

## B. ADVANCED WIRELESS COMMUNICATIONS SYSTEMS SYMPOSIUM

### Technical Program Committee

*Chair:* Ross Murch, *Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong*

*Co-Chair:* Paul Lemson, *Woodinville, WA, USA*

Marcelo S. Alencar, *Laboratorio de Comunicacoes - LABCOM, UFPB, Brazil*  
 Mohamed Slim Alouini, *University of Minnesota, Minneapolis, USA*  
 Mark Beach, *University of Bristol, Bristol, UK*  
 Claes Beckman, *Royal Institute of Technology, Stockholm, Sweden*  
 Sathish Chandran, *URSI, Malaysia*  
 Sheng Chen, *University of Southampton, Southampton, UK*  
 Andrea Conti, *Univ. of Bologna, Italy*  
 Tolga Duman, *Arizona State University, USA*  
 Hesham El Gamal, *Ohio State University, USA*  
 Moshen Guizani, *University of West Florida, USA*  
 Fredrik Gunnarsson, *Ericsson Research, Linköping, Sweden*  
 Ridha Hamila, *Tampere University of Technology, Tampere, Finland*  
 Bassam Hashem, *Nortel Networks, Ontario, Canada*  
 Mostofa Howlader, *University of Tennessee, Tennessee, USA*  
 Joseph Kabara, *University of Pittsburgh, Pittsburgh, USA*  
 Rodney Kennedy, *Australia National University, Canberra, Australia*  
 Timo Korhonen, *Helsinki University, Finland*  
 Prashant Krishnamurthy, *University of Pittsburgh, Pittsburgh, USA*  
 Kwang Bok Lee, *Seoul National University, Korea*  
 Geofferey Li, *Georgia Tech, Atlanta, USA*  
 Wanjiun Liao, *National Taiwan Univ, Taiwan*  
 Angel Lozano, *Lucent, New Jersey, USA*  
 H-Tai Lu, *Polytechnic University, New York, USA*

Urbashi Mitra, *University of Southern California, Los Angeles, USA*  
 Andreas F. Molisch, *AT&T Labs - Research, Middletown, New Jersey, USA*  
 Wai Ho Mow, *Hong Kong University of Science and Technology, Hong Kong*  
 Nguyen Nam Hoang, *Vienna University of Technology, Austria*  
 Tony Ottosson, *Chalmers University, Gothenberg, Sweden*  
 Nandana Rajatheva, *Asian Institute of Thailand, Bangkok, Thailand*  
 Sang Wu Kim, *AT&T Labs-Research Middletown, NJ, USA*  
 N. K. Shankaranarayanan, *AT&T Labs-Research, Middletown, NJ, USA*  
 Kevin Sowerby, *University of Auckland, Auckland, New Zealand*  
 Umberto Spagnolini, *Politecnico di Milano, Italy*  
 Su, Hsuan-Jung, *Lucent, USA*  
 Oguz Sunay, *Koc University, Istanbul, Turkey*  
 Mallikarjun Tatipamula, *Cisco Systems, USA*  
 Chin-Liang Wang, *National Tsing Hua University, Hsinchu, Taiwan*  
 J. Wang, *University of Hong Kong, Hong Kong*  
 Li-Chun Wang, *National Chiao Tung University, Hsinchu, Taiwan*  
 Lei Wei, *University of Central Florida, USA*  
 Kainam Thomas WONG, *Waterloo, Canada*  
 Tan Wong, *University of Florida, Gainesville, USA*  
 Weiping Xu, *Skybitz Inc, Dulles, USA*  
 Hao Xu, *Lucent, New Jersey, USA*  
 Tim Yao, *Interwave Communications, IMenlo Park, CA, USA*  
 Aylin Yener, *Pennsylvania State University, USA*  
 Young Yoon, *Ericsson, San Diego, USA*  
 Alberto Zanella, *Univ. of Bologna, Italy*  
 Keith QT Zhang, *City University of Hong Kong, Hong Kong*

*Sponsoring Technical Committee: Personal Communications and Radio Communications*

### B01 MIMO CHANNELS

Monday 29 April 2002

8:50 - 10:20

Empire, 7th Floor

*Session Chair:* Angel Lozano, *Lucent, USA*

**B01-1** Spatial and Temporal Variations of MIMO Channels and Impacts on Capacity  
 H. Xu, M. Gans, D. Chizhik, J. Ling, P. Wolniansky, R. Valenzuela, *Bell Labs/Lucent Technologies, USA*

**B01-2** Accurate Simulation of Multiple Cross-correlated Fading Channels  
 Kareem E. Baddour, *Queen's University, Canada*, Norman C. Beaulieu, *University of Alberta, Canada*

**B01-3** Analysis and Modeling of Multiple-Input Multiple-Output (MIMO) Radio Channel Based on Outdoor Measurements Conducted at 2.5 GHz for Fixed BWA Applications  
 P. Soma, D. S. Baum, V. Erceg, R.

