyun Kim, Kyungpook National University, Korea</i>	

Wireless Sensor Networks

A Simple Outlier Data Rejection Algorithm for An RSSI-based ML Location Estimation in Wireless Sensor Networks	28
<i>Daisuke Anzai, Osaka City University, Japan; and Shinsuke Hara, Osaka City University, Japan</i>	
An Energy Efficient Cross-Layer Design for Healthcare Monitoring Wireless Sensor Networks	33
<i>Huaqing Wang, Key Laboratory of Universal Wireless Communication, Beijing University of Posts and Telecommunications, Ministry of Education, China; Yue OuYang, Key Laboratory of Universal Wireless Communication, Beijing University of Posts and Telecommunications, Ministry of Education, China; and Guixia Kang, Key Laboratory of Universal Wireless Communication, Beijing University of Posts and Telecommunications, Ministry of Education, China</i>	
Distributed Incremental Quantization and Estimation for Wireless Sensor Networks.....	38
<i>Li Zhang, Tsinghua University, China; and Xian-Da Zhang, Tsinghua University, China</i>	
DNIB: Distributed Neighborhood Information Based TDMA Scheduling for Wireless Sensor Networks	43
<i>Ines Slama, Telecom Sudparis, France; Bharat Shrestha, Asian Institute of Technology, Thailand ; Badii Jouaber, Telecom Sudparis, France; Djamel Zeghlache, Telecom Sudparis, France; and Tapio J. Erke, Asian Institute of Technology, Thailand</i>	
On the Asymptotic Analysis of Average Interference Power Generated by a Wireless Sensor Network	48
<i>Muhammad Aljuaid, Carleton University, Canada; and Halim Yanikomeroglu, Carleton University, Canada</i>	

Antennas

A Dual-band HF / UHF Antenna for RFID Tags.....	53
<i>Lukas W. Mayer, Vienna University of Technology, Austria; and Arpad L. Scholtz, Vienna University of Technology, Austria</i>	
Single-Feed Dual-Band Stacked Patch Antenna for Orthogonal Circularly Polarized GPS and SDARS Applications.....	58
<i>Kevin Geary, HRL Laboratories, LLC, USA; James Schaffner, HRL Laboratories, LLC, USA; Hui-Pin Hsu, HRL Laboratories, LLC, USA; Hyok Song, HRL Laboratories, LLC, USA; Joseph Colburn, HRL Laboratories, LLC, USA; and Eray Yasan, OnStar Corporation, USA</i>	
Single-Port Circular-Patch Polarization Diversity Antenna	63
<i>Ali Khaleghi, Rikshospitalet University and Norwegian University of Science and Technology (NTNU), Norway</i>	
The Design of UWB Bandpass Filter-Combined Ultra-Wide Band Antenna.....	67
<i>Jung Nam Lee, Hanbat National University, Korea(south); Jin Hee Yoo, Hanbat National University, Korea(south); Ji Hae Kim, Hanbat National University, Korea(south); Jong Kweon Park, Hanbat National University, Korea(south); and Jin Suk Kim, Hanbat National University, Korea(south)</i>	

Waveform Optimization in UWB Antenna systems based on Prolate Spheroidal Wave Signal Spaces	72
<i>Pedro Luis Carro, University of Zaragoza, Spain; Jesus de Mingo, University of Zaragoza, Spain; and Paloma Garcia, University of Zaragoza, Spain</i>	

Channel Modeling

A Spatially-Correlated Tapped Delay Line Model for Body Area Networks	77
<i>Stéphane van Roy, Université Libre de Bruxelles, Belgium; Claude Oestges, Université Catholique de Louvain, Belgium; François Horlin, Université Libre de Bruxelles, Belgium; and Philippe De Doncker, Université Libre de Bruxelles, Belgium</i>	
A Stochastic Model for Non-Stationary Outdoor K-Factor Variation	82
<i>Geoffrey Messier, University of Calgary, Canada; and Jennifer Hartwell, TRILabs, Canada</i>	
Doppler Shift Distribution With A Semi-Spheroid Model for Mobile Radio Environments	87
<i>Shouxing Qu, Research In Motion Limited, Canada</i>	
Second-Order Statistics of Polarization State Dispersion by Narrowband Ricean Fading Channels	91
<i>Kyle Sivertsen, University of British Columbia, Canada; Anthony Liou, University of British Columbia, Canada; and David Michelson, University of British Columbia, Canada</i>	
Location Variability of the Field Strength Local Median Values in the Medium Wave Band	96
<i>Susana Lopez, University of the Basque Country UPV-EHU, Spain; Gorka Berjón, University of the Basque Country UPV-EHU, Spain; David De La Vega, University of the Basque Country UPV-EHU, Spain; Unai Gil, University of the Basque Country UPV-EHU, Spain; P. Angueira, University of the Basque Country UPV-EHU, Spain; M. M. Vélez, University of the Basque Country UPV-EHU, Spain; and J. L. Ordiales, University of the Basque Country UPV-EHU, Spain</i>	

MIMO - VI

A Study on a Novel Transmit Scheme for MIMO Channel Sounding Architecture	101
<i>Minjae Kim, Information and Communications University, Korea; Sunghyun Kim, Information and Communications University, Korea; and Hyuckjae Lee, Information and Communications University, Korea</i>	
An Experimental 8x8 System Used to Characterize the Spatial Channel at 3.5 GHz	105
<i>Vipul Desai, Motorola Labs, USA; James Kepler, Motorola Labs, USA; Everett Stone, Motorola, USA; John Thomas, Motorola Labs, USA; and Timothy Thomas, Motorola Labs, USA</i>	
Analysis of MIMO Channel Capacity Dependence on Antenna Geometry and Environmental Parameters	110
<i>Paul Lusina, Research in Motion, Canada; and Farzaneh Kohandani, Research in Motion, Canada</i>	
Channel Correlation and Cross-Polar Ratio in Multi-Polarized MIMO Channels: Analytical Derivation and Experimental Validation	115
<i>François Quitin, Université Libre de Bruxelles, Belgium; Claude Oestges, Université catholique de Louvain, Belgium; François Horlin, Université Libre de Bruxelles, Belgium; and Philippe De Doncker, Université Libre de Bruxelles, Belgium</i>	
Eigenvalue Statistics and Spatial Characteristics in Hotspot Areas Based on Wideband MIMO Channel Measurements	120
<i>Xinying Gao, Beijing University of Posts and Telecommunications, China; Jianhua Zhang, Beijing University of Posts and Telecommunications, China; and Yu Zhang, Beijing University of Posts and Telecommunications, China</i>	

MIMO - VII

Evaluating Indoor versus Outdoor Infrastructure for the Delivery of Broadband MIMO-OFDM Service	125
<i>Vincent C.W. Yeung, Marvell Canada Corporation, Canada; Geoffrey G. Messier, University of Calgary, Canada; and Henry Lai, University of Calgary, Canada</i>	
Hardware Simulator for MIMO Radio Channels: Design and Features of the Digital Block	130
<i>Sylvie Picol, IETR-INSA de Rennes, France; Gheorghe Zaharia, IETR-INSA de Rennes, France; Dominique Houzet, GIPSA-Lab, INPG, France; and Ghais El-Zein, IETR-INSA de Rennes, France</i>	
On the Performance of Analytical Channel Models in Capturing Channel Correlation Structure	135
<i>Leslie Wood, University of California, San Diego, USA; and William Hodgkiss, University of California, San Diego, USA</i>	

MIMO Antenna Array Impact on Channel Capacity for a Realistic Macro-Cellular Urban Environment	140
<i>Pedro Vieira, DEETC, Lisbon Polytechnic Institute (ISEL), Portugal; Paula Queluz, IT/IST, Technical University of Lisbon, Portugal; and António Rodrigues, IT/IST, Technical University of Lisbon, Portugal</i>	
Indoor Event Detection with Eigenvector Spanning Signal Subspace for Home or Office Security	145
<i>Shohei Ikeda, Keio University, Japan; Hiroyuki Tsuji, National Institute of Information and Communications Technology, Japan; and Tomoaki Ohtsuki, Keio University, Japan</i>	
Modeling & Simulation - I	
A New Path Loss Predicting Strategy for Radio Network Planning	150
<i>Nanning Yuan, Wireless Theories and Technologies Lab. of BUPT, P. R. China; Zaixue Wei, Wireless Theories and Technologies Lab. of BUPT, P. R. China; Xin Zhang, Wireless Theories and Technologies Lab. of BUPT, P. R. China; and Dacheng Yang, Wireless Theories and Technologies Lab. of BUPT, P. R. China</i>	
Accounting for Wind Effects on Fixed Wireless Channels in Suburban Macrocell Environments	155
<i>Anthony Liou, University of British Columbia, Canada; Wadah Muneer, University of British Columbia, Canada; Kyle Sivertsen, University of British Columbia, Canada; and David Michelson, University of British Columbia, Canada</i>	
Downtilted Base Station Antennas – A Simulation Model Proposal and Impact on HSPA and LTE Performance.....	159
<i>Fredrik Gunnarsson, Ericsson Research, Sweden; Martin Johansson, Ericsson Research, Sweden; Anders Furuskär, Ericsson Research, Sweden; Magnus Lundevall, Ericsson Research, Sweden; Arne Simonsson, Ericsson Research, Sweden; Ericsson Research, Sweden; and Mats Blomgren, Ericsson Research, Sweden</i>	
Influence of Temporal and Spatial Sampling Parameters on Electromagnetic Field Measurements	164
<i>Daniel Sebastiao, IST/IT - Technical University of Lisbon, Portugal; Diana Ladeira, IST/IT - Technical University of Lisbon, Portugal; Monica Antunes, IST/IT - Technical University of Lisbon, Portugal; and Luis M. Correia, IST/IT - Technical University of IST/IT - Technical University of Lisbon, Portugal</i>	
A Four-state Markov Model Based on Measurements for Evaluating the Packet-level Performance of VANET	169
<i>Lintao Yang, Wuhan University, China; Hao Jiang, Wuhan University, China; Cheng-cheng Guo, Wuhan University, China; Yu-hao Wang, Nanchang University, China; Jing Wu, Wuhan University, China; and Li-jia Chen, Wuhan University, China</i>	
Modeling & Simulation - II	
Performance of OFDM System on Link Simulation with Measured Outdoor Channels at 3.5GHz.....	173
<i>Wei Li, Shanghai Research Center for Wireless Communications, P.R.China; Ping Wang, Shanghai Institute of Microsystem and Information Technology, CAS, P.R. China; Zhen Wang, Shanghai Research Center for Wireless Communications, P.R. China; and Yingzhe Li, Shanghai Institute of Microsystem and Information Technology, CAS, P.R. China</i>	
WiMAX Channel Model for Mountainous Areas.....	178
<i>Paola Cardamone, VTT – Technical Research Centre of Finland, Italy; Ilkka Harjula, VTT – Technical Research Centre of Finland, Finland; Federico Albiero, VTT – Technical Research Centre of Finland, Italy; Marcos Katz, VTT – Technical Research Centre of Finland, Finland; and Lorenzo Muccchi, VTT – Technical Research Centre of Finland, Finland</i>	
Propagation Path Loss Modeling in Container Terminal Environment	183
<i>Ryszard Katulski, Gdansk University of Technology, Poland; Jaroslaw Sadowski, Gdansk University of Technology, Poland; and Jacek Stefanski, Gdansk University of Technology, Poland</i>	
Incabin Millimeter Wave Propagation Simulation in a Wide-Bodied Aircraft Using Ray-Tracing	187
<i>Robert Felbecker, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; Wilhelm Keusgen, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; and Michael Peter, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany</i>	

Reverberation Chamber Environment for Testing Communication Systems: Applications to OFDM and SC-FDE 192
Olivier Delangre, Université Libre de Bruxelles, Belgium; Philippe De Doncker, Université Libre de Bruxelles, Belgium; François Horlin, Université Libre de Bruxelles, Belgium; Martine Lienard, Université des Sciences et Technologies de Lille, France; and Pierre Degauque, Université des Sciences et Technologies de Lille, France

Radio & Optical Channel Physics

Analytical Formulas for Calculating Reflections on Finite Multilayer Structures 197
Jan-willem De Bleser, Katholieke Universiteit Leuven, Belgium; Emmanuel Van Lil, Katholieke Universiteit Leuven, Belgium; and Antoine Van de Capelle, Katholieke Universiteit Leuven, Belgium

Attenuation Analysis for Optical Wireless Link Measurements under Moderate Continental Fog Conditions at Milan and Graz..... 201
Muhammad Saleem Awan, Graz University of Technology, Austria; Erich Leitgeb, Graz University of Technology, Austria; Carlo Capsoni, Politecnico di Milano, Italy; Roberto Nebuloni, Politecnico di Milano, Italy; Marzuki Marzuki, Graz University of Technology, Austria; Farukh Nadeem, Graz University of Technology, Austria; and Muhammad Saeed Khan, Graz University of Technology, Austria

The Effect of Rain Attenuation on the Performance of BFWA around Kjeller, Norway..... 206
Michael Cheffena, University Graduate Center - UNIK, Norway

Joint TOA and AO/AOD Spectrum for Ultra-Wideband Indoor Double-Directional Channel Estimation 211
Naohiko Iwakiri, Tokyo Denki University, Japan; and Takehiko Kobayashi, Tokyo Denki University, Japan

On Parameter Estimation for Ultra-Wideband Channels with Clustering Phenomenon 216
Wei-De Wu, National Tsing Hua University, Taiwan, R.O.C.; Chung-Hsuan Wang, National Chiao Tung University, Taiwan, R.O.C.; Chi-chao Chao, National Tsing Hua University, Taiwan, R.O.C.; and Klaus Witrisal, Graz University of Technology, Austria

Radio Propagation Measurements

A Wideband Channel Sounder for Car-to-Car Radio Channel Measurements at 5.7 GHz and Results for an Urban Scenario 221
Panagiotis Paschalidis, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; Mike Wisotzki, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; Andreas Kortke, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; Wilhelm Keusgen, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany; and Michael Peter, Fraunhofer Institut für Nachrichtentechnik Heinrich Hertz Institut, Germany

Radio Channel Measurements and Characterization inside Aircrafts for In-Cabin Wireless Networks 226
Nektarios Moraitis, National Technical University of Athens, Greece; and Philip Constantinou, National Technical University of Athens, Greece

Wideband Car-to-Car Radio Channel Measurements and Model at 5.9 GHz 231
Jürgen Kunisch, IMST GmbH, Germany; and Jörg Pamp, IMST GmbH, Germany

Wideband MIMO Car-to-Car Radio Channel Measurements at 5.3 GHz 236
Olivier Renaudin, Université catholique de Louvain (UCL), Belgium; Veli-Matti Kolmonen, TKK Helsinki University of Technology, Finland; Pertti Vainikainen, TKK Helsinki University of Technology, Finland; and Claude Oestges, Université catholique de Louvain (UCL), Belgium

Outdoor-Indoor Propagation Measurements and Link Performance in the VHF/UHF Bands..... 241
Margot Karam, Motorola Labs, USA; William Turney, Motorola Labs, USA; Kevin Baum, Motorola Labs, USA; Philippe Sartori, Motorola Labs, USA; Laddie Malek, Motorola Labs, USA; and Isselmou Ould-Dellahy, Motorola Labs, USA

Mobile Satellite Systems

Factor Graphs for Satellite Broadcast Scheduling Problems 246
Jung-Chieh Chen, National Kaohsiung Normal University, Taiwan; Chao-Kai Wen, MediaTek Inc., Taiwan; and Pangan Ting, Industrial Technology Research Institute, Taiwan

