SS&C Conf. Corp.
P.O. Box 8236
Monterey, CA 93943

THIRTY-NINTH ASILOMAR CONFERENCE ON SIGNALS, SYSTEMS AND COMPUTERS

October 30 - November 2, 2005
Asilomar Hotel and
Conference Grounds

In Cooperation with

IEEE
Signal Processing Society ®

THIRTY-NINTH ASILOMAR CONFERENCE ON SIGNALS, SYSTEMS & COMPUTERS

Organized in cooperation with

NAVAL POSTGRADUATE SCHOOL
Monterey, California

ATK MISSION RESEARCH
Monterey, California

and

IEEE SIGNAL PROCESSING SOCIETY

CONFERENCE COMMITTEE

General Chairman
Prof. Hui Liu
Dept. Electrical Engineering & Comp. Sc.
307P EE/CSE, Box 352500
University of Washington
Seattle, WA 98195
E-mail: hliu@ee.washington.edu

Technical Program Chairman
Prof. Behnaam Aazhang
Electrical and Computer Engineering Dept., MS-380
Rice University
6100 Main Street
Houston, TX 77005-1892
E-mail: aaz@rice.edu

Publicity Chairman
Prof. Murali Tummala
Department of Electrical & Computer Engineering
Naval Postgraduate School
Monterey, CA 93942-5121
E-mail: mtummala@nps.edu

Conference Coordinator
Prof. Monique P. Fargues
Department of Electrical and Computer Engineering
Naval Postgraduate School
Monterey, CA 93943
E-mail: fargues@nps.edu

Finance Chairman
Prof. Douglas J. Fouts
Department of Electrical & & Computer Engineering
Naval Postgraduate School
Monterey, CA 93943-5121
E-mail: dfouts@nps.edu

Publication Chairman
Dr. Michael B. Matthews
ATK Mission Research
10 Ragsdale Drive, Suite 201
Monterey, CA 93940
E-mail: michael.matthews@atk.com

Welcome from the General Chairman

Prof. Hui Liu, University of Washington

Dear participants, on behalf of the Organizing Committee, it is my great pleasure to welcome you to the Thirty-Ninth Asilomar Conference on Signals, Systems and Computers. The Asilomar Conference focuses on the system and computing perspective in fields ranging from signal processing to wireless communications, DSP, speech and video, and implementation issues. Many of us have been long-time participants to this unique conference. For those who are here for the first time, you will soon appreciate the fact that Asilomar is more than just an outstanding technical conference. There are many natural treasures that make Asilomar a delightful conference ground. The beauty of the Pacific coast and the friendly and casual workshop environment has welcomed many people over the last 40 years. It is a place to interact with top scholars and get inspired.

This year, for the opening Sydney Parker Memorial Lecture, we are very fortunate to have Prof. P. R. Kumar, Franklin W. Woeltge Professor of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign. Prof. Kumar's keynote speech, "The oncoming convergence of control with communication and computing," will explore the possible next phase of the information technology revolution. His lectures are always informative and stimulating.

Our technical program features many exciting themes. In addition to the regular sessions, we have organized a student paper contest where top new talents will be evaluated. The finalists in this year's student paper contest, under the direction of Prof. Jerry Gibson of UC Santa Barbara, will present their posters on Sunday evening during the welcome reception and social gathering. The top ten papers will be presented and judged.

I would like to express my gratitude to all the people who have contributed to make this event possible, including the authors who contributed papers, the invited speakers, and the invited reviewers. I take the opportunity to give a special thank you to Prof. Behnaam Aazhang and the technical committee members for the remarkable job they have done in planning and organizing the meeting. Thanks are also extended to the conference administrative committee and the faculty and staff of the Naval Postgraduate School, who dedicate themselves year after year to organizing this special conference.

I wish you all a pleasant stay in Asilomar.

Hui Liu
University of Washington, July 2005

Conference Steering Committee

PROF. CHARLES W. THERRIEN
Chairman
Dept. of Electrical & Computer Eng.
833 Dyer Road
Room 437
Code EC/Ti
Naval Postgraduate School
Monterey, CA 93943-5121

PROF. SHERIFF MICHAEL
Secretary
Dept. of Electrical & Computer Eng.
833 Dyer Road
Room 437
Code EC/Mi
Naval Postgraduate School
Monterey, CA 93943-5121

PROF. DOUGLAS J. FOUTS
Treasurer
Dept. of Electrical & Computer Eng.
833 Dyer Road
Room 437
Code EC/Hi
Naval Postgraduate School
Monterey, CA 93943-5121

PROF. VICTOR E. DEBRUNNER
Dept. of Electrical & Computer Engineering
University of Oklahoma
202 West Boyd Street, Room 219
Norman, OK 73019-0631

PROF. MONIQUE P. FARGUES
Dept. of Electrical & Computer Eng.
833 Dyer Road
Room 437
Code EC/Fa
Naval Postgraduate School
Monterey, CA 93943-5121

PROF. BENJAMIN FRIEDLANDER
Dept. of Electrical & Computer Eng.
Room 119
Jack Baskin Engineering Bldg.
University of California-Santa Cruz
Santa Cruz, CA 95064

PROF. FREDERIC J. HARRIS
Dept. of Electrical Engineering
San Diego State University
San Diego, CA 92115

PROF. RALPH D. HIPPENSTIEL
Dept. of Electrical Engineering
Engineering Bldg.
3900 University Blvd.
University of Texas at Tyler
Tyler, TX 75799

PROF. W. KENNETH JENKINS
Dept. of Electrical Engineering
The Pennsylvania State University
129 Electrical Engineering East
University Park, PA 16802-2705

DR. MICHAEL B. MATTHEWS
ATK Mission Research
10 Ragsdale Drive, Suite 201
Monterey, CA 93940

PROF. JAMES A. RITCEY
Dept. of Electrical Engineering
Box 352500
University of Washington
Seattle, WA 98195

DR. SAMUEL D. STEARNS
Sandia National Laboratories
3705 Utah NE
Albuquerque, NM 87110

PROF. EARL E. SWARTZLANDER, Jr.
Dept. of Electrical & Computer Eng.
University of Texas at Austin
Austin, TX 78712

PROF. KEITH A. TEAGUE
Chair, School of Electrical & Computer Engineering
202 Engineering South
Oklahoma State University
Stillwater, OK 74078-5032

PROF. MURALI TUMMALA
Dept. of Electrical & Computer Eng.
833 Dyer Road
Room 437
Code EC/Tu
Naval Postgraduate School
Monterey, CA 93943-5121

2005 Asilomar Technical Program Committee

Chairman
Prof. Behnaam Aazhang
Rice University

2005 Asilomar Technical Program Committee Members

A. Comm. Systems and Networks
Aylin Yener
Electrical Engineering Department
Pennsylvania State University, 121 Electrical Eng. East
University Park, PA 16802
E-mail: yener@ee.psu.edu

Tolga Duman
Electrical Engineering Department
Arizona State University, Box 875706
Tempe, AZ 85287-5706
E-mail: duman@asu.edu

B. Adaptive Systems and Processing
Douglas L. Jones
Coordinated Science Laboratory
Univ. of Illinois, 1308 W. Main Street
Urbana, IL 61801
E-Mail: dl-jones@uiuc.edu

Brian Krongold
Dept. of Electrical & Electronic Eng.
University of Melbourne
Parkville, Victoria 3010, Australia
E-mail: b.krongold@ee.mu.oz.au

C. Array Processing and MIMO
Michael Fitz
Electrical Engineering Dept.
Box 951594, Boelter Hall
University of California Los Angeles
Los Angeles, CA 90095-1594
E-mail: fitz@ee.ucla.edu

Markku Juntti
Telecomm Lab & Centre for Wireless Communications
P.O. Box 4500
FIN-90014 University of Oulu, Finland
E-mail: markku.juntti@ee.oulu.fi

D. Biomedical Signal and Image Processing
Courtney Lane
Electrical and Computer Engineering Dept., MS-380
Rice University, 6100 Main Street
Houston, TX 77005-1892
E-mail: court@rice.edu

Yibin Zheng
Dept. of Electrical and Computer Eng.
351 McCormick Road, P.O. Box 400743
University of Virginia
Charlottesville, VA 22904-4743
E:mail: yz6n@virginia.edu

E. Signal Processing Algorithms and Applications
Chaitali Sengupta
Texas Instruments
12500 TI Boulevard, MS 8723
Dallas, TX 75243
E-mail: chaitali@ti.com

Babak Daneshrad
Electrical Engineering Department
University of California Los Angeles
Box 951594, 56-147E Engr IV
Los Angeles, CA 90095-1594
E-mail: babak@ee.ucla.edu

F. Architecture and Implementation
Sundararajan Sriram
Texas Instruments
1437 Sussex Dr.
Plano, TX 75075
E-mail: sriram@ti.com

Sridhar Rajagopal
WiQuest Communications, Inc.
P. O. Box 2326
Allen, TX 75013
E-mail: Sridhar.rajagopal@wiquest.com

G. Speech, Image, and Video Processing
Sheila S. Hemami
Electrical and Computer Engineering Dept.
Cornell University, 332 Rhodes Hall
Ithaca, NY 14853
Phone: (607) 254-5128
E-mail: hemami@ece.cornell.edu

Majid Rabbani
Eastman Kodak Company
1700 Dewey Ave.
Rochester, NY 14650-1816
Phone: (585) 477-3722
E-mail: majid.rabbani@kodak.com

2005 Asilomar Conference Session Schedule

Sunday Afternoon, October 30

2:00 - 7:00 PM Registration – Main Lodge
7:00 - 9:00 PM Welcoming Reception and Student Paper Contest
Poster Session at Asilomar – Merrill Hall

