

Dhananjaya, *Nagaoka University of Technology, Japan*, Naoaki Yamanaka, *NTT Network Innovation Laboratories, Japan*

**C14-3 Fair Bandwidth Share Using Flow Number Estimation**

Jung-Shian Li, Ming-Shiann Leu, *National Cheng Kung University, Taiwan*

**C14-4 Adaptive Allocation of Resources with Multiple QoS Heterogeneous Sources in ATM Networks—A Fuzzy Approach**

S. Chandramathi, S. Shanmugavel, *Anna University, India*

### C15 MULTICAST SERVICES II

Wednesday 01 May 2002  
15:30 - 17:00

Carnegie, 5th Floor

Session Chair: Masayuki Murata, *Osaka University, Japan*

**C15-1 Exploiting the Temporal Dimension in QoS-Aware Multicast Routing**

Chih-Jen Tseng, *Kuang Wu Institute of Technology, Taiwan*, Chyou-Hwa Chen, *National Taiwan University of Science and Technology, Taiwan*

**C15-2 RP Reselection Scheme for Real-Time Applications in Delay-Constrained Multicast Networks**

Dong-Lim Lee, *Hanaro Telecom, Korea*, Chan-Hyun Youn, Sang-Jin X. Jeong, *Information and Communications University, Korea*

**C15-3 A QoS Multicast Routing Protocol for Resource-Intensive Groups**

S. Swaminathan, G. Manimaran, *Iowa State University, USA*

**C15-4 Multicasting of Adaptively-encoded MPEG4 over QoS-Aware IP Networks**

Ashraf Matrawy, Ioannis Lambadaris, Changcheng Huang, *Carleton University, Canada*

### C16 BANDWIDTH MANAGEMENT II

Wednesday 01 May 2002  
15:30 - 17:00

Imperial, 5th Floor

Session Chair: Esmat Mahmoud, *AT&T, USA*

**C16-1 Bandwidth Allocation and Preemption for Supporting Differentiated-Service-Aware Traffic Engineering in Multiservice Networks**

Tong Shan, Hoang Dam, *Nortel Networks, Canada*, Oliver Yang, *University of Ottawa, Canada*