On the Capacity of Generalized Fading/Shadowing Channels	251
<i>Petros Bithas, National Observatory of Athens, Greece; P. Takis Mathiopoulos, National Observatory of Athens, Greece; and Stavros Kotsopoulos, University of Patras, Greece</i>	
Performance Evaluation of Satellite-based Search and Rescue Services: Galileo vs. Cospas-Sarsat	256
<i>Andreas Lewandowski, Dortmund University of Technology, Germany; Brian Niehoefer, Dortmund University of Technology, Germany; and Christian Wietfeld, Dortmund University of Technology, Germany</i>	
Resources Allocation and Performance Analysis in S-UMTS Network	261
<i>Nawel Zangar, Université de Versailles, France; Sami Tabbane, Sup'Com Higher School Tunis - Tunis, Tunisia; and Samir Tohmé, Université de Versailles, France</i>	
Zero-Knowledge Beamforming for Mobile Satellite Phased Array Antenna	266
<i>Mohammad Fakharzadeh, University of Waterloo, Canada; S. Hamidreza Jamali, University of Waterloo, Canada; Kiarash Narimani, University of Waterloo, Canada; Pedram Mousavi, University of Waterloo, Canada; Safieddin Safavi-Naeini, University of Waterloo, Canada; and Javad Ahmadi-Shokouh, University of Waterloo, Canada</i>	
Channel Estimation - III	
A Frequency-Domain Correlation Matrix Estimation Algorithm for MIMO-OFDM Channel Estimation	271
<i>Feng Wan, Concordia University, Canada; Wei-Ping Zhu, Concordia University, Canada; and M.N.S. Swamy, Concordia University, Canada</i>	
Channel Prediction and Predictive Vector Quantization Aided Channel Impulse Response Feedback for SDMA Downlink Preprocessing	276
<i>Du Yang, Communications Research Group, School of ECS, University of Southampton, U.K.; Wei Liu, Communications Research Group, School of ECS, University of Southampton, U.K.; Lie.-Liang Yang, Communications Research Group, School of ECS, University of Southampton, U.K.; and Lajos Hanzo, Communications Research Group, School of ECS, University of Southampton, U.K.</i>	
Improving MIMO Channel Estimation Through Training Symbols Redundancy	281
<i>Victor Vergara, University of New Mexico, USA; Silvio Barbin, Centro de Pesquisas Renato Archer, Brazil; and Ramiro Jordan, University of New Mexico, USA</i>	
Multiple Carrier Frequency Offset and Channel State Estimation in the Fading Channel	286
<i>Brad Zarikoff, Simon Fraser University, Canada; and James Cavers, Simon Fraser University, Canada</i>	
SVD-based Frequency Domain Equalizer for MIMO-CDMA Systems Using Virtual Antennas	291
<i>Hui Lu, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China; Qixing Wang, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China; Yongyu Chang, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Wireless Theories and Technologies Lab, Beijing University of Posts and Telecommunications, China</i>	
Cooperative Relay Networks - VII	
Cooperative Transmission with Partial Channel Information in Multi-User MISO Wireless Systems	296
<i>Keon-Wook Lee, Seoul National University, Korea; and Yong-Hwan Lee, Seoul National University, Korea</i>	
Distributed Space-time Coded Transmission Achieving Full Cooperative and Multipath Diversities for Asynchronous Cooperative Communications	301
<i>Zhimeng Zhong, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; Shihua Zhu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; Gangming Lv, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; and Tao Liu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China</i>	
On the Outage Probability of Asynchronous Wireless Cooperative Networks	306
<i>Michel Nahas, Orange Labs, France; Ahmed Saadani, Orange Labs, France; and Walid Hachem, Telecom ParisTech, France</i>	

Opportunistic Cooperation Based on Delayed Retransmissions for a Multi-user Uplink System 311
Jinsu Kim, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea

Performance Evaluation of Cooperative Relaying Networks Using 3D Ray Launching Method for Wireless Propagation Prediction 315
Hiroki Tanaka, Kyoto University, Japan; Hidekazu Murata, Kyoto University, Japan; Koji Yamamoto, Kyoto University, Japan; and Susumu Yoshida, Kyoto University, Japan

Implementation Aspects

Advantages of Simple MIMO Schemes for Robust or High Data Rate Transmission Systems in Underground Tunnels 319
Yann Cocheril, INRETS, France; Charlotte Langlais, TELECOM - Bretagne, France; Marion Berbineau, INRETS, France; and G erald Moniak, INRETS, France

Impact of the Angular Velocity on the Signals Spectrum and Performance of Antenna-Array Receivers 324
Mamadou Abdoulaye Diop, INRS-EMT, Canada; Karim Cheikhrouhou, INRS-EMT, Canada; and Sofiene Affes, INRS-EMT, Canada

Impact of Transmit Array Geometry on Downlink System-Level Performance of MIMO Systems 329
Afif Osseiran, Ericsson Research, Sweden; Kambiz Zangi, Ericsson Research, USA; and Dennis Hui, Ericsson Research, USA

Practical Results of High Resolution AOA Estimation by the Synthetic Array 334
Ali Broumandan, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and G erard Lachapelle, University of Calgary, Canada

TOA Estimation Enhancement based on Blind Calibration of Synthetic Arrays 339
Ali Broumandan, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and G erard Lachapelle, University of Calgary, Canada

Limited Feedback Schemes

Adaptive CQI Feedback and Efficient CQI Update Scheme for Codebook Based MU-MIMO in E-UTRA 344
Jianchi Zhu, DoCoMo Beijing Communications Laboratories Co., Ltd, China; Xiaoming She, DoCoMo Beijing Communications Laboratories Co., Ltd, China; Jingxiu Liu, DoCoMo Beijing Communications Laboratories Co., Ltd, China; and Lan Chen, DoCoMo Beijing Communications, China

Downlink Limited Feedback Transmission Schemes for Asymmetric MIMO Channels 350
Mohsen Eslami, University of Alberta, Canada; and Witold A. Krzymien, University of Alberta, Canada

Per-subcarrier Antenna Selection with Power Constraints in OFDM Systems 355
Magnus Sandell, Toshiba Research Europe Ltd, United Kingdom; and Justin Coon, Toshiba Research Europe Ltd, United Kingdom

Random Beamforming in Spatially Correlated Multiuser MISO Channels 360
Jae-Yun Ko, Seoul National University, Korea; and Yong-Hwan Lee, Seoul National University, Korea

Two-Way Relaying with Multiple Antennas using Covariance Feedback 365
Winston Ho, Institute for Infocomm Research (I2R), Singapore; and Ying-Chang Liang, Institute for Infocomm Research (I2R), Singapore

MIMO - III

Reduced-Complexity Adaptive Receiver Algorithms for 4G SU-MIMO Systems 370
Ozgun Bursalioglu, University of Southern California, Los Angeles, USA; Haralabos Papadopoulos, DoCoMo USA Labs, USA; and Carl-Erik Sundberg, DoCoMo USA Labs, USA

A Flexible Tree Searching Scheme for MIMO Detection	375
<i>Chunlin Yan, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China; Wei Wang, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China; Zhan Zhang, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China; and Hidetoshi Kayama, DoCoMo (Beijing) Communications Laboratories Co., Ltd, China</i>	
A Hybrid ML Decoding Scheme for Multiple Input Multiple Output Signals on Partitioned Tree.....	380
<i>Jongho Oh, Korea Advanced Institute of Science and Technology, Republic of Korea; lickho Song, Korea Advanced Institute of Science and Technology, Republic of Korea; Juho Park, Korea Advanced Institute of Science and Technology, Republic of Korea; Min A Jeong, Mokpo National University, Republic of Korea; and Myeong Soo Choi, Mokpo National University, Republic of Korea</i>	
A Metric-First Scheme for MIMO Signal Decoding with Branch Length Threshold.....	385
<i>Seong Ro Lee, Mokpo National University, Korea; Taehun An, KAIST, Korea; Hyun Gu Kang, KAIST, Korea; and lickho Song, KAIST, Korea</i>	
A Novel Architecture of Sphere Decoder for Low Complexity and High Throughput.....	390
<i>Jin Lee, Information and Communications University, Korea; and Sin-Chong Park, Information and Communications University, Korea</i>	
MIMO - IV	
Efficient User Selection and Generalized Beamforming for Multi-user MIMO Downlink.....	395
<i>An Liu, School of EECS, Peking University, China; Wu Luo, School of EECS, Peking University, China; and Haige Xiang, School of EECS, Peking University, China</i>	
Rate-Invariant User Preselection for Complexity Reduction in Multiuser MIMO Systems.....	400
<i>Christian Guthy, Technische Universität München, Germany; Wolfgang Utschick, Technische Universität München, Germany; Josef A. Nossek, Technische Universität München, Germany; Guido Dietl, DoCoMo Communication Laboratories Europe GmbH, Germany; and Gerhard Bauch, DoCoMo Communication Laboratories Europe GmbH, Germany</i>	
Regularized Channel Distribution Inversion (RCDI) and Parameterization in the MIMO Broadcast Channel	405
<i>Adam Anderson, University of California, San Diego, USA; James Zeidler, University of California, San Diego, USA; and Michael Jensen, Brigham Young University, USA</i>	
Stable Transmission in the Frequency-Selective MIMO Broadcast Channel.....	410
<i>Yan Shi, Brigham Young University, USA; and Michael Jensen, Brigham Young University, USA</i>	
User Ordering and Subchannel Selection for Power Minimization in MIMO Broadcast Channels using BD-GMD	415
<i>Winston Ho, Institute for Infocomm Research (I2R), Singapore; and Ying-Chang Liang, Institute for Infocomm Research (I2R), Singapore</i>	
OFDM - VI	
A Random Beamforming Technique in Multiuser Multi-Antenna OFDM Systems for Large System Capacity and Fairness Among Users	420
<i>Yoshitaka Eriguchi, Tokyo University of Science, Japan; and Tomoaki Ohtsuki, Keio University, Japan</i>	
Inter-cell Interference Modeling for OFDMA Systems with Beamforming.....	425
<i>Yongquan Qiang, Motorola Labs, China; Guillaume Vivier, Motorola Labs, France; Jin Yang, Motorola Labs, China; and Ning Xu, Motorola Labs, China</i>	
Multipath Diversity through Time Shifted Sampling for Spatially Correlated OFDM-Antenna Array Systems	430
<i>Refik Caglar Kizilirmak, Keio University, Japan; and Yukitoshi Sanada, Keio University, Japan</i>	
System-Level Evaluation of a Downlink OFDM Kalman-Based Switched-Beam System with Subcarrier Allocation Strategies.....	435
<i>Raouia Nasri, Institut National de la Recherche Scientifique, Canada; Abla Kammoun, Ecole Nationale Supérieure des Télécommunications, Paris, France; Alex Stéphenne, Ericsson Canada, Montreal, Canada; and Sofiene Affes, Institut National de la Recherche Scientifique, Canada</i>	
Transmit Beamforming for MIMO-OFDM Systems with Limited Feedback	440
<i>Jiangchun Huang, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; Jianhua Zhang, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; Zhen Liu, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; Jianing Li, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China; and Xiaofan Li, Wireless Technology Innovation Institute, Beijing University of Posts and Telecom, China</i>	

Performance Analysis - II

Beam Selection Gain from Butler Matrices	445
<i>Dongwoon Bai, Harvard University, USA; Saeed Ghassemzadeh, AT&T Labs. - Research, USA; Robert Miller, AT&T Labs. - Research, USA; and Vahid Tarokh, Harvard University, USA</i>	
On the Optimal Receive Soft Antenna Selection for Reliable Communications in MIMO Interference Channels	450
<i>Javad Ahmadi-Shokouh, University of Waterloo, Canada; S. Hamidreza Jamali, University of Waterloo, Canada; Safieddin Safavi-Naeini, University of Waterloo, Canada; and Mohammad Fakharzadeh, University of Waterloo, Canada</i>	
Performance Analysis on Maximum Likelihood Detection for Two Input Multiple Output Systems	455
<i>Wei Peng, Tohoku University, Japan; Shaodan Ma, Tohoku University, Hong Kong; Tung-sang Ng, The University of Hong Kong, Hong Kong; Jiangzhou Wang, Kent University, United Kindom; and Fumiyuki Adachi, Tohoku University, Japan</i>	
Performance of Dedicated Indoor MIMO HSDPA Systems	460
<i>Karl Molnar, Ericsson Inc., USA; and Stephen Grant, Ericsson Inc., USA</i>	
Polynomial Expression for Distribution of the Smallest Eigenvalue of Wishart Matrices	465
<i>Haochuan Zhang, Beijing University of Posts and Telecommunications, China; Fangfang Niu, Beijing University of Posts and Telecommunications, China; Hongwen Yang, Beijing University of Posts and Telecommunications, China; Xin Zhang, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Beijing University of Posts and Telecommunications, China</i>	

Precoding

Channelization Issues with Fairness Considerations for MU-MIMO Precoding Based UTRA-LTE/TDD Systems.....	469
<i>Muhammad Rahman, Ericsson, Sweden; Yuanye Wang, AAU, Denmark; Suvra Das, Tata, India; Troels Sørensen, AAU, Denmark; and Preben Mogensen, AAU, Denmark</i>	
Multiuser Trellis Shaping for Space-Time Codes in Vector Gaussian Broadcast Channel.....	474
<i>Tsuguhide Aoki, Yokohama National University, Japan; and Ryuji Kohno, Yokohama National University, Japan</i>	
Novel BD MU-MIMO Pre-coding Methods to Suppress Noise and Balance Receive Antennas	480
<i>Xuelin Feng, Key Laboratory of Universal Wireless Communications (Beijing University of Posts and Telecommunications), Ministry of Education, P. R. China; Lihua Li, Key Laboratory of Universal Wireless Communications (Beijing University of Posts and Telecommunications), Ministry of Education, P. R. China; Xiaofeng Tao, Wireless Technology Innovation Institute, P. R. China; and Xiaohui Yang, Samsung Electronics(Beijing), P. R. China</i>	
A New Two-Step Precoding based on Rotation Transformations in Closed-loop MIMO Systems	485
<i>Heunchul Lee, Korea University, Korea; Seok-Hwan Park, Korea University, Korea; and Inkyu Lee, Korea University, Korea</i>	
Robustness of Reduced Feedback Precoding in Frame-Based MIMO Systems.....	490
<i>Geoffrey W.K. Colman, Communications Research Centre, Canada; and Tricia J. Willink, Communications Research Centre, Canada</i>	

Scheduling - I

A Novel User Scheduling Strategy for Multiuser MIMO Systems with Random Unitary Beamforming.....	495
<i>Peng Lu, University of Victoria, Canada; and Hongchuan Yang, University of Victoria, Canada</i>	
Allocation Fairness for MIMO Precoded UTRA-LTE TDD System	500
<i>Yuanye Wang, AAU, Denmark; Muhammad Rahman, Ericsson, Sweden; Suvra Das, Tata, India; Troels Sørensen, AAU, Denmark; and Preben Mogensen, AAU, Denmark</i>	
Combined Proportional Fair and Maximum Rate Scheduling for Virtual MIMO.....	506
<i>Yong Li, Beijing University of Posts and Telecommunications, China; Wenbo Wang, Beijing University of Posts and Telecommunications, China; Xiang Zhang, Beijing University of Posts and Telecommunications, China; and Mugen Peng, Beijing University of Posts and Telecommunications, China</i>	

Efficient Resource Allocation for Power Minimization in MIMO-OFDM Downlink..... 510
Winston Ho, Institute for Infocomm Research (I2R), Singapore; and Ying-Chang Liang, Institute for Infocomm Research (I2R), Singapore

Evaluation of Outage Restricted Distributed MIMO Multi-Hop Networks by the Improved Approximative Power Allocation..... 515
Dirk Wübben, University of Bremen, Germany

Spatial Multiplexing

Reducing the Computational Complexity for BLAST by Using a Novel Fast Algorithm to Compute an Initial Square-root Matrix 520
Hufei Zhu, Huawei Technology Co., Ltd., China; Wen Chen, Shanghai Jiao Tong University, China; Dageng Chen, Huawei Technologies Co., Ltd., China; Yinggang Du, Huawei Technologies Co., Ltd., China; and Jianmin Lu, Huawei Technologies Co., Ltd., China

A Grouped-Iterative Framework for MIMO Detection 525
Di-You Wu, National Chiao Tung University, Taiwan; and Lan-Da Van, National Chiao Tung University, Taiwan

Enhanced Group Detection with a New Receiver Combiner for Spatial Multiplexing MIMO systems 530
Jeongsik Jeong, Korea University, Korea; Heunchul Lee, Korea University, Korea; Sung-Hyun Moon, Korea University, Seoul; and Inkyu Lee, Korea University, Korea

Optimum Linear Detection of a Modified V-BLAST System with Delay Offsets 535
Huajiong Lin, University of Electronic Science and Technology of China, China; Youxi Tang, University of Electronic Science and Technology of China, China; Lu Guan, University of Electronic Science and Technology of China, China; and Kai Deng, University of Electronic Science and Technology of China

Soft-output MIMO MMSE V-BLAST Detector under Imperfect Channel Estimation 539
Jun Wang, University of Electronic Science and Technology of China, China; Oliver Yu Wen, Nextwave Calgary Office, Canada; and Shaoqian Li, University of Electronic Science and Technology of China, China

STBC

Joint Adaptive Modulation and Power Allocation for Variable-Rate Space-Time Block Codes under BER Constraints..... 544
Jung-Bin Kim, Hanyang University, Korea; and Dongwoo Kim, Hanyang University, Korea

Multiuser Asynchronous MIMO STBC Adaptive Array Transmission Scheme in Fast Fading Channel 549
Supawan Annanab, AWCC, The University of Electro-Communications, Japan; Tomonori Tobita, AWCC, The University of Electro-Communications, Japan; Tetsuki Taniguchi, AWCC, The University of Electro-Communications, Japan; and Yoshio Karasawa, AWCC, The University of Electro-Communications, Japan

Performance Enhancement of Space-Time MIMO Wireless System using Optimum Decision Algorithm 554
John An, National Taiwan Ocean University, Taiwan