Monday Morning, October 31

7:30 - 9:00 AM Breakfast – Crocker Dining Hall
8:00 AM - 6:00 PM Registration
8:15 - 9:45 AM MA1a – Conference Opening and Plenary Session
9:45 - 10:15 AM Coffee Social

10:15 - 12:00 PM MORNING SESSIONS
MA1b Sources and Channell Coding
MA2b Systems and Networks
MA3b Multimedia Signal Processing
MA4b Wireless Testbeds and Architectures
MA5b Time-Varying Estimation
MA6b CDMA Techniques
MA7b MIMO Capacity

12:00 - 1:00 PM Lunch – Crocker Dining Hall

Monday Afternoon, October 31

1:30 - 5:10 PM AFTERNOON SESSIONS
MP1 UWB
MP2 Sensor Networks
MP3 Advanced Signal Processing Algorithms
MP4 Biomedical Signal and Image Processing
MP5 Speech and Audio
MP6 Adaptive Systems
MP7 MIMO Feedback Communication
MP8a1 Communication over Non-Ideal Channels (Poster)
MP8a2 Multiuser Wireless Systems (Poster)
MP8b Signal Processing Applications (Poster)

Monday Evening, October 31

6:30 - 9:30 PM Conference Cocktail Social – Merrill Hall

2005 Asilomar Conference Session Schedule
(continued)

Tuesday Morning, November 1

7:30 - 9:00 AM Breakfast – Crocker Dining Hall
8:00 AM - 5:00 PM Registration

8:30 AM - 12:10 PM MORNING SESSIONS

TA1 Coding and Modulations
TA2 Feedback Communications
TA3a Signal Processing for Wireless Communications
TA3b Signal Processing for UWB/OFDM
TA4 Decoder Archictectures
TA5 Video and Applications
TA6 Adaptive Receivers
TA7 MIMO Detection Strategies
TA8a1 Audio, Video, and Image Processing (Poster)
TA8a2 Communication Systems (Poster)
TA8b Power Efficient Communication (Poster)

12:00 - 1:00 PM Lunch – Crocker Dining Hall

Tuesday Afternoon, November 1

1:30 - 5:10 PM AFTERNOON SESSIONS
TP1 Relay Channels
TP2 Synchronization
TP3 Applied Signal Processing
TP4 Computer Arithmetic
TP5 Source Coding
TP6 Space Time Coding
TP7 Detection and Estimation
TP8a Architecture and Implementation (Poster)
TP8b Array Processing and Wireless Communications (Poster)

Tuesday Evening, November 1

8:00 - 10:00 PM Bonfire at the fire pit next to Crocker Hall

2005 Asilomar Conference Session Schedule
(continued)

Wednesday Morning, November 2

7:30 - 9:00 AM	Breakfast – Crocker Dining Hall
8:00 AM - 12:00 PM	Registration – Papers must be turned in before the registration closes at 12:00 noon.
8:30 AM - 12:10 PM	MORNING SESSIONS

WA1	OFDM
WA2	MIMO and Multiple Access
WA3	Multi-Sensor Signal Processing
WA4	Wireless Systems
WA5a	Low Power and FPGA
WA5b	Computer Architectures
WA6	Image Enhancement and Modeling
WA7	Beamforming and Direction of Arrival Estimation
WA8	Network Information Theory

12:00 - 1:00 PM	Lunch – Meal tickets may be purchased at registration desk. This meal is not included in the registration.

Student Paper Contest

Poster session Sunday, October 30, in Merrill Hall, papers to remain posted during Welcome Reception.

Category A – Communication Systems and Networks
"Multi-Source Cooperative Networks with Distributed Convolutional Coding"
Renqiu Wang, Wanlun Zhao, and Georgios B. Giannakis, University of Minnesota
"Distributed Detection in Sensor Networks: Connectivity Graph and Small World Networks"
Saeed Aldosari and Jos Moura, Carnegie Mellon University
"A Parametric Analytical Diffusion Model for Indoor Ultra-Wideband Received Signal"
Majid Nemati and Robert Scholtz, University of Southern California
"Source and Channel Coding for Quasi-Static Fading Channels"
Deniz Gunduz and Elza Erkip, Polytechnic University

Category C – Array Processing and MIMO
"A Multi-user SC-FDE-MIMO System for Frequency-Selective Channels"
Li Guo and Yih-Fang Huang, University of Notre Dame

Category D – Biomedical Signal and Image Processing
"Multi-Static Adaptive Microwave Imaging for Early Breast Cancer Detection"
Yao Xie, Bin Guo, Luzhou Xu, Jian Li, University of Florida; Peter Stoica, Uppsala University

Category E – Signal Processing Algorithms and Applications
"On the Unimodality of Deflation based Fast ICA Contrast"
Malay Gupta and Balu Santhanam, The University of New Mexico
"Blind Correction of Gain and Timing Mismatches for a Two-Channel Time-Interleaved Analog-to-Digital Converter"
Munkyo Seo, Mark Rodwell, Upamanyu Madhow, University of California-Santa Barbara

Category G – Speech, Image, and Video Processing
"Optimal Motion Compensation for Low Bit Rate Wavelet Based Error Frame Coding"
Lorenzo Cappellari, University of Padova, Truong Nguyen, University of California-San Diego
"Perceptual Video Coding with H.264"
Koohyar Minoo and Truong Nguyen, University of California-San Diego

2005 Asilomar Conference Session Schedule

Coffee breaks will be at 10:10 AM and 3:10 PM, except on Monday morning when refreshments will be served outside Merrill Hall from 9:45-10:15 AM.

Monday, November 8

CONFERENCE OPENING AND PLENARY SESSION 8:30 – 9:45 AM

1. Welcome from the General Chairperson:

Prof. Hui Liu
University of Washington

2. Session MA1a Sidney Parker Memorial Lecture for the 2005 Asilomar Conference

P. R. Kumar
Franklin Woeltge Professor
Dept. of Electrical and Computer Engineering, and
Research Professor, Coordinated Science Lab
University of Illinois
Urbana, Illinois

The Oncoming Convergence of Control with Communication and Computing

Abstract
A possible next phase of the information technology revolution could be the convergence of control with communication and computing. This will involve both sensing and actuation over wireless or wired networks. We address some challenges in this area, and describe our efforts and testbed in the Convergence Lab at the University of Illinois.

Biography
P. R. Kumar obtained his B. Tech. from I.I.T., Madras in 1973, and his M.S. and D.Sc. from Washington University in St. Louis in 1975 and 1977, respectively. From 1977 - 1984 he was with the University of Maryland, Baltimore County, and since 1985 he has been with the University of Illinois, Urbana-Champaign, where he is currently Franklin W. Woeltge Professor of Electrical and Computer Engineering. Prof. Kumar is a Fellow of the IEEE, received the Donald P. Eckman Award of the American Automatic Control Council in 1985, and is a recipient of the IEEE Field Award in Control Systems for 2006. His current research interests are in wireless networking, sensor networks, and control over networks.

Program of 2005
Asilomar Conference
on
Signals, Systems, and Computers

Technical Program Chairman
Behnaam Aazhang
Rice University

Session MA1b Source and Channel Coding

MA1b-1 The sum-rate for the vector Gaussian CEO problem — 10:15 AM
Saurabha Tavildar, Pramod Viswanath, University of Illinois, Urbana-Champaign

MA1b-2 Variable-Rate Universal Slepian-Wolf Coding with Feedback — 10:40 AM
Shriram Sarvotham, Dror Baron, Richard Baraniuk, Rice University

MA1b-3 Design of n-Channel Multiple Description Vector Quantizers — 11:05 AM
Tomas Andersson, Mikael Skoglund, Royal Institute of Technology (KTH)

MA1b-4 Source and Channel Coding for Quasi-Static Fading Channels — 11:30 AM
Deniz Gunduz, Elza Erkip, Polytechnic University

Session MA2b Systems and Networks

MA2b-1 Extensions of the Signal Richness Preservation Problem in LTI Systems — 10:15 AM
Borching Su, P. P. Vaidyanathan, California Institute of Technology

MA2b-2 Distributed Optimization and Duality in QoS Control for Wireless Best-Effort Traffic — 10:40 AM
Marcin Wiczanowski, University of Technology Berlin; Slawomir Stanczak, Fraunhofer German-Sino Lab for Mobile Communications; Holger Boche, University of Technology Berlin

MA2b-3 A Hybrid ARQ Scheme for Resilient Packet Header Compression — 11:05 AM
Vijay Suryavanshi, Aria Nosratinia, University of Texas, Dallas

MA2b-4 Throughput Analysis of Selective Repeat ARQ in Fading Wireless Channels — 11:30 AM
Kamtorn Ausavapattanakun, Aria Nosratinia, University of Texas, Dallas

Session MA3b Multimedia Signal Processing

MA3b-1 Shape-preserving mesh decimation within a graph-theoretic framework — 10:15 AM
Anupama Jagannathan, Eric Miller, Northeastern University

MA3b-2 A Non-expansive Convolution for Nonlinear-Phase Paraunitary Filter Banks and Its Application to Image Coding — 10:40 AM
Yuichi Tanaka, Akihiro Ochi, Masaaki Ikehara, Keio University

MA3b-3 A New Adaptive Zoom Algorithm for Tracking Targets Using Pan-Tilt-Zoom Camera — 11:05 AM
Himanshu Shah, Darryl Morrell, Arizona State University

MA3b-4 A Morphing Approach for Synthesizing Multichannel Recordings — 11:30 AM
Ching-Shun Lin, Chris Kyriakakis, University of Southern California