Krishnamoorthy, *Iospan Wireless Inc., USA*, A. J. Paulraj, *Stanford University, USA*

### B01-4 A Generic Model for MIMO Wireless Propagation Channels

Andreas F. Molisch, *AT&T Laboratories, USA*

### B02 MULTIUSER DETECTION-1

Monday 29 April 2002

8:50 - 10:20

Soho, 7th Floor

*Session Chair:* Urbashi Mitra, *University of Southern California, USA*

**B02-1** Non-coherent Multiuser Detection Based on Quantum Search  
 Sándor Imre, Ferenc Balázs, *Budapest University of Technology, Hungary*

**B02-2** Analysis of Multistage Linear Parallel Interference Cancellation in CDMA Systems Using Graphical Representation  
 Chien-Hwa Hwang, C.-C. Jay Kuo, *University of Southern California, USA*, Chang-Su Kim, *Seoul National University, Korea*

### B02-3 A Group Oriented Soft Iterative Multiuser Detection for Coded Multicarrier CDMA Systems

Junqiang Li, Zhiqiang Cao, *Tsinghua University, China*, K. B. Letaief, *The Hong Kong University of Science and Technology, Hong Kong*

**B02-4** Design and Performance of a Low-Complexity Iterative Multiuser Joint Decoder Based on Viterbi Decoding and Parallel Interference Cancellation  
 Alessandro Nordin, Marco Hernandez, Giuseppe Caire, *Institut Eurécom, France*

### B03 BLUETOOTH

Monday 29 April 2002

8:50 - 10:20

Olmstead, 7th Floor

*Session Chair:* Fredrik Gunnarsson, *Ericsson Research, Sweden*

**B03-1** An Adaptive Power-Conserving Service Discipline for Bluetooth  
 Hao Zhu, Guohong Cao, George Kesidis, Chita Das, *The Pennsylvania State University, USA*

**B03-2** A Novel Channel Modeling Technique for Performance Analysis of Bluetooth Baseband Packets  
 T. Y. Chui, F. Thaler, W. G. Scanlon, *University of Ulster, UK*

**B03-3** Evaluation of Packet Loss Probability in Bluetooth Networks  
 Franco Mazzenga, Dajana Cassioli, Pierpaolo Loreti, Francesco Vatalaro, *University of Rome "Tor Vergata", Italy*

**B03-4** Rendezvous Scheduling in Bluetooth Scatternets  
 P. Johansson, *Ericsson Corporate Research, USA*, R. Kapoor, M. Kazantzidis, M. Gerla, *UCLA, USA*

### B04 BLAST SYSTEMS

Monday 29 April 2002

10:40 - 12:10

Empire, 7th Floor

*Session Chair:* Alberto Zanella, *University of Bologna, Italy*

**B04-1** Training-based Channel Estimation for Continuous Flat Fading BLAST  
 Qinfang Sun, Donald C. Cox, *Stanford University, USA*, Angel Lozano, Howard C. Huang, *Lucent Bell Laboratories, USA*

**B04-2** Layered Space-Time Equalization of Multiple-Input Multiple-Output Frequency Selective Channels  
 Xu Zhu, Ross D. Murch, *The Hong Kong University of Science & Technology, Hong Kong*

**B04-3** Modified Decorrelating Decision-Feedback Detection of BLAST Space-Time System  
 Wei Zha, Steven D. Blostein, *Queen's University, Canada*

**B04-4** Parallel Detection for V-BLAST System  
 Yuan Li, Zhi-Quan Luo, *McMaster University, Canada*

### B05 MULTIUSER DETECTION-2

Monday 29 April 2002

10:40 - 12:10

Soho, 7th Floor

*Session Chair:* Aylin Yener, *Pennsylvania State University, USA*

**B05-1 Power Control and Stepwise Removal Algorithms for a Narrowband Multiuser Detector in a Cellular System**  
Gerard J. M. Janssen, *Delft University of Technology, The Netherlands*, Jens Zander, *Royal Institute of Technology, Sweden*

**B05-2 Power Allocation for a Simple Successive Interference Cancellation Scheme in a Multirate DS-CDMA System**  
Fredrik Berggren, S. Ben Slimane, *Royal Institute of Technology, Sweden*

**B05-3 Power Control for Successive Interference Cancellation with Imperfect Cancellation**  
Aneesh Agrawal, Jeffrey Andrews, John M. Cioffi, Teresa Meng, *Stanford University, USA*

**B05-4 Adaptive Iterative CDMA Multiuser Detection in Unknown Multipath Channels**  
Qing Zhao, Deva K. Borah, *New Mexico State University, USA*

### **B06 RESOURCE ALLOCATION**

Monday 29 April 2002  
10:40 - 12:10  
Olmstead, 7th Floor

*Session Chair:* Li-Chun Wang, *National Chiao Tung University, Taiwan*

**B06-1 Resource Allocation Strategies for Linear Symmetric Networks with Relays**  
Sayande Mukherjee, Harish Viswanathan, *Lucent Technologies, Bell Labs, USA*

**B06-2 A Resource Allocation Algorithm using Frequency Borrowing in Hierarchical CDMA Cellular Systems**  
Young-uk Chung, Dong-Ho Cho, *Korea Advanced Institute of Science and Technology, Korea*

**B06-3 Some Performance Results for the Downlink Shared Channel in W-CDMA**  
X. Giu, L. Chang, J. Chuang, *Mobilink Telecom, USA*, Z. Kostic, T. M. Willis III, N. Mehta, L. J. Greenstein, K. Chawla, *AT&T Laboratories, USA*, J. F. Whitehead, *AT&T Wireless Services, USA*