Performance Enhancement of STBC-OFDM from CIOD with Interference Cancellation over Time-Varying Channels..... 559
Namjeong Lee, Information and Communications University, Korea, South; Hoojin Lee, Freescale Semiconductor, U.S.A; Keonkook Lee, Information and Communications University, Korea, South; Eunhye Nam, Information and Communications University, Korea, South; Joonhyuk Kang, Information and Communications University, Korea, South; and Youngok Kim, Kwangwoon University, Korea, South

STBC MIMO OFDM Systems with Implementation Impairments..... 564
Deepaknath Tandur, Katholieke Universiteit Leuven, Belgium; and Marc Moonen, Katholieke Universiteit Leuven, Belgium

Transmit Processing

A Computationally Efficient Stack-Based Iterative Precoding for Multiuser MIMO Broadcast Channel..... 569
Kyungho Park, Information and Communications University, Korea, South; Jongsub Cha, ETRI, Korea, South; and Joonhyuk Kang, Information and Communications University, Korea, South

An Overview of Cyclic Delay Diversity and its Applications 574
Simon Plass, German Aerospace Center (DLR), Germany; Armin Dammann, German Aerospace Center (DLR), Germany; and Stephan Sand, German Aerospace Center (DLR), Germany

Diversity-Embedded Space-Time Codes with Sigma Mapping of QAM Constellations.....	579
<i>Ha X. Nguyen, University of Saskatchewan, Canada; Ha H. Nguyen, University of Saskatchewan, Canada; and Tho Le-Ngoc, McGill University, Canada</i>	
Multiuser Transmission in Cellular Systems with Different Sector Configurations.....	584
<i>Ines Riedel, Technische Universität Dresden, Germany; René Habendorf, Technische Universität Dresden, Germany; Ernesto Zimmermann, Technische Universität Dresden, Germany; and Gerhard Fettweis, Technische Universität Dresden, Germany</i>	
Recursive Receivers for Space-Time Trellis Coded OFDM Systems over Time-Varying Block Fading Channels.....	589
<i>Der-Feng Tseng, National Taiwan University of Science and Technology, Taiwan; and Chia-Ming Lee, National Taiwan University of Science and Technology, Taiwan</i>	
Positioning Techniques	
Initial In-Mine Position Estimation Using RFID Tags	594
<i>Angus Errington, University of Saskatchewan, Canada; Brian Daku, University of Saskatchewan, Canada; and Arnfinn Prugger, Potash Corporation of Saskatchewan, Canada</i>	
Practical Results of Hybrid AOA/TDOA Geo-location Estimation in CDMA Wireless Networks	599
<i>Ali Broumandan, University of Calgary, Canada; Tao Lin, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and Gérard Lachapelle, University of Calgary, Canada</i>	
UWB MultiCell Indoor Localization Experiment System with Adaptive TDOA Combination	604
<i>Guoping Zhang, Institute for Infocomm Research, Singapore; Sivanand Krishnan, Institute for Infocomm Research, Singapore; Francois Chin, Institute for Infocomm Research, Singapore; and Ko Chi Chung, National University of Singapore, Singapore</i>	
A Taylor-Series-based Cognitive Location Scheme for Future Wireless Networks	609
<i>Qimei Cui, Key Laboratory of Universal Wireless Communications Lab., Beijing University of Posts and Telecommunications, China; Yiheng Zhang, Beijing University of Posts and Telecommunications, China; and Xiaofeng Tao, Beijing University of Posts and Telecommunications, China</i>	
Decentralized Positioning and Tracking Based on a Weighted Incremental Subgradient Algorithm for Wireless Sensor Networks.....	614
<i>Chin-Liang Wang, National Tsing Hua University, Taiwan; and Dong-Shing Wu, National Tsing Hua University, Taiwan</i>	
Signal Processing for Location	
FFT Sign Search with Secondary Code Constraints for GNSS Signal Acquisition.....	619
<i>Daniele Borio, University of Calgary, Canada</i>	
Motion Detection of a Real Beacon using Estimator Correlator.....	624
<i>Saika Sharmeen, University of Calgary, Canada; John Nielsen, University of Calgary, Canada; and Michel Fattouche, University of Calgary, Canada</i>	
Performance Analysis of Bandlimited TOA Estimation Using Peak Tracking.....	629
<i>Ian Sharp, CSIRO ICT Centre, Australia; Kegen Yu, CSIRO ICT Centre, Australia; and Y. Jay Guo, CSIRO ICT Centre, Australia</i>	
State Observation Using the Phase and the Beat Frequency of a FMCW Radar for Precise Local Positioning and Line-of-Sight Detection	634
<i>Stephan Max, Clausthal University of Technology, Germany; Christian Bohn, Clausthal University of Technology, Germany; and Martin Vossiek, Clausthal University of Technology, Germany</i>	
Using WLAN Infrastructure for Angle-of-Arrival Indoor User Location.....	639
<i>Carl Wong, University of British Columbia, Canada; Richard Klukas, University of British Columbia, Canada; and Geoffrey Messier, University of Calgary, Canada</i>	

Channel Estimation - I

- A Signal Perturbation Free Transmit Scheme for MIMO Channel Estimation 644
Feng Wan, Concordia University, Canada; Wei-Ping Zhu, Concordia University, Canada; and M.N.S. Swamy, Concordia University, Canada
- An Interpolation Based Channel Estimation Method for MIMO OFDM Systems 649
Chengyu Lin, Shanghai Jiao Tong University, China; Feng Yang, Shanghai Jiao Tong University, China; Wenjun Zhang, Shanghai Jiao Tong University, China; and Youyun Xu, Shanghai Jiao Tong University, China
- Downlink Channel Estimation Model for 802.16e OFDMA System 654
Senjie Zhang, Intel Communications Technology Lab, P.R.China; Yanchun Li, Huazhong University of Science and Technology, P.R.China; Wei Chen, Beijing University of Posts and Telecommunications, P.R.China; and Xiaoyun Wu, Intel Communications Technology La
- Efficient Channel Estimation Schemes for MIMO OFDM Systems with NULL Subcarriers 659
Jian Luo, Fraunhofer Heinrich-Hertz-Institut, Germany; Andreas Kortke, Fraunhofer Heinrich-Hertz-Institut, Germany; and Wilhelm Keusgen, Fraunhofer Heinrich-Hertz-Institut, Germany
- General MMSE Channel Estimation for MIMO-OFDM Systems 664
Zhendong Luo, Alcatel-Lucent, China; and Dawei Huang, Alcatel-Lucent, Australia

Channel Estimation - II

- A Data-aided Channel Estimation Method Based on CAZAC 669
Miao Lu, Beijing University of Posts and Telecommunications, China; Dongmei Luo, Qingdao Hismile College, China; Bo Chen, Beijing University of Posts and Telecommunications, China; Xiaolin Hou, Beijing University of Posts and Telecommunications, China; and Xin Zhang, Beijing University of Posts and Telecommunications, China
- An Iterative Channel Estimation Method using Superimposed Training in OFDM Systems 674
Jinesh Nair, IIT Kharagpur, India; and Ratnam V Raja Kumar, IIT Kharagpur, India
- Blind Polynomial Channel Estimation for OFDM Systems 679
Yihai Zhang, University of Victoria, Canada; Wu-Sheng Lu, University of Victoria, Canada; and Aaron Gulliver, University of Victoria, Canada
- Channel Estimation for RLS-Based Linearly Constrained Minimum Variance Receivers 684
César Medina, PUC-Rio, Brazil; and Raimundo Sampaio-Neto, PUC-Rio, Brazil
- Doubly-Selective Channel Estimation for Packet OFDM Systems with Virtual Subcarriers 689
Xiaolin Hou, DoCoMo Beijing Labs, China; Zhan Zhang, DoCoMo Beijing Labs, China; and Hidetoshi Kayama, DoCoMo Beijing Labs, China

Coding - I

- A Two-Stage Algorithm to Reduce Encoding Delay of Turbo Source Coding 695
Javad Haghghat, McGill University, Canada; and David Plant, McGill University, Canada
- Construction of Regular Quasi-Cyclic Protograph LDPC codes based on Vandermonde Matrices 700
Nicholas Bonello, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK
- Log-likelihood Metrics based on Two-Symbol-Interval Observations for LDPC Codes with BDPSK Transmission 705
Elisa Mo, National University of Singapore, Singapore; and Pooi Yuen Kam, National University of Singapore, Singapore

Novel Algebraic Constructions of Nonbinary Structured LDPC Codes over Finite Fields 710
Keke Liu, Beijing Institute of Technology, P. R. China; Zesong Fei, Beijing Institute of Technology, P. R. China; and Jingming Kuang, Beijing Institute of Technology, P. R. China

Two-Level Early Stopping Algorithm for LTE Turbo Decoding 715
Jung-Fu (Thomas) Cheng, Ericsson Inc, USA

Coding - II

Analysis of Circular Buffer Rate Matching for LTE Turbo Code..... 720
Jung-Fu (Thomas) Cheng, Ericsson Inc, USA; Ajit Nimbalkar, Motorola, USA; Yufei Blankenship, Motorola, USA; Brian Classon, Motorola, USA; and Keith Blankenship, Motorola, USA

Error Detection Reliability of LTE CRC Coding..... 725
Jung-Fu (Thomas) Cheng, Ericsson Inc, USA; and Havish Koorapaty, Ericsson Inc, USA

Performances of Punctured Tail-biting Convolutional Codes Using Initial State Estimation..... 730
Nam Yul Yu, Lakehead University, Canada

Over-Complete Mapping Aided, Soft-Bit Assisted Iterative Unequal Error Protection H.264 Joint Source and Channel Decoding..... 735
Nasruminallah Nasruminallah, University of Southampton, UK; Muhammad El-Hajjar, University of Southampton, UK; Noor S Othman, University of Southampton, UK; Anh Pham Quang, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK

Performance Evaluation of TCAM based Pattern-Matching Algorithm 740
Jung-Sik Sung, ETRI, Korea; Taeck-Geun Kwon, Chungnam National University, Korea; and Jaedoo Huh, ETRI, Korea

Cooperative Relay Networks - V

A Comparison of Broadcast Strategy in MIMO Relay Networks 745
Jianing Li, Wireless Technology Innovation Institute (WTI) Beijing University of Posts and Telecommunications (BUPT), China; Jianhua Zhang, Beijing University of Posts and Telecommunications (BUPT), China; Lei Guan, Wireless Technology Innovation Institute (WTI) Beijing University of Posts and Telecommunications (BUPT), China; and Yu Zhang, Wireless Technology Innovation Institute (WTI) Beijing University of Posts and Telecommunications (BUPT), China

Adaptive Selection Cooperation Scheme using Prediction-Based Decision in Ad-hoc Networks 750
Yu Wang, Samsung Electronics, Korea; Dongwoo Lee, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea

An Improved Hybrid ARQ Scheme in Cooperative Wireless Networks 755
Kun Pang, The University of Sydney, Australia; Yonghui Li, The University of Sydney, Australia; and Branka Vucetic, The University of Sydney, Australia

Beamforming Methods for Multiuser Relay Networks 760
Wei Chen, Beijing University of Posts and Telecommunications, P.R.China; Hongming Zheng, Intel Communications Technology Lab, P.R.China; Yanchun Li, Huazhong University of Science and Technology, P.R.China; Senjie Zhang, Intel Communications Technology Lab, P.R.China; and Xiaoyun Wu, Intel Communications Technology La, Beijing, P.R.China

Cooperative Diversity for Virtual MIMO System in the Presence of Spatial Correlated Fading Model 765
Hongtao Zhang, Beijing University of Posts and Telecommunications, China; Geng-Sheng (G.S.) Kuo, National Chengchi University, Taiwan; and Thomas Michael Bohnert, Siemens Ltd., Germany

Cooperative Relay Networks - VI

Cooperative Phase Sweep Amplify-and-Forward Transmission..... 770
Geoffrey Messier, University of Calgary, Canada; Sebastian Magierowski, University of Calgary, Canada; and Jean-Francois Bousquet, University of Calgary, Canada

Diversity Combining of Signals with Different Modulation Levels in Cooperative Relay Networks	774
<i>Akram Bin Sediq, Carleton University, Canada; and Halim Yanikomeroglu, Carleton University, Canada</i>	
Joint Power-Distortion Optimization in a One-helper Problem.....	779
<i>Hamid Behroozi, Queen's University, Canada; and M. Reza Soleymani, Concordia University, Canada</i>	
Optimized Amplify-and-Forward Relaying for Vehicular Ad-Hoc Networks	784
<i>Haci Ilhan, Istanbul Technical University, Turkey; Ibrahim Altunbas, Istanbul Technical University, Turkey; and Murat Uysal, University of Waterloo, Canada</i>	
Training Power Optimization for Amplify-and-Forward Cooperative Systems	789
<i>Berna Gedik, University of Waterloo, Canada; and Murat Uysal, University of Waterloo, Canada</i>	
Equalization - I	
Block Equalization and Generalized MLSE Arbitration for the HSPA WCDMA Uplink	794
<i>Gregory E. Bottomley, Ericsson Inc., United States of America</i>	
CMA and Soft Decision-Directed Scheme for Semi-Blind Beamforming of QAM Systems	799
<i>Sheng Chen, University of Southampton, United Kingdom; Wang Yao, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom</i>	
Combined Channel Estimation and Turbo Equalization on Wireless Channels	804
<i>Fu-Sheng Shiao, University of Canterbury, New Zealand; Desmond Taylor, University of Canterbury, New Zealand; and Philippa Martin, University of Canterbury, New Zealand</i>	
DS-CDMA MMSE Turbo Equalization using 2-step Maximum Likelihood Channel Estimation	809
<i>Yohei Kojima, Tohoku University, Japan; Kazuaki Takeda, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan</i>	
Sampling Rate Selection Path Diversity for a RAKE Receiver in DS/SS.....	814
<i>Yohei Suzuki, Keio University, Japan; Anas Bostamam, Keio University, Japan; Mamiko Inamori, Keio University, Japan; and Yukitoshi Sanada, Keio University, Japan</i>	
Equalization - II	
An Improved Frequency-domain Interference Cancellation with DFE for CDMA	819
<i>Liang Ren, Beijing University of Posts and Telecommunications, China; Guoping Xu, Beijing University of Posts and Telecommunications, China; and Lin Sang, Beijing University of Posts and Telecommunications, China</i>	
Efficient Channel Estimation for Iterative MIMO SC-FDE Systems	823
<i>Joao Silva, IT, Portugal; Rui Dinis, ISR, Portugal; and Nuno Souto, IT, Portugal</i>	
Implementation of Single Carrier Packet Transmission with Frequency Domain Equalization.....	828
<i>Valentin Gheorghiu, Tohoku University, Japan; Suguru Kameda, Tohoku University, Japan; Tadashi Takagi, Tohoku University, Japan; Kazuo Tsubouchi, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan</i>	
Space-Frequency Equalization for Broadband Single Carrier MIMO Systems.....	833
<i>Gayathri Kongara, University of Canterbury, New Zealand; Desmond Taylor, University of Canterbury, New Zealand; and Philippa Martin, University of Canterbury, New Zealand</i>	
Subblock Processing for Frequency-domain Turbo Equalization Under Fast Fading Environments.....	838
<i>Keiichi Kambara, Hokkaido University, Japan; Hiroshi Nishimoto, Hokkaido University, Japan; Toshihiko Nishimura, Hokkaido University, Japan; Takeo Ohgane, Hokkaido University, Japan; and Yasutaka Ogawa, Hokkaido University, Japan</i>	

Interference Cancellation - I

- Channel Estimation and ICI Cancellation for OFDM Systems in Doubly-selective Channels..... 843
Liang Ruan, Beijing University of Posts and Telecommunications, China; Jianhua Zhang, Beijing University of Posts and Telecommunications, China; Yanyan Zhang, Beijing University of Posts and Telecommunications, China; and Minghua Xia, Electronics and Telecommunication Research Institute (ETRI), Korea
- MAP Receiver with Spatial Filters for Suppressing Cochannel Interference in MIMO-OFDM Mobile Communications..... 848
Lisheng Fan, Tokyo Institute of Technology, Japan; Kazuhiko Fukawa, Tokyo Institute of Technology, Japan; and Hiroshi Suzuki, Tokyo Institute of Technology, Japan
- On the Design of a MIMO-SIC Receiver for LTE Downlink 853
Carles Navarro Manchón, Aalborg University, Denmark; Luc Deneire, Aalborg University, Denmark; Preben Mogensen, Aalborg University, Denmark; and Troels Bundgaard Sørensen, Aalborg University, Denmark
- Timing Offset Interference Canceller in Multi-link Transmission for OFDM-based Cellular Radio Communications..... 858
Kenji Hoshino, Softbank Mobile Corp., Japan; Atsushi Nagate, Softbank Mobile Corp., Japan; and Teruya Fujii, Softbank Mobile Corp., Japan
- A New Design of Iterative Detection and Decoding with Soft Interference Cancellation 863
Junyoung Nam, ETRI, Korea; Seong Rag Kim, ETRI, Korea; Jeongseok Ha, ICU, Korea; and Jae Young Ahn, ETRI, Korea