Session MA4b Wireless Testbeds and Architectures

MA4b-1 A VLSI Architecture for V-BLAST OFDM Detection — 10:15 AM
Zhaohui Cai, Sumei Sun, Jianzhong Hao, Institute for Infocomm Research

MA4b-2 Complexity Analysis of MMSE Detector Architectures for MIMO OFDM Systems — 10:40 AM
Markus Myllyla, Juha-Matti Hintikka, University of Oulu; Matti Limingoja, Aaron Byman, Elektrobit Ltd.; Joseph Cavallaro, Markku Juntti, University of Oulu

MA4b-3 Reconfigurable Digital Architecture for the Validation of a DVB-S Link — 11:05 AM
Andrea Del Re, Gian Carlo Cardarilli, Marco Re, University of Rome Tor Vergata; Francesco Iacomacci, Alenia Spazio

MA4b-4 A MIMO-OFDM Testbed for Wireless Local Area Networks — 11:30 AM
Albert Guillen i Fabregas, University of South Australia; Maxime Guillaud, Dirk T. M. Slock, Giuseppe Caire, Eurecom Institute; Karine Gosse, Stephanie Rouquette, Alexandre Ribeiro Dias, Philippe Bernardin, Xavier Miet, Motorola; Jean-Marc Conrat, France Telecom; Yann Toutain, Antennessa; Alain Peden, Zaiqing Li, ENST Bretagne

Session MA5b Time-Varying Estimation

MA5b-1 Time-Varying Autoregressive (TVAR) Adaptive Order and Spectrum Estimation — 10:15 AM
Yuri Abramovich, Defence Science and Technology Organisation; Nicholas Spencer, CSSIP; Michael Turley, Defence Science and Technology Organisation

MA5b-2 Multiple Target Tracking With Constrained Motion Using Particle Filtering Methods — 10:40 AM
Ioannis Kyriakides, Darryl Morrell, Antonia Papandreou-Suppappola, Arizona State University

MA5b-3 A Muli-Channel Combiner with Carrier-Offset Tracking — 11:05 AM
Eric Long, Zeta Associates, Inc.; Bart Rice, Rincon Research Corporation

MA5b-4 Reconfigurable Bayesian Networks for Hierarchical Multi-Stage Situation Assessment in Battlespace — 11:30 AM
Farnoush Mirmoeini, Vikram Krishnamurthy, University of British Columbia

Session MA6b CDMA Techniques

MA6b-1 Common and Dedicated Pilot-Based Channel Estimates Combining and Kalman Filtering for WCDMA Terminals — 10:15 AM
Ahmet Bastug, Giuseppe Montalbano, Philips Semiconductors; Dirk T. M. Slock, Eurecom Institute

MA6b-2 On the Bit Error Probability in CDMA Channels with Correlated Binary Data: Bounds and Optimal Sequences 10:40 AM
Clemens Schnurr, TU-Berlin; Slawomir Stanczak, Fraunhofer German-Sino Lab for Mobile Communications

MA6b-3 Model-Averaged RAKE Receivers for Direct-Sequence Spread-Spectrum Systems 11:05 AM
Yngve Selen, Uppsala University; Erik G. Larsson, Royal Institute of Technology (KTH)

MA6b-4 A New Multicarrier CDMA System Exploiting Frequency-Time Diversities 11:30 AM
Huahui Wang, Qi Ling, Tongtong Li, Michigan State University

Session MA7b MIMO Capacity

MA7b-1 Capacity optimization for Rician correlated MIMO wireless channels 10:15 AM
Mai Vu, Arogyaswami Paulraj, Stanford University

MA7b-2 Capacity of Volume Limited Current Distributions 10:40 AM
Sandeep Krishnamurthy, Brian Hughes, North Carolina State University

MA7b-3 A Framework for MIMO Capacity Bounds Based on the Cramer-Rao Bound on the Channel Estimation Error 11:05 AM
Thomas Svantesson, ArrayComm; Bhaskar Rao, University of California, San Diego

MA7b-4 Analytical Mutual Information Distribution and Delay-Limited Capacity for Spatially Correlated Multiple-Antenna Systems 11:30 AM
Tharmalingam Ratnarajah, Queen's University of Belfast

Session MP1 UWB

MP1-1 Capacity-approaching transceiver design for asymmetric UWB links 1:30 PM
Liuqing Yang, Jian Li, University of Florida

MP1-2 Data Detection Performance of an MTR-UWB Receiver in the Presence of Timing Errors 1:55 PM
Brian Sadler, Army Research Laboratory; Zhengyuan Xu, University of California, Riverside

MP1-3 A parametric analytical diffusion model for indoor ultra-wideband received signal 2:20 PM
Majid Nemati, Robert Scholtz, University of Southern California

MP1-4 Quantized UWB Transmitted Reference Systems 2:45 PM
Stefan Franz, Urbashi Mitra, University of Southern California

BREAK 3:10 PM

MP1-5 IIR Ultra-Wideband Pulse Shaper Design 3:30 PM
Chun-Yang Chen, P. P. Vaidyanathan, California Institute of Technology

MP1-6 Narrowband Interference Mitigation for Differential UWB Systems 3:55 PM
Klaus Witrisal, Yohannes D. Alemseged, Graz University of Technology

MP1-7 A Scalable UWB Based Scheme for Localization in Wireless Networks 4:20 PM
Ananth Subramanian, Joo Ghee Lim, Institute for Infocomm Research

MP1-8 Multiscale Wireless Communications Using Compactly-Parametrized Wavelets 4:45 PM
Giridhar Mandyam, Nokia, Inc.

Session MP2 Sensor Networks

MP2-1 Sensor Networks under Regulatory Power Constraints 1:30 PM
Michael Gastpar, University of California, Berkeley

MP2-2 A Cross-Layer Approach to Cognitive MAC for Spectrum Agility 1:55 PM
Qing Zhao, University of California, Davis; Lang Tong, Cornell University; Ananthram Swami, Army Research Laboratory

MP2-3 Distributed Range Difference Based Target Localization in Sensor Network 2:20 PM
Chartchai Meesookho, Shrikanth Narayanan, University of Southern California

MP2-4 Channel Estimation and Carrier Offset Control for Cooperative MIMO Sensor Networks 2:45 PM
Ronald A. Iltis, University of California, Santa Barbara; Richard Cagley, Toyon Research Corporation

BREAK 3:10 PM

MP2-5 Bandwidth-Constrained MAP Estimation for Wireless Sensor Networks 3:30 PM
Syed Faisal Shah, Alejandro Ribeiro, Georgios B. Giannakis, University of Minnesota

MP2-6 Semidefinite Programming Algorithms for Sensor Network Localization using Angle Information 3:55 PM
Pratik Biswas, Hamid Aghajan, Yinyu Ye, Stanford University

MP2-7 Game Theoretic Optimal Transmission Strategies in Multipacket Reception Sensor Networks 4:20 PM
Minh Hanh Ngo, Vikram Krishnamurthy, University of British Columbia

MP2-8 Distributed Detection in Sensor Networks: Connectivity Graph and Small World Networks 4:45 PM
Saeed Aldosari, Jose Moura, Carnegie Mellon University

Session MP3 Advanced Signal Processing Algorithms

MP3-1 Achieving the Entire Slepian-Wolf Rate Region Using Syndrome Formers and Inverse Syndrome Formers — 1:30 PM
Peiyu Tan, Jing Li, Lehigh University

MP3-2 Optimization under Unitary Matrix Constraint using Approximate Matrix Exponential — 1:55 PM
Traian Abrudan, Jan Eriksson, Visa Koivunen, Helsinki University of Technology

MP3-3 Kolmogorov Complexity of Signals with Finite Rate of Innovation — 2:20 PM
Subhas Ghosh, Viswanath Ganapathy, Chandrashekhara Thejaswi, Ranjeet Patro, Honeywell

MP3-4 On the Unimodality of Deflation based Fast ICA Contrast — 2:45 PM
Malay Gupta, Balu Santhanam, University of New Mexico

BREAK — 3:10 PM

MP3-5 Reversible Integer-to-Integer Wavelet Transforms With Improved Approximation Properties — 3:30 PM
Peter van Vugt, Michael Adams, University of Victoria

MP3-6 New Fast Fourier Transform with Linear Multiplicative Complexity — 3:55 PM
Sos Agaian, Okan Caglayan, University of Texas, San Antonio

MP3-7 Frequency Estimation of 2-D Sinusoids from Very Limited Data — 4:20 PM
Jiong Wang, Yibin Zheng, University of Virginia

MP3-8 The Spectral Products Created by Nonlinear Intersymbol Interference in NRZ Data — 4:45 PM
Jeffrey Coleman, Naval Research Laboratory

Session MP4 Biomedical Signal and Image Processing

MP4-1 Automated Affine Registration of First-Pass Magnetic Resonance Images — 1:30 PM
Robert Janiczek, Andrew Gilliam, Pat Antkowiak, Scott Acton, Frederick Epstein, University of Virginia

MP4-2 A Hierarchical Bayesian Formulation for Diffuse Optical Tomography with a priori Anatomical Information — 1:55 PM
Murat Guven, Birsen Yazici, Xavier Intes, Rensselaer Polytechnic Institute; Britton Chance, University of Pennsylvania

MP4-3 Range Super Resolution For Near-field Narrow Band Coherent Imaging — 2:20 PM
Wei Huang, Yibin Zheng, University of Virginia