**B06-4 Scheduling Scheme of Packet Length-based Group-wise Transmission for Integrated Voice/Data Service in Burst-Switching DS/CDMA System**  
Meejoung Kim, Chung Gu Kang, In-Chan Choi, *Korea University, Korea*, Ramesh R. Rao, *University of California at San Diego, USA*

### **B07 MIMO SYSTEMS**

Monday 29 April 2002  
13:40 - 15:10  
Empire, 7th Floor

*Session Chair:* Howard Hao, *Lucent, USA*

**B07-1 On Optimum MIMO with Antenna Selection**  
Rick S. Blum, Jack H. Winters, *AT&T Laboratories Research, USA*

**B07-2 Performance Analysis of MIMO Systems with Co-Channel Interference over Rayleigh Fading Channels**  
Ming Kang, Mohamed-Slim Alouini, *University of Minnesota, USA*

**B07-3 Capacity Obtained from Multiple-Input Multiple-Output Channel Measurements in Fixed Wireless Environments at 2.5GHz**  
Vinko Erceg, Pitschiah Soma, Daniel S. Baum, *Iospan Wireless Inc., USA*, Arogyaswami J. Paulraj, *Stanford University, USA*

**B07-4 Linear Precoding for Spatial Multiplexing MIMO Systems: Blind Channel Estimation Aspects**  
Abdelkader Medles, Dirk T. M. Slock, *EURECOM Institute, France*

**B07-5 On a Gaussian Approximation to the Capacity of Wireless MIMO Systems**  
Peter J. Smith, *University of Canterbury, New Zealand*, Mansoor Shafi, *Telecom New Zealand Ltd., New Zealand*

### **B08 OFDM-1**

Monday 29 April 2002  
13:40 - 15:10

Soho, 7th Floor

*Session Chair:* Geoffrey Li, *Georgia Tech, USA*

**B08-1 A Simplified Bit Allocation for V-BLAST-based OFDM MIMO Systems in Frequency Selective Fading Channels**  
Ka-Wai Ng, Roger S. Cheng, Ross D. Murch, *The Hong Kong University of Science and Technology, Hong Kong*

**B08-2 MMSE Channel Prediction Assisted Symbol-by-Symbol Adaptive OFDM**  
M. Münster, L. Hanzo, *University of Southampton, UK*

**B08-3 Totally Blind Channel Estimation for OFDM over Fast Varying Mobile Channels**  
Marc C. Necker, Gordon Stüber, *Georgia Institute of Technology, USA*

**B08-4 Convolutional Double Accumulate Codes with Iterative Decoding for Broadband OFDM Wireless Communications**  
Ernest S. Lo, K. B. Letaief, *The Hong Kong University of Science and Technology, Hong Kong*

### **B09 LOCATION TECHNIQUES**

Monday 29 April 2002  
13:40 - 15:10

Olmstead, 7th Floor

*Session Chair:* Sherman (Xuemin) Shen, *University of Waterloo, Canada*

**B09-1 Performance of TDoA-based Radiolocation Techniques in CDMA Urban Environments**  
Andrea Abrardo, Giuliano Benelli, Claudio Maraffon, Alberto Toccafondi, *University of Siena, Italy*

**B09-2 Signal Strength Based Indoor Geolocation**  
Yongguang Chen, Hisashi Kobayashi, *Princeton University, USA*

**B09-3 An Adaptive Location Registration Scheme with Dynamic Mobility Classification**  
Woo-Jin Choi, Sirin Tekinay, *New Jersey Institute of Technology, USA*

**B09-4 Robust Mobility Tracking for Cellular Networks**  
Brian L. Mark, Zainab R. Zaidi, *George Mason University, USA*

### **B10 MULTIPLE ANTENNA SYSTEMS-1**

Monday 29 April 2002  
15:30 - 17:00

Empire, 7th Floor

*Session Chair:* Umberto Spagnolini, *Politecnico di Milano, Italy*

**B10-1 Statistical Antenna Selection for Spatial Multiplexing Systems**

Dhananjay Gore, Arogyaswami Paulraj, *Stanford University, USA*, Robert Heath, *The University of Texas at Austin, USA*

**B10-2 Performance Comparison of Optimum Beamforming and Spatially Matched Filter in Power-controlled CDMA Systems**  
Guocong Song, *Georgia Institute of Technology, USA*, Ke Gong, *Tsinghua University, China*

**B10-3 A New Reduced-Complexity Sphere Decoder for Multiple Antenna Systems**  
Albert M. Chan, *Massachusetts Institute of Technology, USA*, Inkyu Lee, *Agere Systems, USA*

**B10-4 A Differential Detection Scheme for DS/CDMA Spatial Diversity**  
Chunjun Gao, Alexander M. Haimovich, *New Jersey Institute of Technology, USA*

### **B11 OFDM-2**

Monday 29 April 2002  
15:30 - 17:00

Soho, 7th Floor

*Session Chairs:* Eric Jacobsen, *Intel, USA*, Len Cimini, *New Jersey, USA*

**B11-1 Robust OFDM Receivers for Dispersive Time Varying Channels: Equalisation and Channel Acquisition**  
Alexei Gorokhov, Jean-Paul Linnartz, *Philips Research, The Netherlands*