**C16-2 Resource Marking and Fair Rate Allocation**

S. Zimmermann, U. Killat, *Technical University of Hamburg-Harburg, Germany*

**C16-3 On the Support of Minimum Service Rates for Input Queue Switches**

Dirceu Cavendish, Marcello Lajolo, Hongbo Liu, *NEC USA Inc., USA*

**C16-4 Asymmetric TCP Splicing for Content-based Switches**

Masayoshi Kobayashi, Tutomu Murase, *NEC Corporation, Japan*

## D. COMMUNICATION THEORY SYMPOSIUM

### Technical Program Committee:

Chair: Hikmet Sari, *Juniper Networks, France*

Naofal Al-Dhahir, *AT&T Labs, USA*

Sergio Benedetto, *Politecnico di Torino, Italy*

Joseph Boutros, *ENST Paris, France*

Luc Deneire, *IMEC Leuven, Belgium*

David D. Falconer, *Carleton University, Canada*

Andrea Goldsmith, *Stanford University, USA*

Stefan Kaiser, *German Aerospace Center,*

*Germany*

Aleksandar Kavcic, *Harvard University, USA*

Zoran Kostic, *AT&T Labs, USA*

Witold Krzymien, *University of Alberta, Canada*

Umberto Mengali, *University of Pisa, Italy*

Ayman Naguib, *Morphics, Inc., USA*

Sedat Olcer, *IBM Zurich Research Laboratory,*

*Switzerland*

Erdal Panayirci, *ISIK University, Turkey*

Ramesh Pyndiah, *ENST Bretagne, France*

Branka Vucetic, *University of Sydney, Australia*

### Sponsoring Technical Committees:

*Communication Theory, Signal Processing for Storage*

#### D01 TURBO CODES 1

Monday 29 April 2002

8:50 - 10:20

Gotham, 7th Floor

Session Chair: Sergio Benedetto, *Politecnico di Torino, Italy*

**D01-1 A Nonpragmatic Approach to Turbo**

**Trellis Coded Modulations**

Antoine Chouly, Olivier Pothier, Philips

Research France, France

**D01-2 High-Rate Low-Density Parity Check**

**Codes Based on Anti-Pasch Affine**

**Geometries**

Bane Vasic, *University of Arizona, USA*

**D01-3 Code Matched Interleaver for Parallel**

**Concatenated Trellis Coded Modulation**

Haruo Ogiwara, Yao-Jun Wu, Nagaoka

*University of Technology, Japan*

**D01-4 A Generalised Performance Bounding**

**Technique for Bit Interleaved Coded**

**Modulation Systems in the Rayleigh Fading**

**Channel**

James S. K. Tee, *Vodafone New Zealand*

Limited, *New Zealand*, Desmond P. Taylor,

*University of Canterbury, New Zealand*

#### D02 FADING CHANNELS 1

Monday 29 April 2002

8:50 - 10:20

Lyceum, 5th Floor

Session Chair: Andrea Goldsmith, *Stanford University, USA*

**D02-1 An Improved Markov Chain**

**Description for Fading Processes**

P. Bergamo, D. Maniezzo, A. Giovanardi, G.

Mazzini, M. Zorzi, *University of Ferrara, Italy*

**D02-2 On SIR Fade Statistics in Rayleigh-**

**Lognormal Channels**

F. Graziosi, F. Santucci, *University of L'Aquila,*

*Italy*

**D02-3 Efficient Generation of Correlated**

**Nakagami Fading Channels with Arbitrary Fading Parameter**

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

**D02-4 Generating Correlated Nakagami Fading Signals with Arbitrary Correlation and Fading Parameters**

Zhefeng Song, Keli Zhang, Yong Liang Guan, *Nanyang Technological University, Singapore*

**D02-5 Asymptotic Analysis of the Conventional Decision Feedback Receiver in Flat Fading Channels**

Dejan V. Djonin, Vijay K. Bhargava, *University of Victoria, Canada*

#### D03 SPACE-TIME CODES 1

Monday 29 April 2002

8:50 - 10:20

Duffy/Columbia, 7th Floor

Session Chair: Ayman Naguib, *Morphics, Inc., USA*

**D03-1 Exact Pairwise Error Probability of Space-Time Codes**

Ezio Biglieri, Giorgio Taricco, *Politecnico di Torino, Italy*

**D03-2 Analytical Tools for Space-Time Codes over Quasi-Static Fading Channels**

Hicham Bouzekri, Scott L. Miller, *Texas A&M University, USA*

**D03-3 Performance Comparison of Layered Space Time Codes**

Ka Leong Lo, Slavica Marinkovic, Zhuo Chen, Branka Vucetic, *The University of Sydney, Australia*

**D03-4 Trellis Coding for Diagonally Layered Space-Time Systems**

Adina Matache, Rick D. Wesel, Jun Shi, *University of California-Los Angeles, USA*

#### D04 TURBO CODES 2

Monday 29 April 2002

10:40 - 12:10

Gotham, 7th Floor

Session Chair: Sergio Benedetto, *Politecnico di Torino, Italy*

**D04-1 16-QAM Turbo Coded Modulation for the Gilbert-Elliot Channel Model**

Mehmet Aydinlik, Masoud Salehi, *Northeastern University, USA*

**D04-2 Turbo Cross Decoding of Multiple Descriptions**

João Barros, Joachim Hagenauer, Norbert Görtz, *Munich University of Technology, Germany*

**D04-3 Analysis and Design of Interleaver Mappings for Iteratively Decoded BICM**

Jun Tan, Gordon L. Stüber, *Georgia Institute of Technology, USA*

**D04-4 On the Construction of Turbo Code Interleavers Based on Graphs with Large Girth**

Pascal O. Vontobel, *ETH Zurich, Switzerland*

#### D05 FADING CHANNELS 2

Monday 29 April 2002

10:40 - 12:10

Lyceum, 5th Floor

Session Chair: Andrea Goldsmith, *Stanford University, USA*

**D05-1 Optimal Power Allocation over Fading**

Channels with Stringent Delay Constraints  
Xiangheng Liu, Andrea J. Goldsmith, Stanford University, USA

**D05-2 Resource Allocation for Fading Multiple-Access Channels with Partial Channel State Information**  
Michael Mecking, Munich University of Technology, Germany

**D05-3 Adaptive Transmission with Discrete Code Rates**  
Lang Lin, Roy D. Yates, Predrag Spasojevic, Rutgers University, USA

**D05-4 QoS-based Outage Probability for Diversity Reception**  
Andrea Conti, Marco Chiani, University of Bologna, Italy, Moe Z. Win, AT&T Laboratories Research, USA

**D06 SPACE-TIME CODES 2**

Monday 29 April 2002  
10:40 - 12:10  
Duffy/Columbia, 7th Floor  
*Session Chair:* Ayman Naguib, *Morphics, Inc., USA*

**D06-1 Bit-Interleaved Coded Differential Space-Time Modulation**  
Lutz H.-J. Lampe, University Erlangen, Germany, Robert Schober, University of Toronto, Canada

**D06-2 Super-Orthogonal Space-Time Trellis Codes**  
Nambi Seshadri, Broadcom Corporation, USA, Hamid Jafarkhani, University of California at Irvine, USA