MP4-4 Embedded Image Coding Using Zerotrees of Wavelet Coefficients for Visible Human Dataset — 2:45 PM
Yi Mu, Adel Lotfy Ali, Beddhu Murali, University of Southern Mississippi

BREAK — 3:10 PM

MP4-5 Multi-Assignment Interacting Multiple Model for Tracking Micro-bubbles — 3:30 PM
Bing Li, Peter Tay, Scott Acton, University of Virginia

MP4-6 Multi-Static Adaptive Microwave Imaging for Early Breast Cancer Detection — 3:55 PM
Yao Xie, Bin Guo, Luzhou Xu, Jian Li, University of Florida; Peter Stoica, Uppsala University

MP4-7 Time Reversal Based Microwave Hyperthermia Treatment of Breast Cancer — 4:20 PM
Bin Guo, Luzhou Xu, Jian Li, University of Florida

MP4-8 Object Identification by Marked Point Process — 4:45 PM
Gang Dong, Scott Acton, University of Virginia

Session MP5 Speech and Audio

MP5-1 Speech Enhancement Using Perceptual Wavelet Thresholding with the Ephraim and Malah Noise Suppressor and Auditory Masking — 1:30 PM
Ashish Parajuli, Victor DeBrunner, University of Oklahoma

MP5-2 Voice Source Modeling for Accurate Speech Analysis — 1:55 PM
M. Shahidur Rahman, Tetsuya Shimamura, Saitama University

MP5-3 Multiple Description Coding and Path Diversity for Voice Communication over MANETs — 2:20 PM
Jagadeesh Balam, Jerry D. Gibson, University of California, Santa Barbara

MP5-4 Reducing Audio Noise Using Spectrogram Random Textures — 2:45 PM
Ramin Samadani, HP Labs

BREAK — 3:10 PM

MP5-5 Scalable Perceptual Metric for Evaluating Audio Quality — 3:30 PM
Rahul Vanam, Charles Creusere, New Mexico State University

MP5-6 Sound Classification Based on Probabilistic SVM and MPEG-7 Audio Feature — 3:55 PM
Jia-Ching Wang, National Cheng Kung University

MP5-7 Optimization of the Bass Management Filter Parameters for Multichannel Audio Applications — 4:20 PM
Sunil Bharitkar, Chris Kyriakakis, Audyssey Labs, Inc. & University of Southern California

MP5-8 A Comparison Between Bass Management Parameter Selection Techniques for Multichannel and Multi-position Room Equalization — 4:45 PM
Sunil Bharitkar, Chris Kyriakakis, Audyssey Labs, Inc. & University of Southern California

Session MP6 Adaptive Systems

MP6-1 A Statistical Convergence Analysis of the FastICA Algorithm for Two-Source Mixtures 1:30 PM
Scott Douglas, Southern Methodist University

MP6-2 Adaptive Connection Algorithms for a Reconfigurable Photonic Switch 1:55 PM
Taehyuk Kang, John Shynk, University of California, Santa Barbara

MP6-3 A Modified Volterra-Wiener-Hammerstein Model for Loudspeaker Precompensation 2:20 PM
Khosrow Lashkari, DoCoMo Communications Labs USA

MP6-4 Time-Delay Set-Selection 2:45 PM
William Clarkson, Dale Joachim, Tulane University

BREAK 3:10 PM

MP6-5 Robust Optimization Strategies for Adaptive Filters Operating with Fixed and Transient Hardware Errors 3:30 PM
Siddharth Pal, W. Kenneth Jenkins, Pennsylvania State University

MP6-6 Low Cost Parallel Adaptive Filter Structures 3:55 PM
Chao Cheng, Keshab K. Parhi, University of Minnesota

MP6-7 Exploiting Signal Subspaces to Reduce Mean-Squared Error in Subband Adaptive Filtering 4:20 PM
Jake Gunther, Tamal Bose, Wang Song, Utah State University

MP6-8 Hybrid FIR-IIR Adaptive Echo Canceller for Wireline Applications 4:45 PM
Ahmed Shalash, Analog Devices

Session MP7 MIMO Feedback Communications

MP7-1 Spatial Transmit Prefiltering for Frequency-Flat MIMO Transmission with Mean and Covariance Information 1:30 PM
Ruben de Francisco, Dirk T. M. Slock, Eurecom Institute

MP7-2 Codebook Adaptation for Quantized MIMO Beamforming Systems 1:55 PM
Roopsha Samanta, Robert W. Heath, Jr., University of Texas, Austin

MP7-3 Algorithms for Quantized Precoded MIMO-OFDM Systems 2:20 PM
Bishwarup Mondal, Robert W. Heath, Jr., University of Texas, Austin

MP7-4 Echo-MIMO: a Two-Way Channel Training Method for Matched Cooperative Beamforming 2:45 PM
Robert Taylor, Lang Withers, MITRE Corporation

BREAK 3:10 PM

MP7-5 Capacity Optimization and Precoding on MIMO Channels with Covariance Feedback 3:30 PM
Jianqi Wang, Michael D. Zoltowski, Purdue University

MP7-6 Robust Design of Linear MIMO Transceiver for Low SNR 3:55 PM
Xi Zhang, Royal Institute of Technology (KTH); Daniel P. Palomar, Princeton University; Bjorn Ottersten, Royal Institute of Technology (KTH)

MP7-7 Space-Time Constellations for Partial Receiver CSI Based on Code Combination 4:20 PM
Jochen Giese, Mikael Skoglund, Royal Institute of Technology (KTH)

MP7-8 Performance Analysis of Random Vector Quantization Limited Feedback Beamforming 4:45 PM
Chun Kin Au Yeung, David J. Love, Purdue University

Session MP8a1 Communication Over Non-Ideal Channels (Poster)

MP8a1-1 Decoding of Product Codes Use of Annealed Max-Log-MAP Algorithm
Ebrahim Karami, Iran Telecommunication Research Center

MP8a1-2 A New UMTS TDD Burst Structure With a Semi-Blind Equalisation Scheme
Mahmoud Hadef, Stephan Weiss, University of Southampton

MP8a1-3 Blind Identification of Series-Cascade Nonlinear Channels
Alain Kibangou, Gerard Favier, Laboratoire I3S/ CNRS/ UNSA

MP8a1-4 A wavelet transform approach to the design of complementary sequences for communications
Todor Cooklev, San Francisco State University

MP8a1-5 Comparison and Experimental Verification of Two Low-complex Digital Predistortion Methods
Mei Yen Cheong, Helsinki University of Technology; Ernst Aschbacher, Peter Brunmayr, Markus Rupp, Vienna University of Technology; Timo Laakso, Helsinki University of Technology

MP8a1-6 Performance of Decentralized Detection in a Resource-constrained Sensor Network with Non-orthogonal Communications
Kossai Al Tarazi, Sudharman Jayaweera, Aravinthan Visvakumar, Wichita State University

MP8a1-7 Pulse Shaping for RF Communications in Wireless Sensor Networks
Louise Crockett, Neil MacEwen, Eugen Pfann, Robert Stewart, University of Strathclyde

MP8a1-8 Symbol Synchronisation Implementation for Low-Power RF Communication in Wireless Sensor Networks
Neil MacEwen, Louise Crockett, Eugen Pfann, Robert Stewart, University of Strathclyde

MP8a1-9 Source Localization from Moving Arrays of Sensors
Todd Moon, David Keller, Utah State University

MP8a1-10 Channel Equalization for STBC-Encoded Cooperative Transmissions with Asynchronous Transmitters
Xiaohua Li, Fan Ng, Jui-Te Hwu, Mo Chen, State University of New York at Binghamton

MP8a1-11 Turbo Coded CDMA in Fading Cooperative Channels
Ebrahim Karami, Iran Telecommunication Research Center

MP8a1-12 Multi-User MIMO Channel Estimation in the Presence of Carrier Frequency Offsets
Malte Schellmann, Fraunhofer Institute for Telecommunications HHI; Slawomir Stanczak, Fraunhofer German-Sino Lab for Mobile Communications

Session MP8a2 Multiuser Wireless Systems (Poster)

MP8a2-1 Blind Adaptive Successive Interference Cancellation using Code-Constrained Constant Modulus Algorithms and Iterative Detection in Multipath Channels
Rodrigo de Lamare, Raimundo Sampaio-Neto, Pontifical Catholic University of Rio de Janeiro

MP8a2-2 Linear MMSE Receivers for Random CDMA in Wireless Networks With Equal Transmit Powers.
Siddhartan Govindasamy, David H. Staelin, Massachusetts Institute of Technology

MP8a2-3 Reverse Link Inter-cell Interference Analysis for Cellular CDMA Systems with Random Power Disparity
Hong Nie, Cape Breton University

MP8a2-4 Transmit Filters Optimization and Receiver Architectures for Multi-Input-Multi-Output Channels
Mohammed Nafie, Cairo University; Ahmed Shalash, Analog Devices

MP8a2-5 Joint Packet Scheduling and Channel Allocation for Wireless Communications
Liu Liu, Zhengyuan Xu, University of California, Riverside

MP8a2-6 Spectrum Shaping Using Weighted Code-Hopping CDMA
Ali Saidi, MITRE Corporation

MP8a2-7 Performance Analysis of Cooperative Random Access with Long PN Spreading Codes
Xin Wang, Yingqun Yu, Alejandro Ribeiro, University of Minnesota

MP8a2-8 On the Transmit Power Assignment in Multicarrier-DS-CDMA Systems
Catalin Lacatus, Paul Cotae, University of Texas, San Antonio

MP8a2-9 Ergodic Spectral Efficiency of Randomly-Spread CDMA with Linear Multiuser Receivers over GWSSUS Fading Channels
Ozgur Ertug, Middle East Technical University