**B11-2 An Efficient Space-Frequency Coded Wideband OFDM System for Wireless Communications**  
Yi Gong, Khaled B. Letaief, *Hong Kong University of Science and Technology, Hong Kong*

**B11-3 An Interference Suppressing OFDM System for Wireless Communications**  
Diakoumis Gerakoulis, *AT&T Laboratories-Research, USA*, Paola Salmi, *University of Bologna, Italy*

**B11-4 Intercarrier Interference in MIMO OFDM**  
Suhas Diggavi, Naofal Al-Dhahir, Anastasios Stamoulis, *AT&T Shannon Laboratory, USA*

### **B12 SOFTWARE RADIO**

Monday 29 April 2002  
15:30 - 17:00

Olmstead, 7th Floor

*Session Chair:* J. Wang, *University of Hong Kong, Hong Kong*

**B12-1 Proposal and Evaluation of System Diversity for Software Defined Radio**  
T. Shono, K. Uehara, S. Kubota, *NTT Corporation, Japan*

**B12-2 Object-Oriented Reconfigurable Processing for Wireless Networks**  
Andrew A. Gray, Clement Lee, Payman Arabshahi, Jeffrey Srinivasan, *California Institute of Technology, USA*

**B12-3 End-to-End IP Multicast for Software Upgrades of Reconfigurable User Terminals within IMT-2000/UMTS Networks**  
R. Rümmler, A. H. Aghvami, *King's College London, UK*

**B12-4 RF Transceiver Design and Performance Analysis for WCDMA User Equipment**  
Sew Kin Wong, Sze Wei Lee, Moh Lim Sim, *Multimedia University, Malaysia*

**B13 WLAN-PHY LAYER**

Tuesday 30 April 2002  
10:40 - 12:10

Empire, 7th Floor

*Session Chair:* Ross Murch, *Hong Kong University of Science and Technology, Hong Kong*

**B13-1 Outdoor IEEE 802.11 Cellular Networks: Radio Link Performance**  
Martin V. Clark, Kin K. Leung, Bruce McNair, Zoran Kostic, *AT&T Laboratories-Research, USA*

**B13-2 Impacts of Multipath Fading on the Timing Synchronization of IEEE 802.11a Wireless LANs**  
Kun-Wah Yip, Tung-Sang Ng, Yik-Chung Wu, *The University of Hong Kong, Hong Kong*

**B13-3 Development of an OFDM-based High Speed Wireless LAN Platform using TI C6x DSP**  
M. Fahim Tariq, Yusuf Baltaci, *ProVision Communication Technologies Ltd., UK*, Tony Horseman, Mike Butler, Andrew Nix, *University of Bristol, UK*

**B13-4 Higher-Speed, Higher-Performance, 802.11a Wireless LAN via Carrier-Interferometry Orthogonal Frequency Division Multiplexing**  
David A. Wiegandt, Carl R. Nassar, *Colorado State University, USA*

**B14 SPREAD SPECTRUM-1**

Tuesday 30 April 2002  
10:40 - 12:10

Soho, 7th Floor

*Session Chair:* Oguz Sunay, *Koc University, Turkey*

**B14-1 Reduced-rank Channel Estimation and Tracking in Time-slotted CDMA Systems**  
Monica Nicoli, *Umberto Spagnolini, Politecnico di Milano, USA*, Mikael Sternad, Anders Ahlén, *Uppsala University, Sweden*

**B14-2 High Capacity High Performance DS-CDMA via Advances in Chip Shaping**  
Zhiqiang Wu, Carl R. Nassar, Suihua Lu, *Colorado State University, USA*

**B14-3 A New Chip-level Differential Detection System for DS-CDMA**  
Qicai Shi, Robert J. O'Dea, Frederick Martin, *Motorola Labs, USA*

**B14-4 Rate Control for DS-CDMA Wireless Systems Using Power Control and Orthogonally Coded Substreams**  
Alejandra Mercado, *Rensselaer Polytechnic Institute, USA*, K. J. Ray Liu, *University of Maryland at College Park, USA*

**B15 SPACE-TIME CODES-1**

Tuesday 30 April 2002  
10:40 - 12:10

Olmstead, 7th Floor

*Session Chair:* Robert Schober, *University of Toronto, Canada*

**B15-1 Optimal Transmitter Eigen-Beamforming and Space-Time Block Coding Based on Channel Correlations**  
Shengli Zhou, Georgios B. Giannakis, *University of Minnesota, USA*

**B15-2 Orthogonal Full Diversity Space-Time Block Coding Based on Transmit Channel State Information for 4 Tx Antennas**  
Stéphanie Rouquette, Sandrine Mériegeault, Karine Gosse, *Motorola Labs, France*

**B15-3 Space-Time Trellis Code Construction for Fast Fading Channels**  
Zoltan Safar, K. J. Ray Liu, *University of Maryland at College Park, USA*

**B15-4 Space-Time Chip Equalization for Space-Time Coded Downlink CDMA**  
Geert Leus, Marc Moonen, *Katholieke Universiteit Leuven, Belgium*, Frederik Petré, *Interuniversity Micro-Electronics Center, Belgium*