**D06-3 On the Capacity of Multiple Input Multiple Output Broadcast Channels**  
Sriram Vishwanath, Nihar Jindal, Andrea J. Goldsmith, Stanford University, USA

**D06-4 Performance Analysis and Design of STBCs for Fading ISI Channels**  
Robert Schober, University of Toronto, Canada, Wolfgang H. Gerstacker, Lutz H.-J. Lampe, University Erlangen-Nürnberg, Germany

**D07 MULTIUSER DETECTION 1**

Monday 29 April 2002  
13:40 - 15:10  
Duffy/Columbia, 7th Floor  
*Session Chair:* Peter J. McLane, *Queen's University, Canada*

**D07-1 Soft-Input/Soft-Output Multiuser Detection for Iterative Decoding of Asynchronous CDMA Systems with Convolutional Codes**  
Mao-Ching Chiu, National Chi Nan University, Taiwan

**D07-2 Optimal Linear Multistage Receivers for Synchronous CDMA**  
Louis G. F. Trichard, Iain B. Collings, The University of Sydney, Australia, Jamie S. Evans, The University of Melbourne, Australia

**D07-3 Performance Analysis of the Decorrelating Multiuser Detector for Nonlinear Amplified DS-CDMA Signals**  
L. Rugini, P. Banelli, S. Cacopardi, University of Perugia, Italy

**D07-4 A High-Efficiency Monte Carlo Receiver for Digital Communications**  
Zhi Tian, Michigan Technological University, USA

**D08 SYNCHRONIZATION 1**

Monday 29 April 2002  
13:40 - 15:10  
Lyceum, 5th Floor  
*Session Chair:* Umberto Mengali, *University of Pisa, Italy*

**D08-1 The True Cramer-Rao Bound for Estimating the Time Delay of a Linearly Modulated Waveform**  
Nele Noels, Heidi Steendam, Marc Moeneclaey, Ghent University, Belgium

**D08-2 Analysis of Sampling and Quantization Effects on the Performance of PN Code Tracking Loops**  
Kevin J. Quirk, Meera Srinivasan, California Institute of Technology, USA

**D08-3 About the Sensitivity of FB Modulations to Timing Offsets**  
Th. Sartenaer, L. Vandendorpe, Université Catholique de Louvain, Belgium

**D08-4 Burst and Symbol Timing Synchronization for the Upstream Channel in Broadband Cable Access Systems**  
J. Boutros, F. Buda, E. Lemois, A. Popper, Juniper Networks, France

**D09 TURBO CODES 3**

Monday 29 April 2002  
13:40 - 15:10  
Gotham, 7th Floor  
*Session Chair:* Aleksandar Kavcic, *Harvard University, USA*

**D09-1 Iterative Reliability-based Decoding of Turbo-like Codes**  
Motohiko Isaka, Hideki Imai, University of Tokyo, Japan Marc Fossorier, University of Hawaii, USA

**D09-2 Iterative Detection and Decoding on Nonlinear ISI Channels**  
Alejandro Lima Pérez, William E. Ryan, University of Arizona, USA

**D09-3 Analysis and Simulation of Turbo Codes Performance over Rice Fading Channels**  
Francesca Vatta, Fulvio Babich, Università di Trieste, Italy, Guido Montorsi, Politecnico di Torino, Italy

**D09-4 Analysis and Design of Pilot-Symbol-assisted Codes, for the Noncoherent AWGN Channel, using Density Evolution**  
Rza Nuriyev, Achilleas Anastasopoulos, University of Michigan, USA

**D10 MULTIUSER DETECTION 2**

Monday 29 April 2002  
15:30 - 17:00  
Duffy/Columbia, 7th Floor  
*Session Chair:* Peter J. McLane, *Queen's University, Canada*

**D10-1 Increasing CDMA Capacity Using Multiple Orthogonal Spreading Sequence Sets and Successive Interference Cancellation**  
F. Vanhaverbeke, M. Moeneclaey, Ghent University, Belgium, H. Sari, Juniper Networks, France

**D10-2 Near-Optimal Convolutionally Coded Asynchronous CDMA with Iterative Multiuser Detection/Decoding**

Bo Xia, William E. Ryan, University of Arizona, USA

**D10-3 Optimum and Sub-Optimum Multiuser Detection Based on Sphere Decoding for Multicarrier Code Division Multiple Access Systems**  
Loic Brunel, Mitsubishi Electric ITE, France

**D10-4 Reduced Complexity Iterative Receiver for Coded Asynchronous DS-CDMA Systems over Frequency Selective Channels**  
Noura Sellami, Mohamed Siala, France Télécom R&D, France, Inbar Fijalkow, Université de Cergy Pontoise, France

**D11 SYNCHRONIZATION 2**

Monday 29 April 2002  
15:30 - 17:00  
Lyceum, 5th Floor  
*Session Chair:* Umberto Mengali, *University of Pisa, Italy*