MP8a2-10 Doubly selective channel estimation for OFDM systems
Changyong Shin, Edward J. Powers, University of Texas, Austin

MP8a2-11 Improved OFDM Channel Estimation using Inter-Packet Information
Dengwei Fu, Celestial Semiconductor

MP8a2-12 Cyclic Delay Diversity for Single Carrier-Cyclic Prefix Systems
Wing Seng Leon, Ying-Chang Liang, Changlong Xu, Institute for Infocomm Research

MP8a2-13 Dynamic Adaptive DMT - A Framework for Increased Connection Stability
Stefan Edinger, Carsten Bauer, Norbert J. Fliege, University of Mannheim

MP8a2-14 Cooperative STBC-OFDM Transmissions with Imperfect Synchronization in Time and Frequency
Fan Ng, Xiaohua Li, State University of New York at Binghamton

Session MP8b Signal Processing Applications (Poster)

MP8b-1 Wireless Hearing Aids System Simulation
Bin Tang, Hari Krishna Garg, Liang Zhang, National University of Singapore; Ram Singh Rana, Institute of Microelectronics

MP8b-2 The performance of the fixed-point least mean kurtosis and noisy inputs
Junibakti Sanubari, Satya Wacana University

MP8b-3 Filter Bank Design for Minimizing Mean-Squared Estimation Error in Subband Adaptive Filtering
Jake Gunther, Tamal Bose, Wang Song, Utah State University

MP8b-4 Speech Enhancement Using a Technique of Adaptive Bias Suppression
Hirobumi Tanaka, Tetsuya Shimamura, Saitama University

MP8b-5 Endothelial Cell Image Enhancement using Directional Filter Banks
Mohammad Khan, Khalid Khan, Aurangzeb Khan, COMSATS Institute of Information Technology

MP8b-6 Data-Pattern Discovery Methods for Detection in Nongaussian High-Dimensional Data Sets
Cecile Levasseur, Kenneth Kreutz-Delgado, University of California, San Diego

MP8b-7 An Affine Projection Adaptive Filtering Approach to Superresolution Restoration of Image Sequences
John Norris, Scott Douglas, Southern Methodist University

MP8b-8 A Genetic Algorithm Feature Selection Approach to Robust Classification between Positive and Negative Emotional Speakers State
Francesco Beritelli, Salvatore Casale, Universit degli Studi di Catania; Alessandra Russo, Salvatore Serrano, Universita' degli Studi di Catania

MP8b-9 Channel Modeling and Performance Analysis in Watermarking
Harsh Shah, Aria Nosratinia, University of Texas, Dallas

MP8b-10 Signature Verificaiton using Velocity-Selective Directional Filter Banks
Mohammad Khan, Khalid Khan, Aurangzeb Khan, COMSATS Institute of Information Technology

MP8b-11 Geometrical Feature Extraction for Robust Speech Recognition
Xiaokun Li, Chiman Kwan, Intelligent Automation, Inc.

MP8b-12 Multiple Description Conjugate Vector Quantizers with Side Distortion Compensation
Yugang Zhou, Geoffrey Chan, Queen's University

MP8b-13 Coherent Change Detection for Multi-Polarization SAR
Leslie Novak, BAE Systems

MP8b-14 Multi-sensor tracking of a vehicle on a grid,-II
Dave Sworder, University of California, San Diego; John Boyd, Cubic Corp; Gary Hutchins, NPS; Robert Elliott, University of Calgary

Session TA1 Coding and Modulations

TA1-1 Parallel Implementation of a Soft Output Sphere Decoder 8:30 AM
Joakim Jalden, Bjorn Ottersten, Royal Institute of Technology (KTH)

TA1-2 A Hybrid Early Decision-Probability Propagation Decoding Algorithm for Low-Density Parity-Check Codes 8:55 AM
Anton Blad, Oscar Gustafsson, Lars Wanhammar, Linkoping University

TA1-3 Optimized Message Passing Schedules for LDPC Decoding 9:20 AM
Predrag Radosavljevic, Joseph R. Cavallaro, Alexandre de Baynast, Rice University

TA1-4 Improvements on Accelerating Iterative Decoding Using Eigenmessages 9:45 AM
Todd Moon, John Crockett, Jacob Gunther, Utah State University

BREAK 10:10 AM

TA1-5 Modulation and Code Mapping Scheme for High Rate Transmission in 868MHz 10:30 AM
Manjeet Singh, Zhongding Lei, Francois Chin, Yuen Sam Kwok, Institute for Infocomm Research

TA1-6 Performance of Turbo-Codes on Nakagami Flat Fading (Radio) Transmission Channels 10:55 AM
Horia Balta, Maria Kovaci, University Politehnica of Timisoara; Alexandre de Baynast, Rice University

TA1-7 Turbo Product Code for Flat-Fading Channels with Pulse Jamming 11:20 AM
Changlong Xu, Wing Seng Leon, Ying-Chang Liang, Institute for Infocomm Research

TA1-8 On Duobinary Turbo Codes for Block Fading Channels. 11:45 AM
Erik Stauffer, Djordje Tujkovic, Arogyaswami Paulraj, Stanford University

Session TA2 Feedback Communications

TA2-1 A robust transmit CSI framework with applications in MIMO wireless precoding 8:30 AM
Mai Vu, Arogyaswami Paulraj, Stanford University

TA2-2 Low Complexity User Selection Algorithms for Multiuser MIMO Systems with Block Diagonalization 8:55 AM
Zukang Shen, Runhua Chen, Jeffrey Andrews, Robert W. Heath, Jr., Brian Evans, University of Texas, Austin

TA2-3 On the Expected Rate of Slowly Fading Channels with Quantized Side Information 9:20 AM
Thanh Tung Kim, Mikael Skoglund, Royal Institute of Technology (KTH)

TA2-4 Throughput Maximization In Wireless Multiple Antenna Communication Systems Through Quantized Rate Control 9:45 AM
Mohammad Ali Khojastepour, Xiaodong Wang, Mohammad Madihian, NEC Laboratories America, Inc.

BREAK 10:10 AM

TA2-5 Precoding with Known Interference Structure at Receiver 10:30 AM
Bin Liu, Hui Liu, Sumit Roy, University of Washington

TA2-6 Opportunistic Beamforming with Limited Feedback 10:55 AM
Shahab Sanayei, Aria Nosratinia, University of Texas, Dallas

TA2-7 SIMO precoding techniques for polarization mode dispersion 11:20 AM
Zhenyu Zhu, Lehigh University; Hamid Sadjadpour, University of California, Santa Cruz; Rick Blum, Lehigh University; Peter Andrekson, Chalmers University of Technology; Jing Li, Lehigh University

TA2-8 On Coding With a Partial Knowledge of the State Information 11:45 AM
Abdellatif Zaidi, Pierre Duhamel, LSS/CNRS

Session TA3a Signal Processing for Wireless Communications

TA3a-1 Waveform Shaping for Time Reversal Interference Cancellation: A Time Domain Approach 8:30 AM
Jose Moura, Yuanwei Jin, Jimmy Zhu, Yi Jiang, Dan Stancil, Ahmet Cepni, Carnegie Mellon University

TA3a-2 Component-Wise Conditionally Unbiased Bayesian Parameter Estimation: General Concept and Applications to Kalman Filtering and LMMSE Channel Estimation 8:55 AM
Mahdi Triki, Dirk T. M. Slock, Eurecom Institute

TA3a-3 Multistage MMSE-DFD Receiver for Ultra-Wide Bandwidth Impulse Radio 9:20 AM
Chia-Chang Hu, Yong-Sheng Cheng, National Chung Cheng University

TA3a-4 An Iterative Interference Canceller for Serially Concatenated Continuous Phase Modulation 9:45 AM
Michael Anderson, Australian National University; Mark Reed, National ICT Australia; Gerard Borg, Australian National University

Session TA3b Signal Processing for UWB/OFDM

TA3b-1 Low Complexity Iterative Method of Equalization for OFDM in Time Varying Channels 10:30 AM
Sajid Ahmed, Mathini Sellathurai, Jonathon Chambers, Cardiff University

TA3b-2 Analysis of Decision-Feedback Based Broadband OFDM Systems 10:55 AM
Alexandre de Baynast, Ashutosh Sabharwal, Behnaam Aazhang, Rice University

TA3b-3 Blind Equalization in OFDM Systems Exploiting Guard Interval Redundancy 11:20 AM
Faisal O. Alayyan, Curtin University of Technology; Karim Abed-Meraim, Telecom Paris; Abdelhak M Zoubir, Darmstadt University of Technology

TA3b-4 Rapid Timing Acquisition Scheme for UWB signals 11:45 AM
Jiachi Wang, Huazhong University of Science and Technology

Session TA4 Decoder Architectures

TA4-1 Error-Free Arithmetic and Architecture for H.264 8:30 AM
Khan Wahid, Vassil Dimitrov, Wael Badawy, Graham Jullien, University of Calgary

TA4-2 VLSI Design for High-Speed Sparse Parity-Check Matrix Decoders 8:55 AM
Mohammad Mansour, American University of Beirut

TA4-3 Stochastic Implementation of LDPC Decoders 9:20 AM
Warren Gross, McGill University; Vincent Gaudet, Aaron Milner, University of Alberta

TA4-4 A Reconfigurable Architecture and Associated CAD Algorithm for Multirate LDPC Decoding 9:45 AM
Marghoob Mohiyuddin, University of California, Berkeley; Amit Prakash, Microsoft; Xiang Wu, Adnan Aziz, University of Texas, Austin