**B16 3G SYSTEMS**

Tuesday 30 April 2002  
10:40 - 12:10

Gotham, 7th Floor

*Session Chair:* Young Yoon, *Ericsson, USA*

**B16-1 A Reverse Link Outer-Loop Power Control Algorithm for cdma2000 1xEV Systems**  
Rashid A. Attar, Eduardo Esteves, *QUALCOMM Inc., USA*

**B16-2 Multiobjective Hierarchical Location and Routing Area Optimization in GPRS and UMTS Networks**

Timucin Ozugur, *Alcatel Research and Innovation Center, USA*

**B16-3 On the Capacity of a UTRA-TDD Network with Multiple Services**  
Ingo Forkel, *Aachen University of Technology, Germany*, Bernhard Wegmann, Egon Schulz, *Siemens AG, Germany*

**B16-4 Performance Enhancements to the UMTS (W-CDMA) Initial Cell Search Algorithm**  
Mario Kiessling, Syed Aon Mujtaba, *Agere Systems, USA*

**B17 WLAN- MAC LAYER**

Tuesday 30 April 2002  
13:40 - 15:10

Empire, 7th Floor

*Session Chairs:* N. K. Shankaranarayanan, *AT&T Labs Research, USA*, Gary Chan, *Hong Kong University of Science and Technology, Hong Kong*

**B17-1 Outdoor IEEE 802.11 Cellular Networks: MAC Protocol Design and Performance**  
Kin K. Leung, Bruce McNair, Leonard J. Cimini Jr., Jack H. Winters, *AT&T Laboratories Research, USA*

**B17-2 Support of Multimedia Services with the IEEE 802.11 MAC Protocol**  
Jing-Yuan Yeh, Chienhua Chen, Tatung University, *Taiwan, R.O.C.*

**B17-3 IEEE 802.11 Distributed Coordination Function (DCF): Analysis and Enhancement**  
Haitao Wu, Shiduan Cheng, Yong Peng, Keping Long, *Beijing University of Posts and Telecommunications, P.R. China*, Jian Ma, *Nokia China R&D Center, P. R. China*

**B17-4 A Highly Reliable Broadcast Scheme for IEEE 802.11 Multi-Hop Ad Hoc Networks**  
Shiann-Tsong Sheu, Yihjia Tsai, Jenhui Chen, *Tamkang University, Taiwan*

**B18 SPREAD SPECTRUM-2**

Tuesday 30 April 2002  
13:40 - 15:10

Soho, 7th Floor

*Session Chair:* Kwang Bok Lee, *Seoul National University, Korea*

**B18-1 Acquisition for DS/CDMA Systems with Multiple Antennas in Frequency-Selective Fading Channels**

Hui Won Je, Oh-Soon Shin, Kwang Bok Lee, *Seoul National University, Korea*

**B18-2 Use of Multiple Antennas for DS/CDMA Code Acquisition**  
Oh-Soon Shin, Kwang Bok Lee, *Seoul National University, Korea*

**B18-3 Performance of Wideband CDMA Using Space-Time Spreading over Multipath Nakagami Fading Channels**  
Lie-Liang Yang, Lajos Hanzo, *University of Southampton, UK*

**B18-4 Despreading Chip Waveform Design for Coherent Delay-Locked Tracking in DS/SS Systems**  
Xiaofu Wu, Haige Xiang, *Peking University, China*, Cong Ling, *Nanyang Technological University, Singapore*

**B19 SPACE-TIME CODES-2**

Tuesday 30 April 2002  
13:40 - 15:10

Olmstead, 7th Floor

*Session Chair:* Andrej Stefanov, *Polytechnic University, USA*

**B19-1 Improved High-Rate Space-Time Codes via Concatenation of Expanded Orthogonal Block Code and M-TCM**  
Siwaruk Siwamogsatham, Michael P. Fitz, *The Ohio State University, USA*

**B19-2 Stochastic MIMO Antenna Sub-Set Selection with Space-Time Coding**  
Dhananjay Gore, Arogyaswami Paulraj, *Stanford University, USA*

**B19-3 An Adaptive Soft-Output Receiver in Space-Time Coding with Continuous Phase Modulation**  
Xiaoxia Zhang, Michael P. Fitz, *The Ohio State University, USA*

**B19-4 Closed-Form Blind and Semi-Blind Estimation of Linear Receivers for Space-Time Coding**  
A. Lee Swindlehurst, *Brigham Young University, USA*

**B20 WLAN**

Tuesday 30 April 2002  
15:30 - 17:00

Empire, 7th Floor

*Session Chair:* Halim Yanikomeroglu, *Carleton University, Canada*

**B20-1 A Posteriori Control of Complex Reed Solomon Decoding with Application to Impulse Noise Cancellation in Hiperlan2**  
Fatma Abdelkefi, Pierre Duhamel, Florence Alberge, *Laboratoire des Signaux et Systèmes, France*

**B20-2 Simplified Soft-Output Demapper for Binary Interleaved COFDM with Application to HIPERLAN/2**  
Filippo Tosato, *University of Padova, Italy*, Paola Bisaglia, *Hewlett-Packard Laboratories, UK*