**D11-1 Phase Offset Estimation using Enhanced Turbo Decoders**  
Bartosz Mielczarek, Arne Svensson, Chalmers University of Technology, Sweden

**D11-2 Carrier Phase Recovery for Turbo-Coded Linear Modulations**  
Vincenzo Lottici, Marco Luise, University of Pisa, Italy

**D11-3 A Joint Maximum Likelihood Approach to Frame Synchronization in Presence of Frequency Offset**  
Younghoi Koo, Yong H. Lee, Korea Advanced Institute of Science and Technology, Korea

**D11-4 Performance of Diversity Schemes for OFDM Systems with Frequency Offset, Phase Noise and Channel Estimation Errors**  
Ravi Narasimhan, Marvell Semiconductor, Inc., USA

**D12 SIGNAL PROCESSING FOR DATA STORAGE**

Monday 29 April 2002  
15:30 - 17:00  
Gotham, 7th Floor  
*Session Chair:* Aleksandar Kavcic, *Harvard University, USA*

**D12-1 An LMS Adaptation Technique to Prevent ADC Saturation and Loop Interaction**  
Grant S. Christiansen, Texas Instruments Incorporated, USA

**D12-2 An Analog Decoder for Concatenated Magnetic Recording Schemes**  
A. Graell i Amat, G. Montorsi, Politecnico di Torino, Italy, A. Neviani, A. Xotta, Università di Padova, Italy

**D12-3 Probability Density Functions of Reliability Information in PRML Magnetic Recording Systems**  
Luca Reggiani, Guido Tartara, Politecnico di Milano, Italy

**D12-4 A Lower Bound on the Feedback Capacity of Finite-State ISI Channels**  
Shaohua Yang, Aleksandar Kavcic, Harvard University, USA

**D13 SPACE-TIME CODES 3**

Tuesday 30 April 2002  
10:40 - 12:10  
Duffy/Columbia, 7th Floor  
*Session Chair:* Erdal Panayirci, ISIK University, Turkey

**D13-1 Blind Channel Estimation for Space-Time Coding Systems with Baum-Welch Algorithm**

Hakan A. Cirpan, Erdal Panayirci, Istanbul University, Turkey

**D13-2 An Analytic Design of 2-Space-Time Trellis Code by Function Range Set Expansion**

Tsung-Ching Liu, Yu-Ching Yeh, Chinese Culture University, Taiwan

**D13-3 Space-Time Trellis Codes with Two, Three, and Four Transmit Antennas in Quasi-Static Flat Fading Channels**

Zhuo Chen, Branka Vucetic, Ka Leong Lo, The University of Sydney, Australia, Jinhong Yuan, The University of New South Wales, Australia

**D13-4 Performance Analysis of Space-Time Trellis Coded Modulations in Quasi-Static Rayleigh Fading Channels**

Myung-Kwang Byun, Daeyoung Park, Byeong Gi Lee, Seoul National University, Korea

**D14 SIGNAL PROCESSING IN COMMUNICATIONS 1**

Tuesday 30 April 2002  
10:40 - 12:10

Lyceum, 5th Floor

*Session Chair:* Zoran Kostic, AT&T Labs, USA

**D14-1 Sampling of Communication Systems with Bandwidth Expansion**

Julius Kusuma, University of California at Berkeley, USA, Andrea Ridolfi, Martin Vetterli, Ecole Polytechnique Federale de Lausanne, Switzerland

**D14-2 Energy Detection of a Signal with Random Amplitude**

V. I. Kostylev, Voronezh State University, Russia

**D14-3 Iterative Design of Predictive Vector Quantizers for Joint Source-Channel Coding**

Pradeepa Yahampath, Mirek Pawlak, University of Manitoba, Canada

**D14-4 Stochastic Power Control with Bit Estimation and Base Station Processing**

Prashanth Akula, Tolga M. Duman, Arizona State University, USA

**D15 SPACE-TIME CODES 4**

Tuesday 30 April 2002  
13:40 - 15:10

Lyceum, 5th Floor

*Session Chair:* Erdal Panayirci, ISIK University, Turkey

**D15-1 Channel Diagonalization through Orthogonal Space-Time Coding**

Aneesh Agrawal, George Ginis, John M. Cioffi, Stanford University, USA

**D15-2 Improvement of BPSK Space-Time Turbo Code with Full Antenna Diversity**

Chikara Kojima, Takahiko Saba, Chiba Institute of Technology, Japan

**D15-3 Performance of Space-Time Spreading with Correlated Fading and Channel Estimation**

Prasad Shamain, Laurence B. Milstein, University of California at San Diego, USA

**D15-4 Adaptive Space-Time Chip-level Equalization for WCDMA Downlink with Code-Multiplexed Pilot and Soft Handover**

Frederik Petré, Luc Deneire, Marc Engels, Interuniversity Micro-Electronics Center (IMEC), Belgium, Geert Leus, Marc Moonen, Katholieke Universiteit Leuven (KULeuven), Belgium