Interference Cancellation - II

- Structure Analysis and SNR-Variance Evolution for Parallel Concatenated Coded IDMA Systems 869
Hao Wang, State Key Laboratory on Microwave and Digital Communications, National Laboratory for Information Science and Technology, Tsinghua University; Graduate School at Shenzhen, Tsinghua University, P.R.China; Shi Chen, Huawei Technologies Co., Ltd., P.R. China; Xiaokang Lin, Tsinghua University, Shenzhen, P.R. China
- MUI Cancellation for Uplink BS-CDMA in Broadband Mobile Communication Systems 874
Xiaoming Peng, I2R, Singapore; Tio Surya Dharma, NTU, Singapore; Francois Chin, I2R, Singapore; and A. S. Madhukumar, NTU, Singapore
- Multi-code MC-CDMA Using Joint CDTD and Inter-code Interference Cancellation 879
Kazuaki Takeda, Tohoku University, Japan; Hiromichi Tomaba, Tohoku University, Japan; Jiangzhou Wang, University of Kent, UK; and Fumiyuki Adachi, Tohoku University, Japan
- Novel Detection Algorithm of IDMA System under Channel Estimation Error 884
Chulhee Jang, Seoul National University, Korea; Hyunwoo Choi, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea
- Iterative Soft Multiuser Detection for MIMO MC-CDMA Systems 889
Zhendong Luo, Alcatel-Lucent, China; and Dawei Huang, Alcatel-Lucent, Australia

Iterative Techniques

- A Bit-Mapping Strategy for Joint Iterative Channel Estimation and Turbo-Decoding 894
Susanne Godtmann, RWTH Aachen University, Germany; Helge Lueders, RWTH Aachen University, Germany; Gerd Ascheid, RWTH Aachen University, Germany; and Peter Vary, RWTH Aachen University, Germany
- Channel Coded Iterative Center-Shifting K-Best Sphere Detection for Rank-Deficient Systems 899
Li Wang, University of Southampton, UK; Lei Xu, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK
- Iterative Channel Estimation with Robust Wiener Filtering in LTE Downlink 904
Luis Ángel Maestro Ruiz de Temiño, Aalborg University, Denmark; Carles Navarro Manchón, Aalborg University, Denmark; Christian Rom, Infineon Technologies Denmark, Denmark; Preben Mogensen, Aalborg University, Denmark; and Troels Bundgaard Sørensen, Aalborg University, Denmark

Iterative Joint Optimization of Transmit/Receive Frequency-Domain Equalization in Single Carrier Wireless Communication Systems	909
<i>Yuan Xiaogeng, Kyushu University, Japan; Osamu Muta, Kyushu University, Japan; and Yoshihiko Akaiwa, Kyushu University, Japan</i>	
Iterative Weighting Factor Estimation Method for Peak Power Reduction with Adaptive Subcarrier-Phase Control in Turbo-Coded Multi-Carrier CDM Systems	914
<i>Osamu Muta, Kyushu University, Japan; and Yoshihiko Akaiwa, Kyushu University, Japan</i>	
MIMO - I	
Adaptive MIMO Transmission Scheme for Spatially Correlated Broadband BICM-OFDM Systems	919
<i>Dachuan Yao, University of Duisburg-Essen, Germany; Alfonso Camargo, University of Duisburg-Essen, Germany; and Andreas Czyllwik, University of Duisburg-Essen, Germany</i>	
Algorithm for Detecting the Number of Transmit Antennas in MIMO-OFDM Systems: Receiver Integration	924
<i>Eckhard Ohlmer, TU Dresden, Germany; Ting-Jung Liang, TU Dresden, Germany; and Gerhard Fettweis, TU Dresden, Germany</i>	
An Analytical Approach to V-BLAST Detection with Optimal Ordering for Two Input Multiple Output Systems	929
<i>Wei Peng, Tohoku University, Japan; Shaodan Ma, The University of Hong Kong, Hong Kong; Tung-sang Ng, The University of Hong Kong, Hong Kong; Jiangzhou Wang, Kent University, United Kingdom ; and Fumiyuki Adachi, Tohoku University, Japan</i>	
An Implementation of GSG with Parallel Outputs targeting MIMO Detector	934
<i>Soo Yun Hwang, Electronics and Telecommunications Research Institute, Korea; Gi Yoon Park, Electronics and Telecommunications Research Institute, Korea; Hyeong Jun Park, Electronics and Telecommunications Research Institute, Korea; and Kyoung Son Jhang, Chungnam National University, Korea</i>	
Diversity-Multiplexing Tradeoff With Arbitrary Doppler Spectrum	939
<i>Hui Tong, Alcatel Shanghai Bell, China; and Seyed Zekavat, Michigan Technological University, USA</i>	
MIMO - II	
Distributed Space-Time Block Coded OFDM with Subcarrier Grouping	945
<i>Nam H. Vien, University of Saskatchewan, Canada; Ha H. Nguyen, University of Saskatchewan, Canada; and Tho Le-Ngoc, McGill University, Canada</i>	
Performance Analysis of Space-Time Block Codes in MIMO Fading Channels with Discrete Adaptive MQAM	950
<i>Tae-hoon Kim, Information and Communications University, Korea; and Youn-gnam Han, Information and Communications University, Korea</i>	
Performance of Soft Decision Metrics and Diversity Combining with Imperfect Channel Estimation	955
<i>Mikael Gidlund, Nera Networks AS, Norway; and Gang Wang, Philips Research, The Netherlands</i>	
Space-Time Block Coded-Joint Transmit/Receive Antenna Diversity using more than 4 Receive Antennas	960
<i>Hiro-michi Tomeba, Tohoku University, Japan; Kazuaki Takeda, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan</i>	
Spatial Correlation Effects on MAP-PSP Decoding of Multiple STTCs	965
<i>Usa Vilaipornsawai, McGill University, Canada; and Harry Leib, McGill University, Canada</i>	
Modulation - I	
Design of Signal Constellations in the Presence of Phase Noise	970
<i>Yang Li, Tsinghua University, China; Shuzheng Xu, Tsinghua University, China; and Huazhong Yang, Tsinghua University, China</i>	
High Rank Modulation Investigation for PO-CI/MC-CDMA Systems	975
<i>Yanyan Zhang, Beijing University of Posts and Telecommunications, China; Yang Zhao, Beijing University of Posts and Telecommunications, China; Liang Ge, Beijing University of Posts and Telecommunications, China; and Xiaofeng Tao, Beijing University of Posts and Telecommunications, China</i>	

Joint Adaptive Modulation and Diversity Combining with Feedback Error Compensation.....	980
<i>Seyeong Choi, Texas A&M University at Qatar, Qatar; Mohamed-Slim Alouini, Texas A&M University at Qatar, Qatar; Khalid A. Qaraqe, Texas A&M University at Qatar, Qatar; and Hong-Chuan Yang, University of Victoria, Canada</i>	
MMSE Detection based on Noise Statistics with Random Noise Variance	985
<i>Xinning Wei, Institute of Communications Engineering, University of Rostock, Germany; and Tobias Weber, Institute of Communications Engineering, University of Rostock, Germany</i>	
Adaptive Modulation for Wireless Multihop Systems with Regenerative Relays	990
<i>Andreas Mueller, University of Stuttgart, Germany; and Joachim Speidel, University of Stuttgart, Germany</i>	
Modulation - II	
Exact Expression and a Simple Tight Upper Bound for the SER of Odd CAP/QAM Constellation	995
<i>Mojtaba Vaezi, Ericsson, Iran; and Jamal Habibi Markani, Ericsson, Iran</i>	
Implementation and Experimental Results of Rotational OFDM Transmission ~ Rotational OFDM Performance with Turbo Decoder ~	999
<i>Noriaki Miyazaki, KDDI R&D Laboratories, Japan; Yasuyuki Hatakawa, KDDI R&D Laboratories, Japan; and Toshinori Suzuki, KDDI R&D Laboratories, Japan</i>	
Performance Analysis of a System using Coordinate Interleaving and Constellation Rotation in Rayleigh Fading Channels	1004
<i>Nauman F. Kiyani, Delft University of Technology, Netherlands; Jos H. Weber, Delft University of Technology, Netherlands; Alenka G. Zajic, Georgia Institute of Technology, USA; and Gordon L. Stuber, Georgia Institute of Technology, USA</i>	
Performance Analysis of M-PAM and M-QAM with Selection Combining in Independent but Non-Identically Distributed Rayleigh Fading Paths.....	1009
<i>Bao Vo Nguyen Quoc, University of Ulsan, Korea; Hyung Yun Kong, University of Ulsan, Korea; and Seong Wook Hong, University of Ulsan, Korea</i>	
Spiral QAM: A Novel Modulation Scheme Robust in the Presence of Phase Noise.....	1014
<i>Byung-Jae Kwak, ETRI, Korea; Nah-Oak Song, MMPC, KAIST, Korea; Bumsoo Park, ETRI, Korea; and Dong Seung Kwon, ETRI, Korea</i>	
OFDM - I	
SNR Estimation in OFDMA/TDD Based WiBro System.....	1019
<i>Hyeong-Sook Park, ETRI, Korea; and Youn-Ok Park, ETRI, Korea</i>	
Fast Frequency Hopping OFDM with QR-based Receivers	1024
<i>Poramate Tarasak, Institute for Infocomm Research, Singapore; Zhewei Lin, Institute for Infocomm Research, Singapore; Xiaoming Peng, Institute for Infocomm Research, Singapore; and Francois Chin, Institute for Infocomm Research, Singapore</i>	
Investigation on Transmit Diversity for Synchronization Channel in OFDM Based Evolved UTRA Downlink	1029
<i>Satoshi Nagata, NTT DoCoMo, Inc., Japan; Yoshihisa Kishiyama, NTT DoCoMo, Inc., Japan; Motohiro Tanno, NTT DoCoMo, Inc., Japan; Kenichi Higuchi, Tokyo University of Science, Japan; and Mamoru Sawahashi, Musashi Institute of Technology, Japan</i>	
Optimization of Time Domain Windowing and Guardband Size for Cellular OFDM Systems	1035
<i>Jian Luo, Fraunhofer Heinrich-Hertz-Institut, Germany; Wilhelm Keusgen, Fraunhofer Heinrich-Hertz-Institut, Germany; and Andreas Kortke, Fraunhofer Heinrich-Hertz-Institut, Germany</i>	
Correlated Scrambling Scheme for Time-Frequency Diversity in OFDM Single-Frequency-Network Systems	1040
<i>Hsien-Wen Chang, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan; Chong-Ren Sheu, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan; Ming-Chien Tseng, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan; and Ching-Yung Chen, Information & Communications Research Laboratories, Industrial Technology Research Institute, Taiwan</i>	

OFDM - II

Pilot Structure for high Data Rate in OFDM/OQAM-IOTA System	1045
<i>Tae-woong Yoon, Sungkyunkwan University, Korea; Se-bin Im, Sungkyunkwan University, Korea; Sung-Hyun Hwang, Electronics and Telecommunications Research Institute(ETRI), Korea; and Hyung-jin Choi, Sungkyunkwan University, Korea</i>	
Pilot-based Compensation of Frequency-Selective I/Q Imbalances in Direct-Conversion OFDM Transmitters.....	1050
<i>Yaning Zou, Tampere University of Technology, Finland; Mikko Valkama, Tampere University of Technology, Finland; and Markku Renfors, Tampere University of Technology, Finland</i>	
Probability of Error Analysis of 4-QAM OFDM Systems with Random Residual Frequency Offset.....	1055
<i>P.C. Weeraddana, Asian Institute of Technology, Thailand; R.M.A.P. Rajatheva, Asian Institute of Technology, Thailand; and Hlaing Minn, University of Texas, Dallas, USA</i>	
Selective Mapping with Symbol Re-mapping for OFDM/TDM Using MMSE-FDE.....	1060
<i>Haris Gacanin, Tohoku University, Japan; and Fumiyuki Adachi, Tohoku University, Japan</i>	
Adjustable Comb-Type Pilot Arrangement in Wireless OFDM.....	1065
<i>Chia-Chang Hu, National Chung Cheng University, Taiwan; and Fu-How Chen, National Chung Cheng University, Taiwan</i>	

OFDM - III

Efficient Mitigation of Frequency-Selective I/Q Imbalance in OFDM Receivers	1069
<i>Lauri Anttila, Tampere University of Technology, Finland; Mikko Valkama, Tampere University of Technology, Finland; and Markku Renfors, Tampere University of Technology, Finland</i>	
A Modified Partial Transmit Sequence Scheme for PAPR Reduction in OFDM System.....	1074
<i>Qingsong Wen, University of Electronic Science and Technology of China, China; Yue Xiao, University of Electronic Science and Technology of China, China; Peng Cheng, University of Electronic Science and Technology of China, China; Lilin Dan, University of Electronic Science and Technology of China, China; and Shaoqian Li, University of Electronic Science and Technology of China, China</i>	
Joint PAPR and PICR Design in OFDM Systems.....	1079
<i>Kewei Yuan, Lakehead University, Canada; and Zhiwei Mao, Lakehead University, Canada</i>	
Peak-to-Average Power Ratio Reduction for Wavelet Packet Modulation Schemes via Basis Function Design	1084
<i>Ngon Thanh Le, University of Calgary, Canada; Siva Muruganathan, University of Calgary, Canada; and Abu Sesay, University of Calgary, Canada</i>	
Numerical Performance Evaluation for OFDM Systems affected by Phase Noise and Channel Estimation Errors.....	1089
<i>Marco Krondorf, Vodafone Chair, TU Dresden, Germany; Steffen Bittner, Vodafone Chair, TU Dresden, Germany; and Gerhard Fettweis, Vodafone Chair, TU Dresden, Germany</i>	

Synchronization - I

A New Time Synchronization Technique for OFDM Systems	1094
<i>Khalid Almuzaini, University of Victoria, Canada; and T. Aaron Gulliver, University of Victoria, Canada</i>	
Joint Carrier Synchronization and Equalization for OFDM Systems Over Multipath Fading Channel.....	1099
<i>Chih-Feng Wu, National Taiwan University, Taipei, Taiwan; Muh-Tian Shiu, National Central University, Chung-Li, Taiwan; and Chong-Kuang Wang, National Taiwan University, Taipei, Taiwan</i>	
Joint Timing Synchronization and Channel Estimation for OFDM Systems via MMSE Criterion	1104
<i>Yanyan Zhang, Beijing University of Posts and Telecommunications, China; Jianhua Zhang, Beijing University of Posts and Telecommunications, China; and Minghua Xia, Electronics and Telecommunication Research Institute (ETRI), China</i>	
Blind Estimation and Compensation of Frequency-Flat I/Q Imbalance Using Cyclostationarity	1108
<i>Chia-Pang Yen, InterDigital Communications LLC., USA; Yingming Tsai, InterDigital Communications LLC., USA; Guodong Zhang, InterDigital Communications LLC., USA; and Robert Olesen, InterDigital Communications LLC., USA</i>	

Code Aided Joint Frame Synchronization and Channel Estimation for Uplink MC-CDMA in the Presence of Narrowband Interference	1113
<i>Mohamed Marey, Ghent University, Belgium; Mamoun Guenach, Alcatel-Lucent Bell Labs, Belgium; and Heidi Steendam, Ghent University, Belgium</i>	

UWB - I

Iterative Spreading-Sequence Acquisition in the Multiple Receive Antenna Aided DS-UWB Downlink	1118
<i>SeungHwan Won, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK</i>	
EXIT Chart Aided Design of DS-CDMA UltraWideBand Systems Using Iterative Decoding	1123
<i>Raja Ali Riaz, University of Southampton, UK; Muhammad El-Hajjar, University of Southampton, UK; Qasim Zeeshan Ahmed, University of Southampton, UK; Soon Xin Ng, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK</i>	
Further Enhancement for Active Interference Cancellation on MB-OFDM UWB Transmission	1128
<i>Poramate Tarasak, Institute for Infocomm Research, Singapore; Francois Chin, Institute for Infocomm Research, Singapore; Zhewei Lin, Institute for Infocomm Research, Singapore; and Xiaoming Peng, Institute for Infocomm Research, Singapore</i>	
Integration Interval Determination in Transmitted Reference Pulse Cluster Systems for UWB Communications	1133
<i>Li Jin, University of Victoria, Canada; and Xiaodai Dong, University of Victoria, Canada</i>	
Interference Mitigation for Energy Detection in a Multiband Impulse Radio UWB System	1138
<i>Maximilian Hauske, Universitaet Karlsruhe (TH), Germany; Holger Jaekel, Universitaet Karlsruhe (TH), Germany; Hanns-Ulrich Dehner, Universitaet Karlsruhe (TH), Germany; and Friedrich Jondral, Universitaet Karlsruhe (TH), Germany</i>	