**B20-3 Battery-Efficient Architecture for an 802.11 MAC Processor**  
Kanishka Lahiri, Sujit Dey, *University of California at San Diego, USA*, Anand Raghunathan, *C&C Research Labs, NEC USA, USA*

**B20-4 Optimal MAC-Layer Fairness in 802.11 Networks**  
Timucin Ozgur, *Alcatel Research and Innovation Center, USA*

**B21 SPREAD SPECTRUM-3**

Tuesday 30 April 2002  
15:30 - 17:00

Soho, 7th Floor

*Session Chair:* Anthony C.K. Soong, *Ericsson Communications, USA*

**B21-1 Block-Adaptive Kernel-based CDMA Multiuser Detection**

S. Chen, L. Hanzo, *University of Southampton, UK*

**B21-2 Stability and Control of Mobile Communication Systems with Time-Varying Channels**

Robert Buche, Harold J. Kushner, *Brown University, USA*

**B21-3 On the Performance of MC-CDMA with Interleaved Concatenated Coding and Interference Cancellation for High-Rate Data Transmission**

Padam L. Kafle, Abu B. Sesay, *University of Calgary, Canada*

**B21-4 An Enhanced Correlation Matrix Estimation Scheme for Blind Adaptive MMSE Receiver**

Wanshi Chen, *Ericsson Wireless Communications, USA*, Urbashi Mitra, *University of Southern California, USA*

**B22 FADING CHANNELS**

Tuesday 30 April 2002  
15:30 - 17:00

Olmstead, 7th Floor

*Session Chair:* Andrea Conti, *University of Bologna, Italy*

**B22-1 Correlated Nakagami Channels with Different Fading Parameters: A Generic Characterization with Applications**

Q. T. Zhang, *City University of Hong Kong, Hong Kong*

**B22-2 Design of Wide-Sense Stationary Sum-of-Sinusoids Fading Channel Simulators**  
Marius F. Pop, *MD Robotics, Canada*, Norman C. Beaulieu, *University of Alberta, Canada*

**B22-3 Optimal Estimation of Training Interval for Channel Equalizations**

Dongyan Chen, Yiguang Hong, Kishor S. Trivedi, *Duke University, USA*

**B22-4 Linear Models and Capacity Bounds for Continuous Phase Modulation**

Kevin C. Yu, Andrea J. Goldsmith, *Stanford University, USA*

**B23 TRANSMIT DIVERSITY**

Wednesday 01 May 2002  
8:50 - 10:20

Empire, 7th Floor

*Session Chair:* Claes Beckman, *Royal Institute of Technology, Sweden*

**B23-1 Blind Channel Identification for Multicarrier CDMA Systems with Transmit Diversity**

Wei Sun, *Lucent Technologies, USA*, Hongbin Li, *Stevens Institute of Technology, USA*

**B23-2 Efficient Weight Vector Representation for Closed-Loop Transmit Diversity**

Keun Chul Hwang, Kwang Bok Lee, *Seoul National University, Korea*

**B23-3 On the Markovian Approximation for Block-Errors in DS-CDMA Transmissions over Slow Fading Channels with Multicarrier Transmit Diversity**

Mario R. Hueda, *National University of Cordoba, Argentina*

**B23-4 Merging DS-CDMA (with CI Chip Shapes) and Oscillating-Beam Smart Antenna Arrays: Exploiting Transmit Diversity, Frequency Diversity, and Directionality**

Seyed Alireza Zekavat, Carl R. Nassar, *Colorado State University, USA* Steve Shattil, *Idris Communications, USA*

**B24 ULTRA WIDE BAND SYSTEMS-1**

Wednesday 01 May 2002  
8:50 - 10:20

Soho, 7th Floor

*Session Chair:* Roger Cheng, *Hong Kong University of Science and Technology, Hong Kong*

**B24-1 Multistage Frequency-Hopping Assisted Ultra-Wideband Multiple-Access Communications**

Lie-Liang Yang, Lajos Hanzo, *University of Southampton, UK*

**B24-2 The Importance of Fractional Bandwidth in Ultra-Wideband Pulse Design**  
Matthew Welborn, John McCorkle, *Xtremespectrum, Inc., USA*

**B24-3 Performances of Impulse Train Modulated Ultra-Wideband Systems**

Xiaojing Huang, Yunxin Li, *Motorola Australian Research Center, Australia*

**B24-4 Performance of Low-Complexity Rake Reception in a Realistic UWB Channel**

Dajana Cassioli, Francesco Vatalaro, *University of Rome "Tor Vergata", Italy*, Moe Z. Win, Andreas F. Molisch, *AT&T Laboratories Research, USA*

**B25 CODING-1**

Wednesday 01 May 2002  
8:50 - 10:20

Olmstead, 7th Floor

*Session Chair:* Mostofa Howlader, *University of Tennessee, USA*

**B25-1 Source and Joint Source-Channel Decoding of Variable Length Codes**

M. Jeanne, J. C. Carlach, *France Télécom R&D, France*, P. Siohan, *IRISA-INRIA, France*, L. Guivarch, *Agreen Tech SA, France*

**B25-2 Performance of a Turbo Coded System with DPSK Modulation Using**

Enhanced Decoding Metrics and Matched Channel Side Information

Charles C. Wang, Dean J. Sklar, *The Aerospace Corporation, USA*

**B25-3 Optimal Design of Trellis Coded Quantization Based on Reliability Information of Turbo Trellis Coded Modulation**