BREAK 10:10 AM

TA4-5 Design and implementation of LDPC codes for DVB-S2 10:30 AM
Manoj Yadav, Keshab K. Parhi, University of Minnesota

TA4-6 A Memory Efficient Partially Parallel Decoder Architecture for QC-LDPC Codes 10:55 AM
Zhongfeng Wang, Zhiqiang Cui, Oregon State University

TA4-7 FPGA Implementation of Viterbi decoders for MIMO-BICM 11:20 AM
Simon Haene, Andreas Burg, David Perels, Peter Luethi, Norbert Felber, Wolfgang Fichtner, ETH Zurich

TA4-8 Implementing Soft Decision Viterbi Decoder - A Novel Approach 11:45 AM
Subham Roy Choudhury, Ravindra Kumar Singh, Motilal Nehru National Institute Of Technology; Manoj Jain, Bharat Electronics Limited

Session TA5 Video and Applications

TA5-1 Perceptual Video Coding with H.264 8:30 AM
Koohyar Minoo, Truong Nguyen, University of California, San Diego

TA5-2 Intra-Mode Indexed Nonuniform Quantization Parameter Matrices in AVC/H.264 8:55 AM
Jing Hu, Jerry D. Gibson, University of California, Santa Barbara

TA5-3 Optimal Motion Compensation for Low Bit Rate Wavelet Based Error Frame Coding 9:20 AM
Lorenzo Cappellari, University of Padova; Truong Nguyen, University of California, San Diego

TA5-4 Motion Estimation at the Decoder Using Maximum Likelihood Techniques for Distributed Video Coding 9:45 AM
Ivy Tseng, Antonio Ortega, University of Southern California

BREAK 10:10 AM

TA5-5 Characterizing Chinese Ink Painting Styles based on Textons and Finite Mixture Models 10:30 AM
Xiqun Lu, Zhejiang University

TA5-6 Hybrid particle filtering for real time object tracking 10:55 AM
Patrick Lanvin, Jean-Charles Noyer, Mohammed Benjelloun, Universite du Littoral Cote d'Opale; Mark Yeary, Yan Zhai, University of Oklahoma

TA5-7 Adaptive Radar Detection of Extended Targets in Homogeneous Noise and Interference 11:20 AM
Francesco Bandiera, Universita' di Lecce; Antonio De Maio, Universita' di Napoli ''Federico II''; Antonio Stefano Greco, Giuseppe Ricci, Universita' di Lecce

TA5-8 LADAR Range Image Segmentation using Curve Evolution and ML Estimation 11:45 AM
Haihua Feng, MathWorks, Inc.; William Karl, David Castanon, Boston University

Session TA6 Adaptive Receivers

TA6-1 Unit Tap Constrained Adaptive Channel Shortening Equalization 8:30 AM
Richard Martin, Air Force Institute of Technology

TA6-2 Aided Decision Feedback Equalization for Wired Communication 8:55 AM
Hossein Dehghan, Doradus Technologies

TA6-3 Adaptive Cancellation of Modulated Coherent Repeater Jammers 9:20 AM
Daniel Rabideau, MIT Lincoln Laboratory

TA6-4 Distributed Beamforming in Wireless Sensor Networks 9:45 AM
Murali Tummala, Chan Chee Wai, Patrick Vincent, Naval Postgraduate School

BREAK 10:10 AM

TA6-5 A Multiple Antenna Cyclostationary Receiver for Aperiodic CDMA Signals 10:30 AM
Vishwanath Venkataraman, John Shynk, University of California, Santa Barbara; Richard Gooch, Applied Signal Technology, Inc.

TA6-6 Affine Projection Algorithm for Blind Multiuser Equalisation of Downlink DS-CDMA System 10:55 AM
Mahmoud Hadef, Stephan Weiss, University of Southampton

TA6-7 An Adaptive Array Based on Composite and Null Despreaders for Multiple GPS Signals 11:20 AM
Suk-seung Hwang, John Shynk, University of California, Santa Barbara

TA6-8 Joint Space-Time Equalization and Multiuser Detection for High Data Rate Users in DS-CDMA Systems with Data Selective Adaptive Recurrent Neural Networks 11:45 AM
Rodrigo de Lamare, Raimundo Sampaio-Neto, Pontifical Catholic University of Rio de Janeiro

Session TA7 MIMO Detection Strategies

TA7-1 Turbo-BLAST with Iterative Channel Estimation in a Correlated Fast Fading Channel 8:30 AM
Mark Reed, NICTA; Jayant Baliga, Melbourne University

TA7-2 Reduced Complexity MIMO MMSE-DFE 8:55 AM
Wen-Chih Kan, Gerald Sobelman, University of Minnesota

TA7-3 Rao-Blackwellized Gauss-Hermite Filter for Joint Frequency Offset and Channel Estimation for the MIMO-OFDM System 9:20 AM
Kyeong Jin Kim, Nokia Research Center; Ronald A. Iltis, University of California, Santa Barbara

TA7-4 Frequency Domain Joint-over-Antenna MIMO Turbo Equalization 9:45 AM
Juha Karjalainen, Kimmo Kansanen, Nenad Veselinovic, Tad Matsumoto, University of Oulu

BREAK 10:10 AM

TA7-5 Hybrid Hard/Soft Interference Cancellation Based on List Viterbi Decoding 10:30 AM
Wanlun Zhao, Renqiu Wang, University of Minnesota

TA7-6 Joint Maximum Likelihood Estimation of Angular and Time-Delay MIMO Propagation Parameters 10:55 AM
Cassio Ribeiro, Andreas Richter, Visa Koivunen, Helsinki University of Technology

TA7-7 FIM Regularity for Gaussian Semi-Blind MIMO FIR Channel Estimation 11:20 AM
Aditya Jagannatham, Bhaskar Rao, University of California, San Diego

TA7-8 Non-Coherent Receivers for Space-Time CPM 11:45 AM
Tarkesh Pande, Heon Huh, James V. Krogmeier, Purdue Univeristy

Session TA8a1 Audio, Video, and Image Processing (Poster)

TA8a1-1 Iris Segmentation for Recognition using Local Statistics
Robert Ives, Lauren Kennell, Delores Etter, U.S. Naval Academy

TA8a1-2 Error Protection of Packetized SPIHT Bit Streams for Image Transmission Over Noisy Channels
Y. Sriraja, Tanja Karp, Texas Tech University

TA8a1-3 A Novel Approach to Approximate Kullback-Leibler Distance Rate for Hidden Markov Models
Hongkang Liang, Richard Anderson-Sprecher, Robert Kubichek, University of Wyoming

TA8a1-4 Multi-State Video Coding with Side Information
Sila Ekmekci Flierl, Swiss Federal Institute of Technology (EPFL); Thomas Sikora, Technical University Berlin

TA8a1-5 Improved Bit Allocation for Transform Coding of Images
Patrick Kechichian, Denis Tran, Fabrice Labeau, McGill University

TA8a1-6 A Feature-based Image Normalization Technique for Handling Geometric Distortions
Mohamed Yasein, Panajotis Agathoklis, University of Victoria

TA8a1-7 All in-focus Photo image Creation by Wavelet Transform
Keiichiro Shirai, Masaaki Ikehara, Keio University

TA8a1-8 Sinuoidal Prediction for Waveform Coding
Wai Chu, DoCoMo Communications Labs USA

TA8a1-9 Room Impulse Response Shortening by Channel Shortening Concepts
Markus Kallinger, Alfred Mertins, University of Oldenburg

TA8a1-10 Lossless Adaptive Digital Audio Steganography
Sos Agaian, David Akopian, Sunil D'Souza, University of Texas, San Antonio

TA8a1-11 Multichannel Audio Modeling and Coding Using a Multiband Source/Filter Model
Kiki Karadimou, Athanasios Mouchtaris, Panagiotis Tsakalides, Foundation for Research and Technology-Hellas

TA8a1-12 Quadratic-Inverse Expansion of the Rihaczek DistributionISTRIBUTION
David J. Thomson, Queen's University

Session TA8a2 Communication Systems (Poster)

TA8a2-1 Adaptive Power Allocation in MIMO-OFDM WLANs with Stochastic Channel Estimates
Irtiza Zaidi, Vikram Krishnamurthy, University of British Columbia

TA8a2-2 An Expand Search Strategy for DSSS Systems based on a Phase Estimator
Jiachi Wang, Huazhong University of Science and Technology

TA8a2-3 Low-Rank Multistage MMSE Receiver for MIMO DS-CDMA in Multipath
Sheng-Fu Wang, Chia-Chang Hu, National Chung Cheng University

TA8a2-4 Joint Blind Timing and Frequency Offset Estimation for MIMO-OFDM Systems over Spatially Correlated Fading Channels
Ronghong Mo, National University of Singapore

TA8a2-5 Systems with Constant Group Delay and Symmetric Impulse Response (CGDSIR)
David Baez-Lopez, Edgar Garcia-Trevio, Universidad de las Americas

TA8a2-6 On the Efficient Estimation of the Frequency-Offset of a Noisy Sinusoid
Shawn Hineline, Joseph Thomas, University of Maryland

TA8a2-7 Multitaper Wigner-Ville Spectrum for detecting dispersive signals from earthquake records
Germn A. Prieto, Frank Vernon, University of California, San Diego; David J. Thomson, Queen's University

TA8a2-8 Maximum Likelihood Restoration of Missing Samples in Sinusoidal Data
Theagenis Abatzoglou, Raytheon

TA8a2-9 A Canonical Representation of Negentropy based ICA Algorithm
Malay Gupta, Balu Santhanam, University of New Mexico

TA8a2-10 Distributed Sensor Censoring for Detection in Sensor Networks Under Communication Constraints
Ruixiang Jiang, Ying Lin, Biao Chen, Syracuse University; Bruce Suter, AFRL

TA8a2-11 Event-Region Estimation for Sensor Networks Under the Poisson Regime
Aleksandar Dogandzic, Benhong Zhang, Iowa State University

TA8a2-12 An Analytical Comparison of EXIT and Variance Transfer (VT) Tools for Iterative Decoder Analysis
David Shepherd, Mark Reed, Matt Ruan, Zhenning Shi, NICTA/ANU

TA8a2-13 Frequency-Domain Differential Modulation for Space-Time-Frequency Coded OFDM
Hongbin Li, Stevens Institute of Technology

TA8a2-14 Improved Performance OFDM Exploiting Polarization
Shahriar Emami, Tino Corral, Gregg Rasor, Freescale Semiconductor, Inc.