Transportation

A Cooperative Reflect Transmission Scheme using Road Infrastructure in Vehicle-PEdestrian Communications	1143
<i>Ryohta Yamaguchi, Kansai University, Japan; Daisuke Ikeda, Kansai University, Japan; Yuki Nakanishi, Kansai University, Japan; Tomotaka Wada, Kansai University, Japan; and Hiromi Okada, Kansai University, Japan</i>	
A Mobile Sensor System and Its Performance of Traffic Monitoring	1148
<i>Xu Li, Shanghai Jiao Tong University, China; Hongyu Huang, Shanghai Jiao Tong University, China; Minglu Li, Shanghai Jiao Tong University, China; Xinhua Lin, Shanghai Jiao Tong University, China; Wei Shu, The University of New Mexico, USA; and Min-You Wu, Shanghai Jiao Tong University, China</i>	
An Adaptive Vehicle Route Management Solution Enabled by Wireless Vehicular Networks	1153
<i>Kevin Collins, Dublin City University, Ireland; and Gabriel-Miro Muntean, Dublin City University, Ireland</i>	
An Extended Collision Judgment Algorithm for Vehicular Collision Avoidance Support System (VCASS) in Advanced ITS.....	1158
<i>Tetuya Maruoka, Kansai University, Japan; Yasuhiro Sato, Kansai University, Japan; Shinji Nakai, Kansai University, Japan; Tomotaka Wada, Kansai University, Japan; and Hiromi Okada, Kansai University, Japan</i>	
Empirical Study on Ultra-Wideband Vehicle Radar.....	1163
<i>Isamu Matsunami, Kitakyushu University, Japan; Youichiro Nakahata, Kitakyushu University, Japan; Katsushi Ono, Kitakyushu University, Japan; Yuusei Noguchi, Kitakyushu University, Japan; and Akihiro Kajiwara, Kitakyushu University, Japan</i>	

Systems - II

Vehicular Collaborative Technique for Location Estimate Correction	1168
<i>Nabil Drawil, University of Waterloo, Canada; and Otman Basir, University of Waterloo, Canada</i>	
Practical Antenna Training for Millimeter Wave MIMO Communication	1173
<i>Pengfei Xia, Samsung Electronics, USA; Huaning Niu, Intel Corp., USA; Jisung Oh, Samsung Electronics, Korea; and Chiu Ngo, Samsung Electronics, USA</i>	

Intelligent Vehicle Power Control based on Prediction of Road Type and Traffic Congestions..... 1178
Jungme Park, University of Michigan-Dearborn, USA; ZhiHang Chen, University of Michigan-Dearborn, USA; Leonadis Kiliaris, University of Michigan-Dearborn, USA; Yi L. Murphy, University of Michigan-Dearborn, USA; Ming Kuang, Ford Motor Company, USA; Anthony Phillips, Ford Motor Company, USA; and M. A. Masrur, US Army TARDEC, USA

Design and Analysis of Novel Broadband EM Wave Absorbers Based on Lossy EBG Surface 1183
Dong-Uk Sim, Electronics and Telecommunications Research Institute (ETRI), Korea; Jong-Hwa Kwon, Electronics and Telecommunications Research Institute (ETRI), Korea; Sang-Il Kwak, Electronics and Telecommunications Research Institute (ETRI), Korea; and Jae-Hoon Yun, Electronics and Telecommunications Research Institute (ETRI), Korea

A Simple Prediction Model for Line of Sight Coverage in Urban Scenarios..... 1187
Georg Bauer, Clausthal University of Technology, Germany; and Rolf Jakob, Darmstadt University of Technology, Germany

Vehicular Electronics & Communications

A New SC/MMSE Turbo Equalization for MC-CDMA to use in Inter-Vehicle Communication 1192
Noriaki Hiraiwa, Nagoya University, Japan; Atsunori Sakata, Nagoya University, Japan; Takaya Yamazato, Nagoya University, Japan; and Masaaki Katayama, Nagoya University, Japan

A Cosimulation Framework for a Distributed System of Systems..... 1197
Bernd Müller-Rathgeber, Technische Universität München, Germany; and Holm Rauchfuss, Technische Universität München, Germany

Efficient In-Vehicle Delayed Data Authentication Based on Compound Message Authentication Codes 1202
Dennis K. Nilsson, Chalmers University of Technology, Sweden; Ulf E. Larson, Chalmers University of Technology, Sweden; and Erland Jonsson, Chalmers University of Technology, Sweden

An Approach to using Honey pots in In-Vehicle Networks..... 1207
Vilhelm Verendel, Chalmers University of Technology, Sweden; Dennis K. Nilsson, Chalmers University of Technology, Sweden; Ulf E. Larson, Chalmers University of Technology, Sweden; and Erland Jonsson, Chalmers University of Technology, Sweden

Route-based Vehicular Traffic Management for Wireless Access in Vehicular Environments 1212
Kevin Collins, Dublin City University, Ireland; and Gabriel-Miro Muntean, Dublin City University, Ireland

Cognitive Radio - I

A Distributed Algorithm for Resource Allocation in OFDM Cognitive Radio Systems..... 1217
Yonghong Zhang, The University of British Columbia, Canada; and Cyril Leung, The University of British Columbia, Canada

Autonomous Distributed Power Control for Cognitive Radio Networks 1222
Sooyeol Im, Information and Communications University, Korea; Hyongsuk Jeon, Information and Communications University, Korea; and Hyuckjae Lee, Information and Communications University, Korea

Resource Allocation for Downlink Spectrum Sharing in Cognitive Radio Networks 1227
Patrick Mitran, University of Waterloo, Canada; Long Le, University of Waterloo, Canada; Catherine Rosenberg, University of Waterloo, Canada; and Andre Girard, GERAD, Canada

Semi Dynamic Parameter Tuning for Optimized Opportunistic Spectrum Access..... 1232
Afef Ben Hadj Alaya-Feki, Orange Labs R&D, France; Berna Sayrac, Orange Labs R&D, France; Eric Moulines, Telecom ParisTech, France; and Alain Le Cornec, Orange Labs R&D, France

Mathematical Analysis of Secondary User Traffic in Cognitive Radio System 1237
Junghyun Heo, POSDATA, Korea; Jungchae Shin, Kyungpook National University, Korea; Jihee Nam, Kyungpook National University, Korea; Yutae Lee, Dong-eui University, Korea; Joon Goo Park, Kyungpook National University, Korea; and Ho-Shin Cho, Kyungpook National University, Korea

Cognitive Radio - II

To Reconfigure or Not to Reconfigure: Cognitive Mechanisms for Mobile Devices Decision Making 1242
Andreas Merentitis, University of Athens, Greece; Eleni Patouni, University of Athens, Greece; Nancy Alonistioti, University of Athens, Greece; and Michael Doubrava, Alcatel-Lucent Deutschland AG, Germany

Impact of the Primary Network Activity on the Maximum Achievable Capacity of DS-CDMA/OFDM Spectrum Sharing 1247
Mohammad Khoshkholgh, Tarbiat Modares University, Iran; Keivan Navaie, Carleton University, Canada; and Halim Yanikomeroglu, Carleton University, Canada

Cooperative Spectrum Sensing with Multiples of Verification-aided Energy Detector in Cognitive Radio 1252
Jun-Ho Baek, Dongguk University, Korea; and Seung-Hoon Hwang, Dongguk University, Korea

Exploitation of First-Order Cyclostationarity for Joint Signal Detection and Classification in Cognitive Radio 1256
Octavia A. Dobre, Memorial University of Newfoundland, Canada; Sreeraman Rajan, Defence Research and Development Canada, Canada; and Robert Inkol, Defence Research and Development Canada, Canada

Enhancing Cognitive Radio Algorithms Through Efficient, Automatic Adaptation Management 1261
Christian Doerr, University of Colorado at Boulder, USA; Dirk Grunwald, University of Colorado at Boulder, USA; and Douglas C. Sicker, University of Colorado at Boulder, USA

Heterogeneous & Multihop Wireless Networks

Context Aware Vertical Soft Handoff Algorithm for Heterogeneous Wireless Networks 1266
Kemeng Yang, Monash University, Australia; Iqbal Gondal, Monash University, Australia; and Bin Qiu, Monash University, Australia

On the Packet Reordering of mSCTP for Vertical Handover in Heterogeneous Wireless Networks 1271
Dong Phil Kim, Kyungpook National University, Korea; Seok Joo Koh, Kyungpook National University, Korea; and Victor Leung, The University of British Columbia, Canada

Throughput Enhancement in Heterogeneous Mobile Networks Using nSCTP 1276
Peyman Behbahani, City University, London, UK; Veselin Rakocevic, City University, London, UK; and Joachim Habermann, University of Applied Sciences, Germany

Improving TCP Performance over Multi-hop Wireless Networks 1281
Beizhong Chen, Rutgers University, USA; Ivan Marsic, Rutgers University, USA; and Ray Miller, Bell Labs, USA

Joint Disjoint Path Routing and Channel Assignment in Multi-radio Multi-channel Wireless Mesh Networks 1286
Ngoc Thai Pham, Computer Network Lab, Inje University, Korea; and Won-Joo Hwang, Computer Network Lab, Inje University, Korea

Performance Analysis - I

A System Level Performance Study on Symbol-Wise XOR based Bi-Directional Relaying 1291
Jianming Wu, Fujitsu Lab., Japan; Shunji Miyazaki, Fujitsu Lab., Japan; Kazuhisa Obuchi, Fujitsu Lab., Japan; and Tomohiko Taniguchi, Fujitsu Lab., Japan

System Performance Analysis of Single-Path and Cooperative MIMO Relaying 1296
Peter Rost, Technische Universität Dresden, Germany; Fredirk Boye, Technische Universität Dresden, Germany; and Gerhard Fettweis, Technische Universität Dresden, Germany

Meta-heuristics Methods for a NP-Complete Networking Problem 1301
Floriano De Rango, University of Calabria, Italy; Amilcare Francesco Santamaria, University of Calabria, Italy; Mauro Tropea, University of Calabria, Italy; and Salvatore Marano, University of Calabria, Italy

Throughput Evaluation of Fixed Beams in a TD-SCDMA HSDPA System Using Different CQI Feedback Algorithms 1306
Chen Bo, Beijing University of Posts and Telecommunications, China; Hou Xiaolin, Beijing University of Posts and Telecommunications, China; and Shichuan Ma, University of Nebraska-Lincoln, USA

Development of a Motorway Simulator for Vehicular Multimedia Communications 1311
Bilal Qazi, University of Leeds, UK; Hamada Alshaer, University of Leeds, UK; and Jaafar Elmighani, University of Leeds, UK

Performance Analysis - IV

Carrier Frequency Offset Compensation for Distributed MIMO OFDM Systems..... 1316
Kai Deng, University of Electronic Science and Technology of China, China; Youxi Tang, University of Electronic Science and Technology of China, China; Ke Sun, University of Electronic Science and Technology of China, China; and Huajiong Lin, University of Electronic Science and Technology of China, China

Combined Forward and Backward Lattice Reduction Aided MMSE Detection in MIMO Systems 1320
Tadashi Fujino, University of Electro-Communications, Japan; and Tetsuyoshi Shimokawa, University of Electro-Communications, Japan

SVD Assisted Joint Transmitter and Receiver Design for the Downlink of MIMO Systems..... 1326
Wei Liu, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom

Matched Filter based Algorithm for Blind Recognition of OFDM Systems..... 1331
Abdelaziz Bouzegzi, CEA LETI- MINATEC, France; Philippe Ciblat, Telecom ParisTech, France; and Pierre Jallon, CEA LETI- MINATEC, France

Semidefinite Relaxation for Sum-rate Maximization on Gaussian Cognitive Multiple Access Channel..... 1336
Sang-wook Han, Information and Communications University, Korea; Hoon Kim, Stanford University, USA; Koudjo Koumadi, Information and Communications University, Korea; Youngnam Han, Information and Communications University, Korea; and John Cioffi, Stanford University, USA

Performance Improvement Techniques

Using Cognitive Radio for Improving the Capacity of Wireless Mesh Networks..... 1341
Ricardo Pereira, UTFPR, Brazil; Richard Demo Souza, UTFPR, Brazil; and Marcelo Eduardo Pellenz, PUC-PR, Brazil

Wireless Broadband Services using Smart Caching 1346
Stephan Goebbels, RWTH Aachen University, Germany

The Minimum Cost Sensor Placement Problem for Directional Wireless Sensor Networks..... 1351
Yahya Osais, Carleton University, Canada; Marc St-Hilaire, Carleton University, Canada; and F. Richard Yu, Carleton University, Canada

Employing Lightweight Primitives on Low-cost RFID Tags for Authentication..... 1356
Tieyan Li, Institute for Infocomm Research, Singapore

Radio Transmitter Fingerprinting: A Steady State Frequency Domain Approach..... 1361
Irwin Kennedy, Bell Laboratories Ireland, Ireland; Patricia Scanlon, Bell Laboratories Ireland, Ireland; Francis Mullany, Bell Laboratories Ireland, Ireland; Milind Buddhikot, Bell Laboratories, USA; Keith Nolan, CTVR, Trinity College Dublin, Ireland; and Thomas Rondeau, CTVR, Trinity College Dublin, Ireland

Resource Allocation & Mobility Management - I

Joint Channel-Aware and Queue-Aware Scheduling Algorithm for Multi-User MIMO-OFDMA Systems with Downlink Beamforming.... 1366
Kai Sun, Beijing University of Posts & Telecommunications, China; Ying Wang, Beijing University of Posts & Telecommunications, China; Tan Wang, Beijing University of Posts & Telecommunications, China; Zixiong Chen, Beijing University of Posts & Telecommunications, China; and Guona Hu, Beijing University of Posts & Telecommunications, China

Optimal Radio Resource Partition for Joint Contention- and Connection-Oriented Multi-Channel Access in OFDMA Systems..... 1371
Lichun Wang, National Chiao Tung University, Taiwan; and Anderson Chen, National Chiao Tung University, Taiwan

Improving Mobile IPv6 Handover in Wireless Network with E-HCF..... 1376
Anne Wei, CEDRIC, France; GouZhi Wei, University of Paris XII, France; and Benoît Geller, SATIE, France

A Thorough Investigation of Mobile IPv6 for the Aeronautical Environment..... 1381
Christian Bauer, German Aerospace Center (DLR), Germany; and Serkan Ayaz, German Aerospace Center (DLR), Germany

On the Performance of Integrator Handover Algorithm in LTE Networks 1386
Naizheng Zheng, Aalborg University, Denmark; and Jeroen Wigard, Nokia Siemens Networks, Denmark

Resource Allocation & Mobility Management - II

A Heuristic Scheduling Scheme in Multiuser OFDMA Networks 1391
Zheng Sun, Beijing University of Posts and Telecommunications, China; Zhiqiang He, Beijing University of Posts and Telecommunications, China; Ruo Chen Wang, Beijing University of Posts and Telecommunications, China; and Kai Niu, Beijing University of Posts and Telecommunications, China

Block Waterfilling with Power Borrowing for Multicarrier Communications 1396
Seung-Woo Ko, Yonsei University, Korea; and Seong-Lyun Kim, Yonsei University, Korea

Dynamic Spectrum Allocation in Wireless Cognitive Sensor Networks: Improving Fairness and Energy Efficiency 1401
Sang-Seon Byun, Norwegian University of Science and Technology, Norway; Ilanko Balasingham, Norwegian University of Science and Technology, Norway; and Xuedong Liang, Rikshospitalet University Hospital, Norway

Maximum Utility Principle Slide Handover Strategy for Multi-antenna Cellular Architecture 1406
Xiaodong Xu, Wireless Technology Innovation Institute, China; Zhijie Hao, WTI, China; Xiaofeng Tao, WTI, China; Ying Wang, WTI, China; and Zhongqi Zhang, WTI, China

Media Access for Multiple Applications from a Single User in Wireless Communication Systems 1411
Koudjo Mawuefem Koumadi, Information and Communication University, South Korea; Yonghoon Choi, Information and Communication University, South Korea; and Youngnam Han, Information and Communication University, South Korea

WIMAX - III

Dynamic Priority-based Resource Allocation for Uplinks in IEEE 802.16 Wireless Communication Systems 1416
Chih-Ming Yen, National Chiao Tung University, ROC; Chung-Ju Chang, National Chiao Tung University, ROC; Fang-Ching Ren, Industrial Technology Research Institute, ROC; and Jian-Ann Lai, National Chiao Tung University, ROC

Efficient Authentication Architecture for Frequency Overlay in WiBro-Evolution System 1421
Sun-Hwa Lim, Electronics and Telecommunications Research Institute (ETRI), Korea; Sang-ho Lee, Electronics and Telecommunications Research Institute (ETRI), Korea