Yao-Jun Wu, Haruo Ogiwara, *Nagaoka University of Technology, Japan*

**B25-4 Huffman Tree Based Metric Derivation for a Low-Complexity Sequential Soft VLC Decoding**

Lisa Perros-Meilhac, Catherine Lamy, *Philips Recherche France, France*

**B26 SPACE-TIME PROCESSING**

Wednesday 01 May 2002  
10:40 - 12:10

Empire, 7th Floor

*Session Chair:* Sofiene Affes, *INRS-Telecommunications, Canada*

**B26-1 Linear Prediction Receiver for Differential Space-Time Modulation over Time-Correlated Rayleigh Fading Channels**

Cong Ling, *Nanyang Technological University, Singapore*, Xiaofu Wu, *Peiking University, China*

**B26-2 Blind Space-Time Constrained Minimum Variance Detection of DS/CDMA Signals**

A. K. S. Al-Bayati, Shankar Prakriya, Surendra Prasad, *Indian Institute of Technology, Delhi, India*

**B26-3 Noncoherent Space-Time Equalization**

Robert Schober, Pas S. Pasupathy, *University of Toronto, Canada*

**B26-4 Multislot Estimation of Space-Time Channels**

O. Simeone, U. Spagnolini, *Politecnico di Milano, USA*

**B27 ULTRA WIDE BAND SYSTEMS-2**

Wednesday 01 May 2002  
10:40 - 12:10

Soho, 7th Floor

*Session Chair:* Yu-Dong Yao, *Stevens Institute of Technology, USA*

**B27-1 Block-Spreading Codes for Impulse Radio Multiple Access through ISI Channels**  
Liuqing Yang, Georgios B. Giannakis, *University of Minnesota, USA*

**B27-2 Optimum Multiuser Detection in Ultra-Wideband (UWB) Multiple-Access Communication Systems**

Young C. Yoon, *University of Waterloo, Canada*, Ryuji Kohno, *Yokohama National University, Japan*

**B27-3 Multiple Access Design for Impulse Radio Communication Systems**

Maria Stella Iacobucci, Maria-Gabriella Di Benedetto, *Università degli Studi di Roma La Sapienza, Italy*

**B27-4 Wavelet-based Sequential Monte Carlo Blind Receivers in Fading Channels with Unknown Channel Statistics**

Dong Guo, Xiaodong Wang, *Columbia University, USA*, Rong Chen, *University of Illinois at Chicago, USA*

**B28 CODING-2**

Wednesday 01 May 2002  
10:40 - 12:10  
Olmstead, 7th Floor

*Session Chair:* Tolga Duman, *Arizona State University, USA*

**B28-1** Effect of Spatio-Temporal Channel Correlation on the Performance of Space-Time Codes

C. Fragouli, N. Al-Dhahir, W. Turin, *AT&T Shannon Laboratories, USA*

**B28-2** Optimal Power Control and Source-Channel Coding for Delay Constrained Traffic over Wireless Channels

Timothy Holliday, Andrea Goldsmith, *Stanford University, USA*

**B28-3** Unequal Error Protection Design Using Convolutional Codes

Vip Desai, Brian Classon, Yufei Wu  
Bkankenship, John Johnson, *Motorola Laboratories, USA*

**B29 MULTIPLE ANTENNA SYSTEMS-2**

Wednesday 01 May 2002  
13:40 - 15:10

Empire, 7th Floor

*Session Chair:* Mohamed Slim Alouini, *University of Minnesota, USA*

**B29-1** SIR Balancing for Multiuser Downlink Beamforming—A Convergence Analysis

Holger Boche, Martin Schubert, *Heinrich-Hertz-Institut für Nachrichtentechnik Berlin GmbH, Germany*

**B29-2** Non-coherent MLSE Detection for CDMA Multiple-Antenna Systems

Andrea Abrardo, *University of Siena, Italy*

**B29-3** Performance of Downlink Beam Switching for UMTS FDD in the Presence of Angular Spread

Thomas Baumgartner, Thomas Neubauer, Ernst Bonek, *Technische Universität Wien, Austria*

**B29-4** Accurate Evaluation for M-Phase Signaling over Arbitrary Correlated Fading Channels

Yao Ma, S. Pasupathy, *University of Toronto, Canada*, Q. T. Zhang, *City University of Hong Kong, Hong Kong*

**B30 MULTICARRIER SYSTEMS-1**

Wednesday 01 May 2002  
13:40 - 15:10

Soho, 7th Floor

*Session Chair:* David Famolari, *Telcordia, USA*

**B30-1** Multiuser Subcarrier and Bit Allocation along with Adaptive Cell Selection for OFDM Transmission

Yingjun Zhang, K. B. Letaief, *The Hong Kong University of Science and Technology, Hong Kong*

**B30-2** New Results on the Peak Power of OFDM Signals Based on Oversampling

Masoud Sharif, *California Institute of Technology, USA*, Mohammad Gharavi-Alkhansari, *Tarbiat Modarres University, Iran*, Babak H. Khalaj, *Sharif University of Technology, Iran*