**D16 OFDM 1**

Tuesday 30 April 2002  
13:40 - 15:10

Duffy/Columbia, 7th Floor

*Session Chair:* Stefan Kaiser, German Aerospace Center, Germany

**D16-1 Maximum Likelihood Channel Estimation and Signal Detection for OFDM Systems**

Pei Chen, Qualcomm Inc., USA, Hisashi Kobayashi, Princeton University, USA

**D16-2 Frequency Domain Equalization of DMT/OFDM Systems with Insufficient Guard Interval**

Steffen Trautmann, Telecommunications Research Center Vienna (ftw.), Austria, Tanja Karp, Texas Technical University, USA, Norbert J. Fliege, Mannheim University, Germany

**D16-3 Detection of OFDM-CPM Signals over Multipath Channels**

Imran A. Tasadduq, Raveendra K. Rao, The University of Western Ontario, Canada

**D16-4 Multicarrier Multiple Access is Sum-Rate Optimal for Block Transmissions over Circulant ISI Channels**

Shuichi Ohno, Shimane University, Japan, Paul A. Anghel, Georgios B. Giannakis, University of Minnesota, USA, Zhi-Quan Luo, McMaster University, Canada

**D17 TURBO CODES 4**

Tuesday 30 April 2002  
13:40 - 15:10

Gotham, 7th Floor

*Session Chair:* Rick Wesel, University of California – Los Angeles, USA

**D17-1 New High-Rate Convolutional Codes for Concatenated Schemes**

A. Graell i Amat, G. Montorsi, S. Benedetto, Politecnico di Torino, Italy

**D17-2 Generalized Trellis-based Reduced-State Soft-Input/Soft-Output Algorithms**

Phunsak Thiennviboon, Keith M. Chugg, University of Southern California, USA, Gianluigi Ferrari, University of Parma, Italy

**D17-3 Reduced Complexity Iterative Demodulation and Decoding of Serial Concatenated Continuous Phase Modulation**

Mark R. Shane, The Aerospace Corporation, USA, Richard D. Wesel, University of California at Los Angeles, USA

**D17-4 Polynomial-complexity, Adaptive Symbol-by-Symbol Soft-Decision Algorithms with Application to**

Noncoherent Detection of LDPC  
Idin Motedayen, Achilleas Anastasopoulos, University of Michigan, USA

**D18 OFDM 2**

Tuesday 30 April 2002  
15:30 - 17:00

Duffy/Columbia, 7th Floor

*Session Chair:* Stefan Kaiser, German Aerospace Center, Germany

**D18-1 Pulse Superposition: A Technique for Peak-to-Average Power Ratio Reduction in OFDM Modulation**

D. Farnese, NEC, Italy, A. Leva, Alcatel, Italy, G. Paltenghi, CEFRIEL, Italy, A. Spalvieri, Politecnico di Milano, Italy

**D18-2 A Modern Extreme Value Theory Approach to Calculating the Distribution of the Peak-to-Average Power Ratio in OFDM Systems**

Shuangqing Wei, Dennis L. Goeckel, Patrick E. Kelly, University of Massachusetts at Amherst, USA

**D18-3 Coding for Multiple Antenna Transmission in Fast Fading and in OFDM**

Stefan H. Müller-Wefinertner, AT&T Labs, USA

**D18-4 Performance of Low-Density Parity-Check (LDPC) Coded OFDM Systems**

Hisashi Futaki, Tomoaki Ohtsuki, Tokyo University of Science, Japan

**D19 TURBO CODES 5**

Tuesday 30 April 2002  
15:30 - 17:00

Gotham, 7th Floor

*Session Chair:* Rick Wesel, University of California – Los Angeles, USA

**D19-1 Design of Rate-compatible Punctured Turbo (RCPT) Codes**

Fulvio Babich, Francesca Vatta, Università di Trieste, Italy, Guido Montorsi, Politecnico di Torino, Italy

**D19-2 Turbo Codes Optimization via Trace-Bit Injection and Selective Puncturing**

Fred Daneshgaran, California State University, Los Angeles, USA, Marina Mondin, Paolo Mulassano, Politecnico di Torino, Italy

**D19-3 Prunable S-Random Interleavers**

M. Ferrari, S. Bellini, Politecnico di Milano, Italy, F. Scalise, STMicroelectronics, Italy

**D19-4 Real-Time Turbo Decoding of Block Turbo Codes using the Hartmann-Nazarov Algorithm on the DSP Texas TMS320C6201**