Session TA8b Power Efficient Communication (Poster)

TA8b-1 Measurement and Analyze of UWB Channel temporal Dispersion
Fabrcio Barros, Robson Vieira, Glucio Siqueira, Pontifical Catholic University of Rio de Janeiro

TA8b-2 Capacity of UWB M-ary 2-Orthogonal PPM Signals in AWGN and Multipath Channels
Fernando Ramirez-Mireles, Instituto Tecnologico Autonomo de Mexico (ITAM)

TA8b-3 Ultra-Wide Band Impulse Radio (UWB-IR) with SuperOrthogonal Turbo Codes (SOTC)
Usman Riaz, C.-C. Jay Kuo, University of Southern California

TA8b-4 A Fast Maximum Likely-hood DS-UWB Equalizer
Mohamed Kamoun, Laurent Mazet, Marc De Courville, Motorola; Pierre Duhamel, LSS/Supelec

TA8b-5 High-Throughput and Low-Power Architectures for Reed Solomon Decoder
Akash Kumar, Eindhoven University of Technology; Sergei Sawitzki, Philips Research Laboratories

TA8b-6 Comparison of Optimal (BCJR) and Suboptimal Detection on Fractionally-Sampled Data
Todd Moon, Jacob Gunther, Nisha Champanerias, Utah State University

TA8b-7 Signal Interception in Multiuser Tomlinson-Harashima Precoding
Frederick Lee, Oghenekome Oteri, Majid Emami, Stanford University

TA8b-8 Blind Joint Estimation of Channel and Direction of Arrival using Antenna Arrays in DS-CDMA Systems
Rodrigo de Lamare, Raimundo Sampaio-Neto, Pontifical Catholic University of Rio de Janeiro

TA8b-9 Improved PARAFAC based Blind MIMO system estimation
Yuanning Yu, Athina Petropulu, Drexel University

TA8b-10 Beamforming for Space-Time Coded IEEE 802.11n System with Known Fading Correlations
Huaning Niu, Chiu Ngo, Samsung Electronics

TA8b-11 Second-Order Statistics Based Minimal Transmit Redundancy Space-Time FIR Precoder-Blind Equalizer
Carrson Fung, Man-Wai Kwan, Chi-Wah Kok, Hong Kong University of Science and Technology

TA8b-12 Higher-Order Statistics Based Iterative Space-Time FIR Precoder-Blind Equalizer
Ning Yao, Man-Wai Kwan, Carrson Fung, Chi-Wah Kok, Hong Kong University of Science and Technology

TA8b-13 Distributed Canonical Correlations for Estimation with Reduced-Dimensionality Sensor Observations

Session TP1 Relay Channels

TP1-1 On the Simple Relay Channel 1:30 PM
Phani Vajapeyazula, Mahesh Varanasi, University of Colorado Boulder

TP1-2 Optimal power allocation for parallel regenerative two-relayed wireless transmission 1:55 PM
Ilhem Ouachani, Laboratoire des Signaux et Systemes - CNRS-France

TP1-3 On Superposition Coding Based Cooperative Diversity Schemes 2:20 PM
Shuangqing Wei, Anil Goparaju, Louisiana State University; YouJian Liu, University of Colorado

TP1-4 Efficient Demodulation in Cooperative Schemes Using Decode-and-Forward Relays 2:45 PM
Tairan Wang, University of Minnesota; Alfonso Cano Pleite, Rey Juan Carlos University

BREAK 3:10 PM

TP1-5 Multi-Source Cooperative Networks with Distributed Convolutional Coding 3:30 PM
Renqiu Wang, Wanlun Zhao, Georgios B. Giannakis, University of Minnesota

TP1-6 The Performance of Space-Time Coded Cooperative Diversity in a Cellular Uplink 3:55 PM
Daryl Reynolds, Kanchan Vardhe, West Virginia University

TP1-7 Opportunistic Cooperations: A New Communication Approach for MANETs 4:20 PM
Renato M. de Moraes, Hamid Sadjadpour, J. J. Garcia-Luna-Aceves, University of California, Santa Cruz

TP1-8 Spectral Efficient Signaling for Half-duplex Relay Channels 4:45 PM
Boris Rankov, Armin Wittneben, ETH Zurich

TP1-9 Cooperative Distributed Multiuser MMSE Relaying in Wireless Ad-Hoc Networks 5:10 PM
Stefan Berger, Armin Wittneben, ETH Zurich

Session TP2 Synchronization

TP2-1 Synchronization of Multiple Ultra-Wideband Piconets 1:30 PM
Xiliang Luo, Georgios B. Giannakis, University of Minnesota

TP2-2 Synchronization and detection for transmitted reference UWB systems 1:55 PM
Relja Djapic, Geert Leus, Alle-Jan van der Veen, Delft University of Technology

TP2-3 On Subspace-based Blind Channel Estimation Algorithms for SFBC MC-CDMA systems 2:20 PM
Shahrokh Nayeb Nazar, Ioannis Psaromiligkos, McGill University

TP2-4 Fast Acquisition for Transmitted Reference Ultra-Wideband Systems with Channelized Receiver 2:45 PM
Lei Feng, Won Namgoong, University of Southern California

BREAK 3:10 PM

TP2-5 Coarse Acquisition Performance of Spectral-Encoded UWB Communication Systems in the Presence of Narrow-Band Interference 3:30 PM
Claudio da Silva, Laurence Milstein, University of California, San Diego

TP2-6 No information? Delay estimation below the threshold SNR 3:55 PM
Robert Weaver, University of Southern California

TP2-7 Frame Synchronization of Coded Modulations in Channels with Uncertainties 4:20 PM
Heon Huh, Tarkesh Pande, James V. Krogmeier, Purdue Univeristy

TP2-8 A theoretical model of a voltage controlled oscillator 4:45 PM
Yenming Chen, Robert Scholtz, University of Southern California

Session TP3 Applied Signal Processing

TP3-1 High Speed and Low Chip Area Multiplication Using Fast Carry Skip Adder 1:30 PM
Prem Sonkar, R. K. Singh, MNNIT, Allahabad

TP3-2 Blind Correction of Gain and Timing Mismatches for a Two-Channel Time-Interleaved Analog-to-Digital Converter 1:55 PM
Munkyo Seo, Mark Rodwell, Upamanyu Madhow, University of California, Santa Barbara

TP3-3 dynDCT: a dynamically adaptable integer DCT 2:20 PM
Luca Bonardo, Maurizio Martina, Guido Masera, Andrea Molino, Fabrizio Vacca, Politecnico di Torino

TP3-4 Expected-Likelihood vs Maximum-Likelihood Estimation for Adaptive Detection with an Unconditional (Stochastic) Gaussian Interference Model 2:45 PM
Yuri Abramovich, Defence Science and Technology Organisation; Nicholas Spencer, CSSIP; Alexei Gorokhov, Qualcomm Inc

BREAK 3:10 PM

TP3-5 A Subspace Framework for Adaptive Radar Waveform Design 3:30 PM
Benjamin Friedlander, University of California, Santa Cruz

TP3-6 A Novel Algorithm to Identify Air and Sea Targets in Coastal Radars 3:55 PM
Javad Akhlaghi, Mehdi Malboubi, Mohammad Akhavan Saraf, Hamid Mir Mohammad Sadeghi, Information & Communication Technology Institute

TP3-7 Multitaper covariance estimation and spectral denosing 4:20 PM
Nurgun Erdol, Tuncay Gunes, Florida Atlantic University

TP3-8 A Centralized Control Algorithm for Target Tracking with UAVs 4:45 PM
Pengcheng Zhan, David Casbeer, A. Lee Swindlehurst, Brigham Young University

TP3-9 Stochastic Sub-space Identification Methods for Bridges 5:10 PM
Victor DeBrunner, Ping Wang, David Baldwin, Alessio Medda, Hieu Thai, University of Oklahoma

Session TP4 Computer Arithmetic

TP4-1 Representation of unit range numbers 1:30 PM
Tomas Lang, University of California, Irvine; Javier Bruguera, University of Santiago de Compostela

TP4-2 Fast Addition Algorithm: Myth or Reality? 1:55 PM
Vojin Oklobdzija, University of California, Davis

TP4-3 Simple seed architectures for reciprocal and inverse square root 2:20 PM
Milos D. Ercegovac, University of California, Los Angeles; Jean-Michel Muller, Arnaud Tisserand, ENS Lyon

TP4-4 On the Design of an On-line Complex Matrix Inversion Unit 2:45 PM
Robert McIlhenny, California State University, Northridge; Milos D. Ercegovac, University of California, Los Angeles

BREAK 3:10 PM

TP4-5 Truncation Schemes for Recursive Multipliers 3:30 PM
Pedram Mokrian, Kevin Biswas, Huapeng Wu, Majid Ahmadi, University of Windsor

TP4-6 A Small and Fast Leading One Predictor Corrector Circuit 3:55 PM
Chris Hinds, David Lutz, ARM, Inc.