Evaluation of Mobile WiMAX System Performance 1426
Chunchang Tian, Beijing University of Posts and Telecommunications, china; Jing Jin, Beijing University of Posts and Telecommunications, China; and Xin Zhang, Beijing University of Posts and Telecommunications, China

On Design of TDD for Joint Uplink and Downlink Resource Allocation in OFDMA-based WiMax 1431
Tijani Chahed, TELECOM SudParis, France; Salah Eddine Elayoubi, Orange Labs, France; and Eitan Altman, INRIA, France

Pricing of Real-Time Applications in WiMAX Systems 1436
Aymen Belghith, TELECOM Bretagne, France; Loufi Nuaymi, TELECOM Bretagne, France; and Patrick Maille, TELECOM Bretagne, France

WLAN - I

An Efficient Admission Control Algorithm for IEEE 802.11e WLAN 1442
Min Li Huang, Information and Communications University, Korea; Seungbeom Lee, Information and Communications University, Korea; and Sin-Chong Park, Information and Communications University, Korea

Extended WDB Algorithm for QoS Enhancement in IEEE 802.11e WLAN 1447
Jing Chi, Beijing University of Posts and Telecommunications, China; Meina Song, Beijing University of Posts and Telecommunications, China; and Junde Song, Beijing University of Posts and Telecommunications, China

Spatial Reuse DCF for Enhancing Throughput and Performance Analysis 1452
Sunghun Kim, Information and Communications University, Korea; Jongsub Cha, Electronics and Telecommunications Research Institute, Korea; and Joongsoo Ma, Information and Communications University, Korea

QoS-aware Admission Control for Multimedia Applications in IEEE 802.11 Wireless Networks 1457
Kandaraj Piamrat, INRIA, France; Adlen Ksentini, IRISA, France; César Viho, IRISA, France; and Jean-Marie Bonnin, Telecom Bretagne, France

Multimedia Mobility Service Solution 1462
Marius Corici, Fraunhofer FOKUS Institute, Germany; Alin Murarasu, Fraunhofer FOKUS Institute, Germany; Suwon Lee, Samsung Advanced Institute of Technology (SAIT), Korea; Xiaoyu Liu, Samsung Advanced Institute of Technology (SAIT), Korea; Stefan Arbanowski, Fraunhofer FOKUS Institute, Germany; and Thomas Magedanz, Fraunhofer FOKUS Institute, Germany

3G & Beyond - I

Performance Analysis of Power Saving Mechanism with Adjustable DRX Cycles in 3GPP LTE 1467
Lei Zhou, Beijing University of Posts & Telecommunications, China; Haibo Xu, Beijing University of Posts & Telecommunications, China; Hui Tian, Beijing University of Posts & Telecommunications, China; Youjun Gao, Beijing University of Posts & Telecommunications, China; Lei Du, DoCoMo Beijing Communications Laboratories, China; and Lan Chen, DoCoMo Beijing Communications Laboratories, China

LTE-Advanced – Evolving LTE towards IMT-Advanced 1472
Stefan Parkvall, Ericsson Research, Sweden; Erik Dahlman, Ericsson Research, Sweden; Anders Furuskär, Ericsson Research, Sweden; Ylva Jading, Ericsson Research, Sweden; Magus Olsson, Ericsson Research, Sweden; Stefan Wänstedt, Ericsson Research, Sweden; and Kambiz Zangi, Ericsson Research, Sweden

Joint Time-Frequency Domain Proportional Fair Scheduler with HARQ for 3GPP LTE Systems 1477
Kian Chung Beh, University of Bristol, UK; Simon Armour, University of Bristol, UK; and Angela Doufexi, University of Bristol, UK

Dual Tunnelling Mechanism for Mobile IP based 3G LTE-WLAN Handover 1482
Kyung-yul Cheon, ETRI, Korea; Mijeong Yang, ETRI, Korea; Aesoon Park, ETRI, Korea; Yeon-jung Kim, ChungNam National University, Korea; Younghwan Choi, ChungNam National University, Korea; and Sang-Ha Kim, ChungNam National University, Korea

Adaptive Transmission Bandwidth Based Packet Scheduling for LTE Uplink 1487
Francesco Davide Calabrese, Aalborg university, Denmark; Claudio Rosa, Nokia Siemens Networks, Denmark; Mohammad Anas, Aalborg University, Denmark; Per Henrik Michaelsen, Nokia Siemens Networks, Denmark; Klaus I. Pedersen, Nokia Siemens Networks, Denmark; and Preben E. Mogensen, Nokia Siemens Networks, Denmark

3G & Beyond - II

Uplink Power Control in LTE – Overview and Performance, Subtitle: Principles and Benefits of Utilizing Rather than Compensating for SINR Variations 1492
Arne Simonsson, Ericsson Research, Sweden; and Anders Furuskär, Ericsson Research, Sweden

Vertical Handover Platform over Applying the Open API for WLAN and 3G LTE Systems 1497
Yousun Hwang, ETRI, South Korea; and Aesoon Park, ETRI, South Korea

Combined Admission Control and Scheduling for QoS Differentiation in LTE Uplink 1502
Mohammad Anas, Aalborg University, Denmark; Claudio Rosa, Nokia Siemens Networks, Denmark; Francesco Davide Calabrese, Aalborg University, Denmark; Klaus Ingemann Pedersen, Nokia Siemens Networks, Denmark; and Preben Elgaard Mogensen, Nokia Siemens Network, Denmark

A Markovian Model for HSDPA TNL Congestion Control Performance Analysis 1507
Thushara Weerawardane, University of Bremen, Germany; Ranjit Perera, University of Moratuwa, Sri Lanka; Andreas Timm-Giel, University of Bremen, Germany; and Carmelita Görg, University of Bremen, Germany

Providing Quality of Service for Voice-over-IP over TD-SCDMA HSDPA 1513
Wei Hong, Beijing University of Posts and Telecommunications, China; Chunjing Hu, Beijing University of Posts and Telecommunications, China; Wenbo Wang, Beijing University of Posts and Telecommunications, China; and Jing Han, Beijing University of Posts and Telecommunications, China

3G & Beyond - III

- Design of Session and Bearer Control Signaling in 3GPP LTE System..... 1518
Jaewook Shin, ETRI, Korea; Kwangryul Jung, ETRI, Korea; and Aesoon Park, ETRI, Korea
- On UMTS-LTE Physical Uplink Shared and Control Channels 1523
Amir Dabbagh, Motorola, USA; Rapeepat Ratasuk, Motorola, USA; and Amitava Ghosh, Motorola, USA
- Uplink Interference Control in UTRAN LTE Based on the Overload Indicator 1528
Carlos Ubeda Castellanos, Aalborg University, Denmark; Francesco Davide Calabrese, Aalborg University, Denmark; Klaus I. Pedersen, Nokia Siemens Networks, Denmark; and Claudio Rosa, Nokia Siemens Networks, Denmark
- CAZAC Sequence Hopping for Physical Uplink Control Channel of LTE 1533
Feng Lu, KDDI R&D Laboratories, Inc., Japan; Toshihiko Komine, KDDI R&D Laboratories, Inc., Japan; Toshinori Suzuki, KDDI R&D Laboratories, Inc., Japan; and Mamoru Sawahashi, Musashi Institute of Technology, Japan
- Multi-Gigabit MAC Structure Design for IMT-Advanced Wireless Nomadic Access..... 1538
Yooseung Song, ETRI, Korea; Jee-yon Choi, ETRI, Korea; Yunjoo Kim, ETRI, Korea; Hyungu Park, ETRI, Korea; and Sok-kyu Lee, ETRI, Korea

3G & Beyond - IV

- Experimental Results of E-UTRA Downlink with Variable RB Allocation 1543
Yoshiaki Ofuji, NTT DoCoMo, Inc., Japan; Naoto Okubo, NTT DoCoMo, Inc., Japan; Sadayuki Abeta, NTT DoCoMo, Inc., Japan; and Takehiro Nakamura, NTT DoCoMo, Inc., Japan
- Verifying 3G License Requirements - Some Preliminary Swedish Results 1548
Claes Beckman, University of Gävle, Sweden; Elena Belkow, PTS, Sweden; Lars Eklund, PTS, Sweden; Urban Landmark, PTS, Sweden; and Per Wirdemark, Canaima Communications, Sweden
- Resource Allocation and Control Signaling in the WINNER Flexible MAC Concept 1552
Mikael Sternad, Signals and Systems, Uppsala University, Sweden; Tommy Svensson, Dept. of Signals and Systems, Chalmers University of Technology, Sweden; and Martin Döttling, Nokia Siemens Networks, Germany
- Experimental Results of E-UTRA Uplink with Variable RB Allocation 1557
Naoto Okubo, NTT DOCOMO, Inc., Japan; Yoshiaki Ofuji, NTT DOCOMO, Inc., Japan; Sadayuki Abeta, NTT DOCOMO, Inc., Japan; and Takehiro Nakamura, NTT DOCOMO, Inc., Japan
- A Novel Resource Allocation Method for HSUPA with Successive Interference Cancellation 1563
Wei Bai, Beijing University of Posts and Telecoms(BUPT), China; Yuehong Gao, Beijing University of Posts and Telecoms(BUPT), China; Jing Liu, Beijing University of Posts and Telecoms(BUPT), China; Xin Zhang, Beijing University of Posts and Telecoms(BUPT), China; and Dacheng Yang, Beijing University of Posts and Telecoms(BUPT), China

3G & Beyond - V

- Spatial Division Multiple Access with Smart Antennas in TD-SCDMA HSDPA 1568
Liang Hong, Beijing University of Posts and Telecommunications, China; Jie Cui, Beijing University of Posts and Telecommunications, China; Bo Chen, Beijing University of Posts and Telecommunications, China; Yongyu Chang, Beijing University of Posts and Telecommunications, China; Shuhui Liu, Beijing University of Posts and Telecommunications, China ; and Dacheng Yang, Beijing University of Posts and Telecommunications, China
- Reducing Feedback Requirements of the Multiple Weight Opportunistic Beamforming Scheme via Selective Multiuser Diversity..... 1573
Marios Nicolaou, University of Bristol, United Kingdom; Angela Doufexi, University of Bristol, United Kingdom; and Simon Armour, University of Bristol, United Kingdom
- Directional Diversity Reception for Hierarchically Modulated T-DMB System 1578
JaeHwui Bae, ETRI, Republic of Korea; YoungSu Kim, ETRI, Republic of Korea; Ju-yeun Kim, ETRI, Repulic of Korea; JongSoo Lim, ETRI, Republic of Korea; Soo In Lee, ETRI, Republic of Korea; and Dong-Seog Han, Kyungpook National University, Republic of Korea

Multi-user MISO Broadcast Channel with User-Cooperating Decoder 1582
HyukJoon Kwon, Stanford University, USA; and John Cioffi, Stanford University, USA

A Cell Search Scheme for TD-SCDMA Using Multi-Cell Joint Detection 1587
Danyu Zheng, Beijing University of Posts and Telecommunications, China; Zheng Jiang, Beijing University of Posts and Telecommunications, China; Yongyu Chang, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Beijing University of Posts and Telecommunications, China

CDMA / Mesh Networks

An Efficient Hardware Simulator for the Design of a WCDMA Interference Cancellation Repeater 1592
Moohong Lee, KAIST, Korea; Byungjik Keum, KAIST, Korea; Yunmok Son, KAIST, Korea; Hwang Soo Lee, KAIST, Korea; Ju Tae Song, , SK Telesys, Korea ; and Joo-Wan Kim, SK Telesys, Korea

On the Impact of Coarse Synchronization on the Performance of Broadcast/Multicast Single Frequency Network Operation in WCDMA 1598
Christoph Joetten, Qualcomm CDMA Technologies GmbH, Germany; Christian Sgraja, Qualcomm CDMA Technologies GmbH, Germany; and Josef Blanz, Qualcomm CDMA Technologies GmbH, Germany

Spectral-Efficiency of Time-Frequency-Domain Spread Multicarrier DS-CDMA in Frequency-Selective Nakagami-m Fading Channels 1604
Peng Pan, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Youquang Zhang, Beihang University, China

A Packet Combining Demodulation Scheme for Multi-hop Wireless Systems using Network Coding 1609
Nobuaki Otsuki, NTT Access Network Service Systems Laboratories, NTT Corporation, Japan; Yusuke Asai, NTT Access Network Service Systems Laboratories, NTT Corporation, Japan; Takeo Ichikawa, NTT Access Network Service Systems Laboratories, NTT Corporation; and Masato Mizoguchi, NTT Network Innovation Laboratories, NTT Corporation, Japan

Efficient Overlay Multicast Strategy for Wireless Mesh Networks 1614
Cuitao Zhu, Huazhong University of Science and Technology, China; Di Wu, Huazhong University of Science and Technology, China; Wenqing Cheng, Huazhong University of Science and Technology, China; and Zongkai Yang, Huazhong University of Science and Technology, China

Cooperative Relay Networks - I

A Novel Coding Scheme Based on GLD Codes for Cooperative Relay Networks 1619
Changcai Han, School of Information Engineering, Beijing University of Posts and Telecommunications, China; Xiaoxiang Wang, School of Information Engineering, Beijing University of Posts and Telecommunications, China; Weiling Wu, School of Information Engineering, Beijing University of Posts and Telecommunications, China; and Jianhua Zhang, School of Information Engineering, Beijing University of Posts and Telecommunications, China

A Novel Distributed Space-Time Block Coding Protocol for Cooperative Wireless Relay Networks 1624
Hamed Rasouli, Ryerson University, Canada; and Alagan Anpalagan, Ryerson University, Canada

Raptor Code for Downlink Cooperative Wireless Cellular Networks 1629
Hongtao Zhang, Beijing University of Posts and Telecommunications, China; and Geng-Sheng (G.S.) Kuo, National Chengchi University, Taiwan

Transmission Strategies for Parallel Relay Networks Based on Superposition Coding 1634
Jianzhong Huang, Xidian University, China; Yang Yang, Xidian University, China; Peng Wang, City University of Hong Kong, Hong Kong; Ping Li, City University of Hong Kong, Hong Kong; and Xinmei Wang, Xidian University, China

Incremental Network Coding in Cooperative Transmission Wireless Networks 1639
Dereje H. Woldegebreal, University of Paderborn, Germany; Stefan Valentin, University of Paderborn, Germany; and Holger Karl, University of Paderborn, Germany

Cooperative Relay Networks - II

On the Performance of Selection Relaying 1644
Abdulkareem Adinoyi, Carleton University, Canada; Yijia Fan, Princeton University, USA; Halim Yanikomeroglu, Carleton University, Canada; and H. Vincent Poor, Princeton University, USA

Cooperative MAC Scheme for Multi-Hop Multi-Channel Wireless Mesh Networks 1649
Xing-Jian Zhu, Beijing University of Posts and Telecommunications, China; and Geng-Sheng (G.S.) Kuo, National Chengchi University, Taiwan

A Collaborative Cooperation Scheme using Hierarchical Modulation 1655
SunYoung Lee, Yonsei University, Korea; and KeumChan Whang, Yonsei University, Korea

Mobile Cooperative WLANs - MAC and Transceiver Design, Prototyping, and Field Measurements 1660
Stefan Valentin, University of Paderborn, Germany; Hermann S. Lichte, University of Paderborn, Germany; Daniel Warneke, University of Paderborn, Germany; Thorsten Biermann, University of Paderborn, Germany; Rafael Funke, University of Paderborn, Germany; and Holger Karl, University of Paderborn, Germany

Power Control Algorithm of Ranging Process in IEEE 802.16 Relay System 1665
Doohwan Lee, The University of Tokyo, Japan; and Hiroyuki Morikawa, The University of Tokyo, Japan

Cooperative Relay Networks - III

Adaptive Relay Selection for Regenerative OFDMA Relay Networks with Fairness Constraints 1670
Harin Jeong, Seoul National University, Korea; and Jae Hong Lee, Seoul National University, Korea

Joint Cooperative Diversity and Proportional Fair Scheduling in OFDMA Relay Systems 1675
Poramate Tarasak, Institute for Infocomm Research, Singapore; and Sumei Sun, Institute for Infocomm Research, Singapore

Fairness-oriented Scheduling with Equilibrium for Multihop Relaying Networks Based on OFDMA 1680
Tong Wu, Beijing University of Posts and Telecommunications, China; Gen Li, Beijing University of Posts and Telecommunications, China; Ying Wang, Beijing University of Posts and Telecommunications, China; Jing Huang, Beijing University of Posts and Telecommunications, China; Xinmin Yu, Beijing University of Posts and Telecommunications, China; and Hui Tian, Beijing University of Posts and Telecommunications, China

The Subchannel-Allocation for OFDMA Relaying Downlink Systems with Total Power Constraint 1685
Ryoolhee Kwak, Stanford University, USA; and John M. Cioffi, Stanford University, USA