André Gaolic, Karine Cavalec-Amis, Vincent Kerbaol, ENST Bretagne, France

**D20 SIGNAL PROCESSING IN COMMUNICATIONS 2**

Tuesday 30 April 2002  
15:30 - 17:00

Lyceum, 5th Floor

*Session Chair:* Zoran Kostic, AT&T Labs, USA

**D20-1 Nonuniform Sampling and Polynomial Transformation Method**

M. Ravi Shankar, Pradip Sircar, Indian Institute of Technology Kanpur, India

**D20-2 Spatially Resolved Equalization and Forward Error Correction for Multimode Fiber Links**

Centk Argon, Ketan M. Patel, Steven W. McLaughlin, Stephen E. Ralph, Georgia Institute of Technology, USA

**D20-3 Performance Analysis of Pilot Symbol Aided QAM for Rayleigh Channels**

Kegen Yu, Iain Collings, The University of Sydney, Australia, Jamie Evans, The University of Melbourne, Australia

**D20-4 Low Delay Burst Erasure Correction Codes**

Emin Martinian, Massachusetts Institute of Technology, USA, Carl-Erik W. Sundberg, SundComm, USA

**D21 DSL AND CABLE ACCESS 1**

Wednesday 01 May 2002  
8:50 - 10:20

Lyceum, 5th Floor

*Session Chair:* Sedat Olcer, IBM Zurich Research Laboratory, Switzerland

**D21-1** Shannon Capacity of Frequency-Overlapped Digital Subscriber Loop Channels  
Ranjan V. Sonalkar, David Applegate, AT&T Labs-Research, USA

**D21-2** A New Mathematical Interpretation of the FSN Crosstalk-Summing Method  
Roberto A. Uzcategui, Nikil Jayant, Georgia Institute of Technology, USA

**D21-3** Low-Density Parity-Check Codes for Digital Subscriber Lines  
E. Eleftheriou, S. Oelçer, IBM Zurich Research Laboratory, Switzerland

**D22 CDMA 1**

Wednesday 01 May 2002  
8:50 - 10:20

Duffy/Columbia, 7th Floor

*Session Chair:* Witold Krzymien, University of Alberta, Canada

**D22-1** Power and Signature Optimization for Downlink CDMA

Hao Bi, Motorola Inc., USA, Michael Honig, Northwestern University, USA

**D22-2** Variance Minimization Stochastic Power Control in CDMA Systems

Lijun Ghan, Bell Laboratories, USA, Zoran Gajic, Rutgers University, USA

**D22-3** Dual Power Control Based Decoding of Coded and Power-Controlled DS/CDMA Downlink Signals

Byoung-Hoon Kim, GCT Semiconductor, Inc., Korea

**D22-4** Performance of a New Multicarrier DS-CDMA System with Multicode over Nakagami Fading Channel

Y. W. Cao, C. C. Ko, T. T. Thiang, The National University of Singapore, Singapore

**D23 SPACE-TIME CODES 5**

Wednesday 01 May 2002  
8:50 - 10:20

Gotham, 7th Floor

*Session Chair:* Branka Vucetic, University of Sydney, Australia

**D23-1** Further Results on Tarokh's Space-Time Differential Technique

Eugenio Chiavaccini, Giorgio M. Vitetta, University of Modena, Italy

**D23-2** Optimal STBC over PSK Signal Sets from Cyclotomic Field Extensions

B. A. Sethuraman, California State University Northridge, USA, B. Sundar Rajan, Indian Institute of Science, India

**D23-3** Orthogonal Space-Time Coding for CPM System with Fast Decoding

Genyuan Wang, Xiang-Gen Xia, University of Delaware, USA

**D23-4** The Performance of a Space-Time Spreading CDMA System with Channel Estimation Errors

Lucy L. Chong, Larry B. Milstein, University of California at San Diego, USA

**D24 DSL AND CABLE ACCESS 2**

Wednesday 01 May 2002  
10:40 - 12:10

Lyceum, 5th Floor

*Session Chair:* Sedat Olcer, IBM Zurich Research Laboratory, Switzerland

**D24-1** A Mixed Cost-Function Adaptive Algorithm for ADSL Time-Domain Equalization  
K. S. Yap, J. V. McCanny, The Queen's University of Belfast, UK

**D24-2** A Spectrally Flat Time Domain Equalizer for Rate Improvement of Multicarrier Transceivers

Markos G. Troulis, Mindspeed Technologies, USA, Stefania Sesia, Institut Eurecom, France

**D24-3** Ingress Noise Cancellation for the Upstream Channel in Broadband Cable Access Systems

Ambrose Popper, Fabien Buda, Hikmet Sari, Juniper Networks, France

**D24-4** Fast Parallel CRC Algorithm and Implementation on a Configurable Processor  
H. Michael Ji, Earl Killian, Tensilica, Inc., USA