**B30-3** Novel Multicarrier Implementation of FSK for Bandwidth Efficient, High Performance Wireless Systems

Balasubramaniam Natarajan, Carl R. Nassar, *Colorado State University, USA*, Steve Shattil, *Idris Communications, USA*

**B30-4** A Multicarrier Basestation Receiver Using a Delta-Sigma Oversampling A/D Converter

K. B. Weber, W. Skones, R. Harnden, C. Talbott, M. Keller, K. Johnson, D. R. Martin, M. Kinits, I. Robinson, *TRW Space and Electronics, USA*

**B31 WIRELESS NETWORKS-1**

Wednesday 01 May 2002  
13:40 - 15:10

Olmstead, 7th Floor

*Session Chair:* Djamel Zeghlache, *Institut National des Télécommunications, France*

**B31-1** Power Control with Partially Known Link Gain Matrix

Riku Jäntti, *University of Vaasa, Finland*, Seong-Lyun Kim, *Information and Communications University, Korea*

**B31-2** Performance of a Wireless Data Network with Mixed Interactive User Workloads

N. K. Shankaranarayanan, Zhimei Jiang, *AT&T Laboratories Research, USA*, Anupam Rastogi, *University of Texas at Austin, USA*

**B31-3** Improving Load Balancing Mechanisms in Wireless Packet Networks

Giuseppe Bianchi, Ilenia Tinnirello, *University of Palermo, Italy*

**B31-4** An Adaptive Modulation Method for Multicast Communications of Hierarchical Data in Wireless Networks

Chan-Soo Hwang, Yungsoo Kim, *Samsung Advanced Institute of Technology, Korea*

**B32 CHANNEL MODELING**

Wednesday 01 May 2002  
15:30 - 17:00

Empire, 7th Floor

*Session Chair:* Marcelo S. Alencar, *Laboratorio de Comunicacoes, UFPB, Brazil*

**B32-1** Clustering of Scatterers in Mobile Radio Channels—Evaluation and Modeling in the COST259 Directional Channel Model

Henrik Asplund, *Ericsson Radio Research, Sweden*, Andreas F. Molisch, Neelish B. Mehta, *AT&T Laboratories, USA*, Martin Steinbauer, *TU Wien, Austria*

**B32-2** Joint Detection-Estimation of Directional Channel Parameters Using the 2-D Frequency Domain SAGE Algorithm with Serial Interference Cancellation

C. C. Chong, D. I. Laurenson, S. McLaughlin, *University of Edinburgh, UK*, C. M. Tan, M. A. Beach, A. R. Nix, *University of Bristol, UK*

**B32-3** Channel Characterization for CDMA Rake Receiver Design for Urban Environment

Hassan M. El-Sallabi, Pertti Vainikainen, *Helsinki University of Technology, Finland*, Henry L. Bertoni, *Polytechnic University, USA*

**B32-4** Indoor Channel Characteristics Comparisons for the Same Building with Different Dielectric Parameters

J. T. Zhang, Yi Huang, *University of Liverpool, UK*

**B33 MULTICARRIER SYSTEMS-2**

Wednesday 01 May 2002  
15:30 - 17:00

Soho, 7th Floor

*Session Chair:* Timo Korhonen, *Helsinki University, Finland*

**B33-1** Time-Domain Multiuser Detection for MC-CDMA Systems without Cyclic Prefix

Xiaojun Wu, Qinye Yin, Jianguo Zhang, Ke Deng, *Xi'an Jiaotong University, China*

**B33-2** An Improved Power Control Scheme with Adaptive Interference Suppression for DS-SS-CDMA Wireless Communications

Chin-Liang Wang, Kuo-Ming Wu, Kwei-Liang Hwang, *National Tsing Hua University, Taiwan*

**B33-3** Power Allocation Algorithm in MC-CDMA

Jianming Zhu, Yeheskel Bar-Ness, *New Jersey Institute of Technology, USA*

**B33-4** Theoretical Estimates of HVAC Duct Channel Capacity for High-Speed Internet Access

Ariton E. Xhafa, Ozan K. Tonguz, Ahmet G. Cepni, Daniel D. Stancil, Pavel V. Nikitin, *Carnegie Mellon University, USA*, Dagfin Brodtkorb, *ABB Corporate Research, Norway*

**B34 WIRELESS NETWORKS-2**

Wednesday 01 May 2002  
15:30 - 17:00

Olmstead, 7th Floor

*Session Chair:* Tim Ozugur, *ALCATEL Research & Innovation Center, USA*

**B34-1** Cell Search Performance Analysis for W-CDMA

André Zoch, Gerhard P. Fettweis, *Dresden University of Technology, Germany*

**B34-2** Energy Efficient System Design with Optimum Transmission Range for Wireless Ad Hoc Networks

Priscilla Chen, Bob J. O'Dea, Ed Callaway, *Motorola Labs, USA*

**B34-3** A Collision Resolution Paradigm for Random Access Channel Control in Multiaccess Wireless Networks

M. C. Yuang, B. C. Lo, *National Chiao Tung University, Taiwan*, J. Y. Chen, *Industrial Technology Research Institute, Taiwan*

**B34-4** Adaptive Balanced Hybrid Data Delivery for Multichannel Data Broadcast

Chih-Lin Hu, Ming-Syan Chen, *National Taiwan University, Taiwan*