A Dynamic Resource Allocation Scheme for Fairness Guarantee using Cooperative Diversity in OFDMA Systems 1690
Junwoo Jung, Ajou University, Republic of Korea; Hyungwon Park, Ajou University, Republic of Korea; Jaesung Lim, Ajou University, Republic of Korea; and Soonchul Park, Kyungpook National University, Republic of Korea

Cooperative Relay Networks - IV

Performance of Relay-Aided DS-CDMA Experiencing Propagation Pathloss and Nakagami Fading 1695
Wei Fang, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom

Performance of Relay-Aided DS-CDMA Downlink Systems Communicating over Nakagami-m Fading Channels 1700
Wei Fang, University of Southampton, United Kingdom; Lie-Liang Yang, University of Southampton, United Kingdom; and Lajos Hanzo, University of Southampton, United Kingdom

Packet Scheduling Algorithms with Fairness Control for CDMA Reverse Link 1705
Jaehwi Shin, KT, Korea; Youngnam Han, Information and Communications University, Korea; and Seokhun Kim, KT, Korea

CDMA Code-Based Bandwidth Request Mechanism in IEEE 802.16j Mobile Multi-Hop Relay (MMR) Systems 1710
Sang-Wook Kwon, KAIST, Republic of Korea; and Dong-Ho Cho, KAIST, Republic of Korea

Channel Code Division Multiple Access and its Multilevel Structured LDPC Based Instantiation 1715
Nicholas Bonello, University of Southampton, UK; Rong Zhang, University of Southampton, UK; Sheng Chen, University of Southampton, UK; and Lajos Hanzo, University of Southampton, UK

MBMS / MBWA

A Bandwidth Estimation Model for Multiplexed E-MBMS Services 1720
Yu Chen, Alcatel Shanghai Bell, China

Analysis of Novel User Detection Scheme Based on Polling for E-MBMS Networks 1725
Yu Sheng, Beijing University of Posts and Telecommunications, China; Xin Guo, Beijing University of Posts and Telecommunications, China; Mugen Peng, Beijing University of Posts and Telecommunications, China; and Wenbo Wang, Beijing University of Posts and Telecommunications, China

Efficient Assignment of Multiple MBMS Sessions in B3G Networks 1730
Antonios Alexiou, Research Academic Computer Technology Institute, Patras, Greece; Christos Bouras, Research Academic Computer Technology Institute, Patras, Greece, Greece; Vasileios Kokkinos, Research Academic Computer Technology Institute, Patras, Greece; and Evangelos Rekkas, Research Academic Computer Technology Institute, Patras, Greece

First-Ever Report on MBWA System Field Trial: Interference Issue in Sectorized Cell Layout 1735
Noboru Izuka, Softbank Telecom, Japan; Yasuyoshi Asano, Softbank Telecom, Japan; Yoshiharu Yamazaki, Softbank Telecom, Japan; Hiroshi Oguma, Tohoku University, Japan; Suguru Kameda, Tohoku University, Japan; Tadashi Takagi, Tohoku University, Japan; and K. Tsubouchi, Tohoku University, Japan

Preamble Design and System Acquisition in Ultra Mobile Broadband Communication Systems 1741
Michael Mao Wang, Qualcomm, USA; Sandeep Aedudodla, Qualcomm, USA; Aamod Khandekar, Qualcomm, USA; Ravi Palanki, Qualcomm, USA; and Avneesh Agrawal, Qualcomm, USA

MIMO - V

Cluster-Based Transmit Diversity Scheme for MIMO OFDM Systems 1749
Jungwon Lee, Marvell Semiconductor, Inc., USA; Yakun Sun, Marvell Semiconductor, Inc., USA; Rohit Nabar, Marvell Semiconductor, Inc., USA; and Hui-Ling Lou, Marvell Semiconductor, Inc., USA

Discrete-Rate Adaptive Multiuser Scheduling for MIMO-OFDM Systems 1754
Mohammad Torabi, Ecole Polytechnique de Montreal, Canada; Wessam Ajib, University of Quebec a Montreal, Canada; and David Haccoun, Ecole Polytechnique de Montreal, Canada

Dynamic MIMO Multiple-Carrier Multiple-Access: Adaptive Radio-Resource Allocation Under Realistic Constraints 1759
Zhan Zhang, DoCoMo Beijing Communication Labs., China; Jian Ping Chen, DoCoMo Beijing Communication Labs, China; and Hidetoshi Kayama, DoCoMo Beijing Communication Labs, China

Zero-Forcing Beamforming Codebook Design for MU-MIMO OFDM Systems 1765
erdem Bala, Interdigital Communications, USA; Kyle Pan, Interdigital Communications, USA; Robert Olesen, Interdigital Communications, USA; and Donald Grieco, Interdigital Communications, USA

Maximum Likelihood Detection for Cooperative Diversity in MIMO Relay Channels 1770
G.V.V. Sharma, IIT Bombay, India; Vijay Ganwani, IIT Bombay, India; Uday B. Desai, IIT Bombay, India; and S.N. Merchant, IIT Bombay, India

OFDM - IV

A Revenue-Based Low-Delay and Efficient Downlink Scheduling Algorithm in OFDMA Systems 1775
Ruo Chen Wang, Beijing University of Posts and Telecommunications, China; Zhiqiang He, Beijing University of Posts and Telecommunications, China; Zheng Sun, Beijing University of Posts and Telecommunications, China; Shan Lu, Beijing University of Posts and Telecommunications, China; and Kai Niu, Beijing University of Posts and Telecommunications, China

Cooperative Communication in Space-Time-Frequency Coded MB-OFDM UWB	1780
<i>Le Chung Tran, University of Luebeck, Germany; Alfred Mertins, University of Luebeck, Germany; and Tadeusz A. Wysocki, University of Nebraska-Lincoln, USA</i>	
Power Controlled Random Access in Multi-Cell OFDMA Uplink.....	1785
<i>Denis Kolyuzhnov, Jacobs University Bremen, Germany; Abdurazak Mudesir, Jacobs University Bremen, Germany; and Harald Haas, University of Edinburgh, United Kingdom</i>	
Asymmetry Balancing for Channel Asymmetry Support in OFDMA-TDD Cellular Networks.....	1790
<i>Ellina Foutekova, University of Edinburgh, Edinburgh, UK; Sinan Sinanovic, University of Edinburgh, Edinburgh, UK; and Harald Haas, University of Edinburgh, Edinburgh, UK</i>	
CQI Feedback Reduction based on Spatial Correlation in OFDMA System	1795
<i>Woongsup Lee, KAIST, Korea; and Dong-Ho Cho, KAIST, Korea</i>	
OFDM - V	
OFDM-Based Millimeter Wave System for High Data Rate WPAN Applications	1800
<i>Pascal Pagani, France Telecom / Orange Labs, France; Maxim Piz, IHP Microelectronics, Germany; Isabelle Slaud, France Telecom / Orange Labs, France; Eckhard Grass, IHP Microelectronics, Germany; Wei Li, France Telecom / Orange Labs, USA; Klaus Tittelbach Helmrich, IHP Microelectronics, Germany; Anne-Marie Ulmer-Moll, France Telecom / Orange Labs, France; and Frank Herzel, IHP Microelectronics, Germany</i>	
On the Study of End-to-End IQ Imbalance Problem in OFDM Systems.....	1806
<i>Chia-Horng Liu, Telecommunication Laboratories, Taiwan</i>	
Subcarrier, Bit and Power Allocation for Multiuser OFDM-based Multi-Cell Cognitive Radio Systems.....	1811
<i>Yonghong Zhang, The University of British Columbia, Canada; and Cyril Leung, The University of British Columbia, Canada</i>	
Layered OFDMA Radio Access for IMT-Advanced	1816
<i>Motohiro Tanno, NTT DoCoMo, Inc., Japan; Yoshihisa Kishiyama, NTT DoCoMo, Inc., Japan; Hidekazu Taoka, NTT DoCoMo, Inc., Japan; Nobuhiko Miki, NTT DoCoMo, Inc., Japan; Kenichi Higuchi, Tokyo University of Science, Japan; and Mamoru Sawahashi, Musashi Institute of Technology, Japan</i>	
Optimal Fractional Frequency Reuse (FFR) in Multicellular OFDMA System	1822
<i>Mohamad Assaad, SUPELEC, France</i>	
Performance Analysis - III	
Performance Analysis of ICI Elimination by Information Aid for Aviation Mobile Broadband Communication.....	1827
<i>Xian Wu, Beijing University of Aeronautics and Astronautics, P.R. China; Jun Zhang, Beijing University of Aeronautics and Astronautics, P.R. China; and Zhongkan Liu, Beijing University of Aeronautics and Astronautics, P.R. China</i>	
Performance Evaluation in All-Wireless Wi-Fi Networks	1832
<i>Goncalo Carpinteiro, Instituto Superior Técnico / Instituto de Telecomunicações Technical University of Lisbon, Portugal; and Luis Correia, Instituto Superior Técnico / Instituto de Telecomunicações Technical University of Lisbon, Portugal</i>	
Performance Evaluation of 6-Sector-Site Deployment for Downlink UTRAN Long Term Evolution	1837
<i>Sanjay Kumar, Aalborg University, Denmark; Istvan Kovács, Nokia Siemens Networks, Aalborg, Denmark; Guillaume Monghal, Aalborg University, Denmark; Klaus Pedersen, Nokia Siemens Networks, Aalborg, Denmark; and Preben Mogensen, Nokia Siemens Network, Aalborg University, Denmark</i>	
Performance Evaluation of Multipath Cellular Networks in Obstacle Mobility Model for Downlink Packet Video Communication.....	1842
<i>Abdullah Yusuf, Monash University, Australia; and Manzur Murshed, Monash University, Australia</i>	
Complexity-Performance Trade-Offs in a Single Carrier Transmission with Iterative Equalization	1847
<i>Toni Levanen, Tampere University of Technology (TUT), Finland; and Markku Renfors, Tampere University of Technology (TUT), Finland</i>	

Power Control

Combination of Dynamic-TDD and Static-TDD Based on Adaptive Power Control..... 1852
Howon Lee, KAIST, Korea; and Dong-Ho Cho, KAIST, Korea

Improved Algorithm for Computation of Transmission Powers in DS-CDMA Cellular Networks with Closed-Loop Power Control..... 1857
Luis Mendo, Polytechnic University of Madrid, Spain; and José M. Herando, Polytechnic University of Madrid, Spain

Uplink Power Control for an SC-FDMA Mobile Cellular System 1862
Lei Cao, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Lei Zhong, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Haipeng Lei, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Yafeng Wang, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; Yongyu Chang, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Wireless Theories and Technologies Lab (WT&T) Beijing University of Posts and Telecommunications, China

Wireless Downlink Admission and Power Control under Strict Quality-of-Service Requirements 1867
Mohamed Saad, University of Sharjah, United Arab Emirates

A Joint Power and Rate Control Algorithm and Fairness Enhancement for Multiuser OFDM System 1872
Xiaoyu Wei, Ericsson AB, Sweden; and Peter Larsson, Ericsson Research, Sweden

Scheduling - II

A Dynamic PF Scheduler to Improve the Cell Edge Performance..... 1877
Ning Xu, Motorola Labs, China; Guillaume Vivier, Motorola Labs, France; Wen Zhou, Motorola Labs, China; and Yongquan Qiang, Motorola Labs, China

A Temporal Round Robin Scheduler 1882
Zekeriya Uykan, Nokia Siemens Networks, Finland

Efficient Semi-Persistent Scheduling for VoIP on EUTRA Downlink 1887
Yong Fan, Tampere University of Technology, Finland; Petteri Lunden, Nokia Research Center, Finland; Markku Kuusela, Nokia Research Center, Finland; and Mikko Valkama, Tampere University of Technology, Finland

Fairness Assessment of the Adaptive Token Bank Fair Queuing Scheduling Algorithm..... 1892
Feroz Bokhari, Carleton University, Canada; Halim Yanikomeroglu, Carleton University, Canada; William Wong, Communication Research Center Canada, Canada; and Mahmudur Rahman, Carleton University, Canada

Frequency Semi-Selective Scheduling for a DFT-SOFDM based Uplink 1897
Arvind Krishnamoorthy, Motorola, USA; Philippe Sartori, Motorola, USA; Kevin Baum, Motorola, USA; Vijay Nangia, Motorola, USA; and Brian Classon, Motorola, USA

Scheduling - III

Scheduling in OFDM Wireless Networks without Tradeoff between Fairness and Throughput 1902
Cedric Gueguen, UPMC University Paris 06, France; and Sebastien Baey, UPMC University Paris 06, France

Throughput Analysis of Opportunistic Scheduling under Rayleigh Fading Environment..... 1907
Erwu Liu, Imperial College, UK; and Kin Leung, Imperial College, UK

Throughput Analysis of DS-CDMA Wireless Packet Access using Frequency-domain Equalization and Random TPC 1912
Haruki Ito, Tohoku University, Japan; Eisuke Kudoh, Tohoku University, Japan; Zhisen Wang, Dalian Polytechnic University, China; and Fumiyuki Adachi, Tohoku University, Japan

Backoff Strategies in Hiperlan\2 with Error Control Protocol 1917
Abdelsalam Amer, Uiniversity of Victoria, Canada; Fayez Gebali, Uiniversity of Victoria, Canada; and Yousry Abdel-Hamid, Uiniversity of Victoria, Canada

Evaluation of Key Techniques for Packet Traffics in Multi-carrier LCR TDD Systems 1925
Shuhui Liu, Beijing University of Posts and Telecommunications, China; Jie Cui, Beijing University of Posts and Telecommunications, China; and Yongyu Chang, Beijing University of Posts and Telecommunications, China

Synchronization - II

New Training Sequence Structure for Zero-Padded SC-FDE System in Presence of Carrier Frequency Offset 1930
Ying Chen, The Australian National University, Australia; Jian Zhang, NICTA, Australia; and Dhammika Jayalath, Queensland University of Technology, Australia

Calibration Issues of PHY Layer Abstractions for Wireless Broadband Systems 1934
Antonio Maria Cipriano, Thales Communications, France; Raphaël Visoz, France Telecom Recherche et Developpement, France; and Thomas Sälzer, France Telecom Recherche et Developpement, France

Training-Based Joint Timing and Channel Estimation for Ultra-Wideband Signals 1939
Tao Liu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China; and Shihua Zhu, School of Electronics and Information Engineering, Xi'an Jiaotong University, China

Decentralized Inter-Base Station Synchronization Inspired from Nature 1944
Alexander Tyrrell, DoCoMo Euro-Labs, Germany; and Gunther Auer, DoCoMo Euro-Labs, Germany

Anti-Collision Protocol Tuning for the ISO/IEC 18000-3 Mode 2 RFID System 1949
Sung-Rok Yoon, SITI, Republic of Korea; Jung-Ho Lee, SITI, Republic of Korea; and Sin-Chong Park, SITI, Republic of Korea

Systems - I

Iterative Two-layer CI Phase Coding Enhancement of Uplink Broadband Wireless Access System 1954
Thanh Son Le, University Graduate Center at Kjeller, Norway; Torbjørn Ekman, University Graduate Center at Kjeller, Norway; and Pål Orten, University Graduate Center at Kjeller, Norway

A Design Concept for a 60 GHz Wireless In-Flight Entertainment System 1960
Jian Luo, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; Wilhelm Keusgen, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany; Andreas Kortke, Fraunhofer Heinrich-Hertz-Institut, Germany; and Michael Peter, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, Germany

A Robust AMC that Guarantees Packet Error Rate and Its Evaluation under a Handover Scenario in OFDM-Based Evolved UTRA Downlink 1965
Seok Ho Won, ETRI, Korea

An Optimal Satisfaction Model for Universal Service Terminal System 1969
Yuhan Jin, Beijing University of Posts and Telecommunications, China; Hui Tian, Beijing University of Posts and Telecommunications, China; and Zemin Liu, Beijing University of Posts and Telecommunications, China

Efficient Reliable Data Collection in Wireless Sensor Networks 1974
Ren Liu, CSIRO, Australia; John Zic, CSIRO, Australia; Iain Collings, CSIRO, Australia; Yi Fei Dong, University of New South Wales, Australia; and Sanjay Jha, University of New South Wales, Australia

UWB - II

Differential Code-Shifted Reference Ultra-Wideband (UWB) Radio 1979
Hong Nie, University of Northern Iowa, USA; and Zhizhang Chen, Dalhousie University, Canada

A Stochastic Model for of UWB Telemetry Data Packets with Clock Offset 1984
Saeed Khalesehosseni, University of Calgary, Canada; and John Nielsen, University of Calgary, Canada

Normalised Least Mean-Square Aided Decision-Directed Adaptive Detection in Hybrid Direct-Sequence Time-Hopping UWB Systems 1989
Qasim Zeeshan Ahmed, University of Southampton, United Kingdom; and Lie-Liang Yang, University of Southampton, United Kingdom