**D25 CDMA 2**

Wednesday 01 May 2002  
10:40 - 12:10

Duffy/Columbia, 7th Floor

*Session Chair:* Witold Krzymien, University of Alberta, Canada

**D25-1** An Optimized Transmitter Precoding Scheme for Synchronous DS-CDMA

Erik S. Hons, Amir K. Khandani, University of Waterloo, Canada, W. Tong, Nortel Networks, Canada

**D25-2** On the Reverse Link Capacity of cdma2000 High Rate Packet Data Systems  
Eduardo Esteves, Qualcomm Inc., USA

**D25-3** Pre-Selection Tentative Decision Device-based SIR Estimator for an UTRA-TDD System in Time Varying Channels

Yeonwoo Lee, Steve McLaughlin, Emad A. Al-Susa, The University of Edinburgh, UK

**D25-4** TCP Performance under Dynamic Link Adaptation in Cellular Multirate WCDMA Networks

Ekram Hossain, University of Manitoba, Canada, Dong In Kim, University of Seoul, Korea, Vijay K. Bhargava, University of Victoria, Canada

**D26 MODULATION AND CODING**

Wednesday 01 May 2002  
10:40 - 12:10

Gotham, 7th Floor

*Session Chair:* Branka Vucetic, University of Sydney, Australia

**D26-1** Trellis Coded {4-PSK}<sub>2</sub> Modulation for Mobile Radio Channel

Elvio César Giraudo, Universidade Federal do Ceará, Brazil

**D26-2** Multisequence Signaling Based Trellis-Coded CDMA System in Rayleigh Fading Channels

S. Choe, RadioCosm Inc., USA

**D26-3** On the Design, Simulation and Analysis of Parallel Concatenated Gallager Codes

Hatim Behairy, Shih-Chun Chang, George Mason University, USA

**D26-4** Existence and Construction of Block Interleavers

Vahid Tarokh, Massachusetts Institute of Technology, USA, Bertrand M. Hochwald, Lucent Bell Labs, USA

**D27 CHANNEL EQUALIZATION 1**

Wednesday 01 May 2002  
13:40 - 15:10

Gotham, 7th Floor

*Session Chair:* Desmond P. Taylor, University of Canterbury, New Zealand

**D27-1** Performance of Soft Iterative Channel Estimation in Turbo Equalization

M. Tüchler, A. Schmidbauer, Munich University of Technology, Germany, R. Otnes, Unik-Center for Technology at Kjeller, Norway

**D27-2** Turbo-Equalization for Multilevel Modulation: An Efficient Low-Complexity Scheme

A. Dejonghe, L. Vandendorpe, Université Catholique de Louvain, Belgium

**D27-3** Optimization of the Equalization and the Interleaving in Turbo-Equalization for a Frequency-Selective Fading Channel

Charlotte Langlais, Maryline Héland, France Télécom R&D, France

**D27-4** Some New Results on the Design of Codes for Inter-Symbol Interference Channels Based on Convergence of Turbo Equalization

Dung N. Doan, Krishna R Narayanan, Texas A&M University, USA

**D28 MULTIPLE ANTENNAS AND DIVERSITY 1**

Wednesday 01 May 2002  
13:40 - 15:10

Duffy/Columbia, 7th Floor

*Session Chair:* Naofal Al-Dahir, AT&T Labs, USA

**D28-1** A Simple and Asymptotically Tight Upper Bound on the Symbol Error Probability of Adaptive Antennas with Optimum Combining

Marco Chiani, Alberto Zanella, University of Bologna, Italy, Moe Win, Jack H. Winters, AT&T Laboratories Research, USA

**D28-2** Generic SER Formulas for Noncoherent MFSK with L-Diversity on Various Correlated Fading Channels

G. T. Zhang, City University of Hong Kong, Hong Kong

**D28-3** Reverse Link Capacity and Coverage Improvement for CDMA Cellular Systems Using Polarization and Spatial Diversity

Levent Aydin, Eduardo Esteves, Roberto Padovani, Qualcomm Inc., USA

**D28-4** A Comparative Study of the Effects of Microdiversity and Macrodiversity on CDMA Forward-Link Capacity

Lin Dai, Shi-dong Zhou, Yan Yao, Tsinghua University, China

**D29 TOPICS IN COMMUNICATION THEORY 1**

Wednesday 01 May 2002  
13:40 - 15:10

Lyceum, 5th Floor

*Session Chair:* Luc Deneire, IMEC Leuven, Belgium

**D29-1** Design of Serially Concatenated Coded CDMA System

Zhenning Shi, Christian Schlegel, University of Utah, USA

**D29-2** Large System Analysis of Pilot Symbol Aided Channel Estimation in Rayleigh Faded CDMA Channels

Jamie Evans, University of Melbourne, Australia

**D29-3 New-Distance-Metric Based MLC in the Presence of Fading**  
Dongfeng Yuan, Chunyan Gao, *Shandong University, China*, Zhigang Cao, *Tsinghua University, China*

**D29-4 Token Enabled Multiple Access (TEMA) for Packet Transmission in High Bit Rate Wireless Local Area Networks**  
Saeid Akhavan Taheri, *University of New Mexico, USA*, Anna Scaglione, *Cornell University, USA*

### D30 CHANNEL EQUALIZATION 2

Wednesday 01 May 2002  
15:30 - 17:00

Gotham, 7th Floor

*Session Chair:* Desmond P. Taylor, *University of Canterbury, New Zealand*

**D30-1 On Split FIR Filtering in Blind Equalization**  
Richard D. Souza, Leonardo S. Resende, Carlos Aurélio F. da Rocha, *UFSC-GPqCom, Brazil*, Maurice G. Bellanger, *CNAM-Electronique, France*

**D30-2 Comparison of Two Nonuniformly-Spaced Decision Feedback Equalizers for Sparse Multipath Channels**  
Frederick K. H. Lee, Peter J. McLane, *Queen's University, Canada*

**D30-3 On Combined Equalization and Decoding**

Philippa A. Martin, Desmond P. Taylor, *University of Canterbury, New Zealand*

**D30-4 Transmit Pre-emphasis for High-Speed Time-Division-Multiplexed Serial-Link Transceiver**

Vladimir Stojanovic, George Ginis, Mark A. Horowitz, *Stanford University, USA*

**D30-5 Reduced Complexity APP for Turbo Equalization**

Dan Raphaeli, Ami Saguy, *Tel Aviv University, Israel*

### D31 MULTIPLE ANTENNAS AND DIVERSITY 2

Wednesday 01 May 2002  
15:30 - 17:00

Duffy/Columbia, 7th Floor

*Session Chair:* Naofal Al-Dhahir, *AT&T Labs, USA*

**D31-1 Linear Receivers for Multiple-Antenna Communication Channels: An Asymptotic Analysis**

Ezio Biglieri, Giorgio Taricco, *Politecnico di Torino, Italy*, Antonia Tulino, *Università del Sannio, Italy*

**D31-2 Delay Diversity Codes for Frequency Selective Channels**

Dhananjay Gore, Arogyaswami Paulraj, *Stanford University, USA*, Sumeet Sandhu, *Iospan Wireless, USA*

**D31-3 Exact Analysis of Optimum Combining in Interference and Noise over a Rayleigh Fading Channel**

Ranjan K. Mallik, *Indian Institute of Technology-Delhi, India*, Moe Z. Win, *AT&T Laboratories Research, USA*, Marco Chiani, *University of Bologna, Italy*

**D31-4 Coded Error Performance of MIMO Systems in Frequency Selective Nakagami Fading Channels**

Jianxia Luo, James R. Zeidler, John G. Proakis, *University of California at San Diego, USA*

### D32 TOPICS IN COMMUNICATION THEORY 2

Wednesday 01 May 2002  
15:30 - 17:00

Lyceum, 5th Floor

*Session Chair:* Luc Deneire, *IMEC Leuven, Belgium*

**D32-1 The Capacity of an UWB Multiple-Access Communications System**  
Li Zhao, Alexander M. Haimovich, *New Jersey Institute of Technology, USA*

**D32-2 Performance Analysis of Rake Receivers for Ultra-Wideband Communications with PPM and OOK in Multipath Channels**

John D. Choi, Wayne E. Stark, *University of Michigan, USA*

**D32-3 Exact BER Computation of Generalized Hierarchical PSK Constellations**  
Pavan K. Vitthaladevuni, Mohamed-Slim Alouini, *University of Minnesota, USA*

**D32-4 Composite QAM Sequences with Low PMEPR for Application to Multicarrier Transmission System**

Seokhyun Yoon, *New Jersey Institute of Technology, USA*, Hamid Sadjadpour, *University of California at Santa Cruz, USA*

## E. GLOBAL SERVICE PORTABILITY AND INFRASTRUCTURE FOR NEXT-GENERATION VIRTUAL HOME/OFFICE ENVIRONMENTS SYMPOSIUM

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### E01 ARCHITECTURE FOR VHE

Monday 29 April 2002  
8:50 - 10:20

Imperial, 5th Floor

*Session Chair:* Seshadri Mohan, *Converse, USA*

Invited Talk - VHE in 3rd Generation Mobile Systems

Olajumoke Ogunbun, *Fujitsu Laboratories of Europe Ltd. (FLE), UK*