Reduced-Rank Detection for Hybrid Direct-Sequence Time- Hopping UWB Systems in Nakagami-m Fading Channels 1994
Qasim Zeeshan Ahmed, University of Southampton, United Kingdom; and Lie-Liang Yang, University of Southampton, United Kingdom

Theoretical Capacity Analysis of TH-UWB Systems for Orthogonal Pulse Based Modulation Schemes 1999
Sudhan Majhi, University of Michigan-Dearborn, USA; Weidong Xiang, University of Michigan-Dearborn, USA; A. S Madhukumar, Nanyang Technological University, Singapore; and A.B Premkumar, Nanyang Technological University, Singapore

WIMAX - I

Broadcasting VBR Traffic in a WiMAX Network.....2004
Patrick Hosein, Huawei Technologies, USA

Effect of Distributed Subcarrier Permutation on Adaptive Beamforming in WiMAX Networks.....2009
Masood Maqbool, ENST (Télécom ParisTech), France; Marceau Coupechoux, ENST (Télécom ParisTech), France; and Philippe Godlewski, ENST (Télécom ParisTech), France

Optimal Linear-Time Algorithm for Uplink Scheduling of Packets with Hard or Soft Deadlines in WiMAX2014
Arezou Mohammadi, Queen's University, Canada; Selim Akl, Queen's University, Canada; and Firouz Behnamfar, Canada

Performance Evaluation of Mobile WiMAX with Dynamic Overhead.....2019
Yuehong Gao, Norwegian University of Science and Technology, Norway; Li Chen, Beijing University of Posts and Telecommunications, P.R.China; Xin Zhang, Beijing University of Posts and Telecommunications, P.R.China; and Yuming Jiang, Norwegian University of Science and Technology, Norway

RF Optimization of WiMAX Systems2024
Rajesh Pazhyannur, Motorola, Inc., USA; Tony Dean, Motorola, Inc., USA; Swaminathan Anantha, Motorola, Inc., USA; and Richa Dham, Motorola, Inc., USA

WIMAX - II

A Layer 2 Scheme of Inter-RAT Handover between UMTS and WiMAX.....2029
Bin Liu, ENST - Paris - Ecole Nationale Supérieure des Télécommunications, France; Philippe Martins, ENST - Paris - Ecole Nationale Supérieure des Télécommunications, France; Abed Ellatif Samhat, France Telecom Research and Development, France; and Philippe Bertin, France Telecom Research and Development, France

Channel Aware Scheduling for Multiple Service Flows in OFDMA Based Mobile WiMAX Systems2034
Tara Ali Yahya, Pierre et Marie Curie University, France; André-Luc Beylot, ENSEEIHT, France; and Guy Pujolle, Pierre et Marie Curie University, France

Coexistence Study in the 2500-2690 MHz Band between WiMAX and WCDMA Systems2039
Ruiming Zheng, Beijing University of Posts and Telecommunications, P.R. China; Xin Zhang, Beijing University of Posts and Telecommunications, P.R. China; Xi Li, Beijing University of Posts and Telecommunications, P.R. China; Yang Hai, Beijing University of Posts and Telecommunications, China; and Dacheng Yang, Beijing University of Posts and Telecommunications, China

Listening Interval Spreading Approach (LISA) for Handling Burst Traffic in IEEE 802.16e Wireless Metropolitan Area Networks 2045
Shiann-Tsong Sheu, National Central University, Taiwan; Yen-Chieh Cheng, National Central University, Taiwan; Lu-wei Chen, National Central University, Taiwan; Jung-Shyr Wu, National Central University, Taiwan; and Johnson Chang, Institute for Information

Performance Comparison of IEEE 802.16e and IEEE 802.20 Systems under Different Frequency Reuse Schemes.....2050
Haiyan Luo, Institute of Information and Communication Engineering, Zhejiang University, China; Zhaoyang Zhang, Institute of Information and Communication Engineering, Zhejiang University, China; Huiling Jia, College of Information and Electronics, Zhejiang University, China; Guanding Yu, Institute of Information and Communication Engineering, Zhejiang University, China; and Shiju Li, Institute of Information and Communication Engineering, Zhejiang University, China

WLAN - II

An Analysis of Different Backoff Functions for an IEEE 802.11 WLAN2055
Dongxia Xu, NICTA, Australia; Taka Sakurai, University of Melbourne, Australia; and Hai L. Vu, Swinburne University of Technology, Australia

Game-theoretic EDCA in IEEE 802.11e WLANs	2060
<i>Liqiang Zhao, State Key Laboratory of Integrated Services Networks, Xidian University, China; Li Cong, State Key Laboratory of Integrated Services Networks, Xidian University, China; Hailin Zhang, State Key Laboratory of Integrated Services Networks, Xidian University, China; Wei Ding, Centre for Wireless Network Design, University of Bedfordshire, UK; and Jie Zhang, Centre for Wireless Network Design, University of Bedfordshire, UK</i>	
IEEE 802.11n MAC Improvements: A MAC and PHY Cross-Layer Model to Estimate the Throughput.....	2065
<i>Roger Hoefel, Federal University of Rio Grande do Sul (UFRGS), Brazil</i>	
Research on Multi-slot Virtual Collision Mechanism for IEEE 802.11 DCF	2070
<i>Kai Kang, Tsinghua University, China; Hongqi Jiang, Tsinghua University, China; and Xiaokang Lin, Tsinghua University, China</i>	
A Novel Frequency Channel Allocation Method for 2.4 GHz Wireless LAN	2076
<i>Kenya Yonezawa, KDDI R&D Laboratories Inc., Japan; and Takashi Inoue, KDDI R&D Laboratories Inc., Japan</i>	
FP7 WHERE Special Session	
Combining Wireless Communications and Navigation — The WHERE Project.....	2081
<i>Ronald Raulefs, DLR, Germany; and Simon Plass, DLR, Germany</i>	
Decoupling Estimators in Mobile Cooperative Positioning for Heterogeneous Networks.....	2086
<i>Joao Figueiras, Aalborg University, Denmark; Simone Frattasi, Aalborg University, Denmark; and Hans-Peter Schwefel, Aalborg University, Denmark</i>	
Direct Location Estimation using Single-Bounce NLOS Time-Varying Channel Models	2091
<i>Konstantinos Papakonstantinou, Eurecom, France; and Dirk Slock, Eurecom, France</i>	
Hybrid Data Fusion and Cooperative Schemes for Wireless Positioning	2096
<i>Stephan Sand, German Aerospace Center (DLR), Germany; Christian Mensing, German Aerospace Center (DLR), Germany; Yi Ma, University of Surrey, United Kingdom; Rahim Tafazolli, University of Surrey, United Kingdom; Xuefeng Yin, Aalborg University, Denmark; Joao Figueiras, Aalborg University, Denmark; Jimmy Nielsen, Aalborg University, Denmark; and Bernard Fleury, Aalborg University, Denmark</i>	
Service Suitability Based RAT Selection for Beyond 3G Systems.....	2101
<i>Jonathan Rodriguez, Instituto de Telecomunicações, Pólo de Aveiro, Portugal; Valdemar Monteiro, Instituto de Telecomunicações, Pólo de Aveiro, Portugal; Joaquim Bastos, Instituto de Telecomunicações, Pólo de Aveiro, Portugal; Atilio Gameiro, Instituto de Telecomunicações, Pólo de Aveiro, Universidade de Aveiro, Portugal; Orlando Cabral, Instituto de Telecomunicações, Universidade da Beira Interior, Portugal; and Fernando Velez, Instituto de Telecomunicações, Universidade da Beira Interior, Portugal</i>	
Applications, Systems & Experiments	
I2V Communication Driving Assistance System: On-board Traffic Light Assistant.....	2106
<i>Inaki Iglesias, Tecnalia-Robotiker, Spain; Lucia Isasi, Tecnalia-Robotiker, Spain; Maider Larburu, Tecnalia-Robotiker, Spain; Veronica Martinez, Tecnalia-Robotiker, Spain; and Begona Molinete, Tecnalia-Robotiker, Spain</i>	
Mobile WiMAX: Performance Analysis and Comparison with Experimental Results.....	2111
<i>Mai Tran, Bristol University, United Kingdom; George Zaggoulos, Bristol University, United Kingdom; Andrew Nix, Bristol University, United Kingdom; and Angela Doufexi, Bristol University, United Kingdom</i>	
TRACKSS Approach to Improving Road Safety through Sensors Collaboration on Vehicle and in Infrastructure.....	2116
<i>Leonardus (Budi) Arief, Newcastle University, UK; and Axel von Arnim, LCPC, France</i>	
V2V Communications in Automotive Multi-sensor Multi-target Tracking	2121
<i>Matthias Roeckl, German Aerospace Center (DLR), Germany; Thomas Strang, German Aerospace Center (DLR), Germany; and Matthias Kranz, German Aerospace Center (DLR), Germany</i>	

Towards Advanced Information Fusion for Driver Assistant Systems of Modern Vehicles.....	2126
<i>Florian Dittmann, TWT GmbH, Science & Innovation, Germany; Konstantina Geramani, TWT GmbH, Science & Innovation, Germany; George Rigas, University of Ioannina, Greece; Christos Katsis, University of Ioannina, Greece; and Dimitrios Fotiadis, University of Ioannina, Greece</i>	
PHY & MAC	
A Channel Update Algorithm for VBLAST Architecture in Vehicular Ad-hoc Networks	2131
<i>Ghassan M.T. Abdalla, University of Plymouth, UK; Mosa Ali Abu-Rgheff, University of Plymouth, UK; and Sidi-Mohammed Senouci, France Telecom, France</i>	
Doppler Spread Suppression Technique for an L-band Digital Radio Broadcast System	2136
<i>Abdelmoumen Mouaki Benani, Communications Research Centre Canada, Canada; André carr, Communications Research Centre Canada, Canada; and Martin Quenneville, Communications Research Centre Canada, Canada</i>	
Performance Evaluation of Vehicular Ultra-wideband Radio Channels	2142
<i>Youichiro Nakahata, Kitakyushu University, Japan; Katsushi Ono, Kitakyushu University, Japan; Isamu Matsunami, Kitakyushu University, Japan; and Akihiro Kajiwara, Kitakyushu University, Japan</i>	
Optimizing Adaptive Transmission Policies for Wireless Vehicular Communications.....	2147
<i>Miguel Sepulcre, University Miguel Hernandez, Spain; and Javier Gozalvez, University Miguel Hernandez, Spain</i>	
Evaluation of the IEEE 802.11p MAC Method for Vehicle-to-Vehicle Communication	2152
<i>Katrin Bilstrup, Halmstad University, Sweden; Elisabeth Uhlemann, Halmstad University, Sweden; Erik G. Ström, Chalmers University of Technology, Sweden; and Urban Bilstrup, Halmstad University, Sweden</i>	
Protocols	
LOUVRE: Landmark Overlays for Urban Vehicular Routing Environments.....	2157
<i>Kevin Lee, UCLA, USA; Michael Le, UCLA, USA; Jerome Harri, University of Karlsruhe, Germany; and Mario Gerla, UCLA, USA</i>	
Media Access Technique for Cluster-Based Vehicular Ad Hoc Networks	2162
<i>Zaydoun Rawashdeh, Wayne State University, USA; and Syed Mahmud, Wayne State University, USA</i>	
Optimized Position Based Gossiping in VANETs	2167
<i>Boto Bako, Ulm University, Germany; Elmar Schoch, Ulm University, Germany; Frank Kargl, Ulm University, Germany; and Michael Weber, Ulm University, Germany</i>	
Operation and Performance of Vehicular Ad-hoc Routing Protocols in Realistic Environments.....	2172
<i>Ramon Bauza, University Miguel Hernandez, Spain; Javier Gozalvez, University Miguel Hernandez, Spain; and Miguel Sepulcre, University Miguel Hernandez, Spain</i>	
A Novel Headway-Based Vehicle-to-Vehicle Multi-Mode Broadcasting Protocol	2177
<i>Mostafa Taha, Assiut University (ARE), Egypt ; and Yassin Hasan, Assiut University (ARE) - Taibah University (KSA), Egypt</i>	
WiVeC Posters	
50 Ways to Track Your Lover	2182
<i>Lars Fischer, Technische Universität Darmstadt, Germany; and Claudia Eckert, Technische Universität Darmstadt, Germany</i>	
Efficient Certificate Distribution for Vehicle Heartbeat Messages.....	2187
<i>Jeremy Blum, Pennsylvania State University, USA; Alexey Tararakin, Pennsylvania State University, USA; and Azim Eskandarian, The George Washington University, USA</i>	
On the Cost-Effective Wireless Broadband Service Delivery from High Altitude Platforms with an Economical Business Model Design.....	2192
<i>Zhe Yang, Blekinge Institute of Technology, Sweden; and Abbas Mohammed, Blekinge Institute of Technology, Sweden</i>	
Pseudonym-on-demand: A New Pseudonym Refill Strategy for Vehicular Communications.....	2197
<i>Zhendong Ma, Ulm University, Germany; Frank Kargl, Ulm University, Germany; and Michael Weber, Ulm University, Germany</i>	
Remote Medical Monitoring Through Vehicular Ad Hoc Network	2202
<i>Hyduke Noshadi, University of California Los Angeles, USA; Eugenio Giordano, University of California Los Angeles, USA; Hagop Hagopian, University of California, Los Angeles, USA; Giovanni Pau, University of California, Los Angeles, USA; Mario Gerla, University of California Los Angeles, USA; and Majid Sarrafzadeh, University of California, Los Angeles, USA</i>	

The WiMAX ASN Network in the V2I scenario	2207
<i>Marina Aguado, University of the Basque Country, Spain; Jon Matias, University of the Basque Country, Spain; Eduardo Jacob, University of the Basque Country, Spain; and Marion Berbineau, INRETS, France</i>	
Study on Distributed Delay Time Control Algorithm for Cooperative Multi-hop Vehicular Networks with Cyclic Delay Diversity	2212
<i>Shizen Sasaki, Kyoto University, Japan; Hidekazu Murata, Kyoto University, Japan; Koji Yamamoto, Kyoto University, Japan; and Susumu Yoshida, Kyoto University, Japan</i>	
Multilevel Coded Cooperation for Wireless Vehicular Networks	2216
<i>Mumtaz Yilmaz, Dokuz Eylul University, Turkey; and Reyat Yilmaz, Dokuz Eylul University, Turkey</i>	
A Selective Cluster Index Scheduling Method in OFDMA	2221
<i>Marios Nicolaou, University of Bristol, United Kingdom; Angela Doufexi, University of Bristol, United Kingdom; and Simon Armour, University of Bristol, United Kingdom</i>	
WiVeC Demonstrations	
The Design of a Wireless Access for Vehicular Environment (WAVE) Prototype for Intelligent Transportation System (ITS) and Vehicular Infrastructure Integration (VII)	2226
<i>Weidong Xiang, University of Michigan, Dearborn, USA; Yue Huang, University of Michigan, Dearborn, USA; and Sudhan Majhi, University of Michigan, Dearborn, USA</i>	
C-VeT an open research platform for VANETs: Evaluation of Peer to Peer Applications in Vehicular Networks.....	2228
<i>Eugenio Giordano, University of California Los Angeles, USA; Andrea Tomatis, Politecnico di Torino, Italy; Abhishek Ghosh, University of California Los Angeles, USA; Giovanni Pau, University of California Los Angeles, USA; and Mario Gerla, University of California Los Angeles, USA</i>	
Demonstrator: V2V Communications in Automotive Multi-sensor Multi-target Tracking.....	2230
<i>Matthias Roeckl, German Aerospace Center (DLR), Germany; Thomas Strang, German Aerospace Center (DLR), Germany; and Matthias Kranz, German Aerospace Center (DLR), Germany</i>	
NCTUns 5.0: A Network Simulator for IEEE 802.11(p) and 1609 Wireless Vehicular Network Researches.....	2232
<i>Shie-Yuan Wang, National Chiao Tung University, Taiwan; and Chih-Che Lin, National Chiao Tung University, Taiwan</i>	
Secure and Privacy-Enhancing Vehicular Communication: Demonstration of implementation and operation	2234
<i>Petra Ardelean, EPFL, Switzerland; and Panagiotis (Panos) Papadimitratos, EPFL, Switzerland</i>	
U2VAS: A Research Communication Stack for Vehicular Networks	2236
<i>Elmar Schoch, Ulm University, Germany; Frank Kargl, Ulm University, Germany; Fabian Wolf, Ulm University, Germany; and Michael Weber, Ulm University, Germany</i>	
Visualizing and Understanding Spatio-Temporal Correlations of Data Dissemination in Vehicular Environments.....	2238
<i>Tessa Tielert, Universität Karlsruhe (TH), Germany; Felix Schmidt-Eisenlohr, Universität Karlsruhe (TH), Germany; and Hannes Hartenstein, Universität Karlsruhe (TH), Germany</i>	