TP4-7 A parameterizable floating-point logarithm operator for FPGA 4:20 PM
Jeremie Detrey, Florent de Dinechin, ENS Lyon

TP4-8 Pipelined carry lookahead adder design in quantum-dot cellular automata 4:45 PM
Heumpil Cho, Earl E. Swartzlander, Jr., University of Texas, Austin

TP4-9 Parallelized very high radix scalable Montgomery multipliers 5:10 PM
Kyle Kelley, David Harris, Harvey Mudd College

Session TP5 Source Coding

TP5-1 Rate-Adaptive Distributed Source Coding using Low-Density Parity-Check Codes 1:30 PM
David Varodayan, Anne Aaron, Bernd Girod, Stanford University

TP5-2 Reverse Engineering Vector Quantizers for Repartitioned Signal Spaces 1:55 PM
Charles Creusere, Srivatsan Kandadai, New Mexico State University

TP5-3 Successive Refinability in the Wyner-Ziv Setting 2:20 PM
Hanying Feng, Stanford University; Qian Zhao, Oracle, Inc.

TP5-4 Secure Arithmetic Coding Using Interval Splitting 2:45 PM
Jiangtao (Gene) Wen, Mobilygen Corporation; Hyungjin Kim, John D. Villasenor, University of California, Los Angeles

BREAK 3:10 PM

TP5-5 On Gauss mixture vector quantizers and Gabor wavelet classifiers for texture classification 3:30 PM
Kyungsuk (Peter) Pyun, Hewlett-Packard Company; Johan Lim, Texas A&M University; Chee Sun Won, Dongguk University; Robert M. Gray, Stanford University

TP5-6 Gauss Mixture Model Clustering for Noisy Images under Rate Constraints 3:55 PM
Kivanc Ozonat, Stanford University

TP5-7 Characterizing and Estimating Block DCT Image Compression Quantization Parameters 4:20 PM
Ramin Samadani, HP Labs

TP5-8 Receiver-Buffer-Driven Layered Quality Adaptation for Multimedia Streaming 4:45 PM
Zhijin Wang, Chi-Wah Kok, Siu-Ping Chan, Hong Kong University of Science and Technology

Session TP6 Space Time Coding

TP6-1 Modified Orthogonal Space-Time Block Codes for Time-Selective Fading Channels 1:30 PM
Gabriel Villardi, Yokohama National University; Giuseppe Abreu, University of Oulu; Ryuji Kohno, Yokohama National University

TP6-2 Space-Frequency Bit-Interleaved Coded Modulation for MIMO-OFDM 1:55 PM
Erik Stauffer, Stanford University; Sumeet Sandhu, David B. Cheung, William Chimitt, Keith Holt, Intel Corporation

TP6-3 Antenna Selection for Space-Time Coded Systems with Imperfect Channel Estimation 2:20 PM
Qian Ma, Cihan Tepedelenlioglu, Arizona State University

TP6-4 Double Space-Time Transmit Diversity with Subgroup Rate Control for UMTS: Throughput Analysis 2:45 PM
Christian Mehlfuehrer, Vienna University of Technology; Christoph Mecklenbraeucker, Telecommunications Research Center Vienna (ftw.); Markus Rupp, Vienna University of Technology

BREAK 3:10 PM

TP6-5 Improved Space-Time Codes with Low-Complexity Decoders 3:30 PM
Xinying Yu, Brian Hughes, North Carolina State University

TP6-6 Unitary Scrambling and Outer Code Design for MIMO Block Fading 3:55 PM
Guosen Yue, NEC Laboratories America, Inc.; Xiaodong Wang, Columbia University

TP6-7 Capacity, BER and Coding Gain Analysis for Rate One QSTBC: A general approach 4:20 PM
Aydin Sezgin, Oliver Henkel, Fraunhofer-Institute for Telecomm., HHI

TP6-8 GABBA Codes: Generalized Full-Rate Orthogonally Decodable Space-Time Block Codes 4:45 PM
Giuseppe Abreu, University of Oulu

Session TP7 Detection and Estimation

TP7-1 Generalization of Widely Linear Filtering Concepts for Equalization and Interference Suppression in PAM/QAM Systems 1:30 PM
Kiran Kuchi, Nokia Research Center; Gian Paolo Mattellini, Nokia, Inc.; V. K. Prabhu, University of Texas, Arlington

TP7-2 Semi-blind channel estimation in HSDPA systems 1:55 PM
Maarit Melvasalo, Visa Koivunen, Helsinki University of Technology

TP7-3 Time Reversal and Zero-Forcing Equalization for Fixed Wireless Access Channels 2:20 PM
Persefoni Kyritsi, Stanford University; Peter Stoica, Uppsala University; George Papanicolaou, Stanford University; Patrick Eggers, Aalborg University; Alex Oprea, Waverider Communications

TP7-4 Robust Range-Rate Estimation of Passive Narrowband Sources in Shallow Water 2:45 PM
Hailiang Tao, Jeffrey L. Krolik, Duke University

BREAK 3:10 PM

TP7-5 Waveform Correlation and Optimization Issues for MIMO Radar 3:30 PM
Keith Forsythe, Dan Bliss, MIT Lincoln Laboratory

TP7-6 The PAMF Detector is a Parametric Rao Test 3:55 PM
Hongbin Li, Kwang June Sohn, Stevens Institute of Technology; Braham Himed, Air Force Research Laboratory

TP7-7 Beamspace Adaptive Channel Compensation for Sensor Arrays with Faulty Elements 4:20 PM
Oguz R. Kazanci, Jeffrey L. Krolik, Duke University

TP7-8 Fixed-Point FastICA Algorithms for the Blind Separation of Complex-Valued Signal Mixtures 4:45 PM
Scott Douglas, Southern Methodist University

TP7-9 A New Blind Adaptive Antenna Array for GNSS Interference Cancellation 5:10 PM
Guillaume Carrie, Francois Vincent, ENSICA; Thierry Deloues, ONERA

Session TP8a Architecture and Implementation (Poster)

TP8a-1 Micro-Coded Programmable Solution for a Class of OFDM Applications
Michael Hennedy, Ahmed Shalash, Analog Devices

TP8a-2 High Speed Bit-Parallel Word-Serial Normal Basis Finite Field Multiplier and Its FPGA Implementation
Ashkan Hosseinzadeh, Huapeng Wu, Majid Ahmadi, University of Windsor

TP8a-3 Novel Rounding Techniques on the NEON Floating-Point Pipeline
David Lutz, Chris Hinds, ARM, Inc.

TP8a-4 Optimization and Quantization Effects for Sine and Cosine Computation Using a Sum of Bit-Products
Oscar Gustafsson, Kenny Johansson, Lars Wanhammar, Linkoping University

TP8a-5 DSP implmentation of a low complexity motion detection algorithm
Paolo Bassignana, Maurizio Martina, Guido Masera, Andrea Molino, Fabrizio Vacca, Politecnico di Torino

TP8a-6 A Configurable Application Specific Processor for Turbo Decoding
Pablo Ituero, Marisa Lopez-Vallejo, Universidad Politecnica de Madrid; Syed Aon Mujtaba, Agere Systems

TP8a-7 Modular Multiplication of Large Integers on FPGA
Rachid Beguenane, Universite du Quebec a Chicoutumi; Jean-Luc Beuchat, Jean-Michel Muller, Projet Arenaire; Stephane Simard, Universite du Quebec a Chicoutumi

TP8a-8 A Combined Interval and Floating-point Reciprocal Unit
Umut Kucukkabak, Ahmet Akkas, Koc University

TP8a-9 Reduced Complexity Deblocking Filter for H.264 Video Coding
Kin-Hung Lam, Brian Evans, University of Texas, Austin

TP8a-10 Fast Rescheduling of Multi-Rate Systems for HW/SW Partitioning Algorithms
Bastian Knerr, Martin Holzer, Markus Rupp, Inst. for Comm. and RF Engineering, TU Vienna

TP8a-11 Superconducting Analog-to-Digital Conversion (ADC) for RF All-Digital Receiver (ADR) Applications
Anna Leese de Escobar, SPAWAR Systems Center San Diego; Shon Sloat, SAIC; Harper Whitehouse, Linear Measurements, Inc

Session TP8b Array Processing and Wireless Communications (Poster)

TP8b-1 Analysis of Fast Localization Algorithms for Acoustical Environments
J. Michael Peterson, Chris Kyriakakis, University of Southern California

TP8b-2 Avoiding Bias in Circular Arrays Using Optimal Beampattern Shaping and EADF
Fabio Belloni, Andreas Richter, Visa Koivunen, Helsinki University of Technology

TP8b-3 High Resolution Full Aperture Processing in Data Limited Scenarios from Synthetically Extrapolating Temporal Data
Claudio Marino, Paul Chau, University of California, San Diego

TP8b-4 A State-space Approach for Localizing Narrowband Sources Based on RELAX Method
Javad Mohammadpour Velni, University of Houston; Kash Khorasani, Concordia University

TP8b-5 Using MIMO to Increase the Range of Wireless Systems
Benjamin Friedlander, University of California, Santa Cruz

TP8b-6 Effects of Mutual Coupling on The Diversity Order of EGT Systems
Ebrahim Karami, Iran Telecommunication Research Center

TP8b-7 Outage probability of EGC under cochannel interferers with arbitrary powers in Rayleigh fading
Juan Romero-Jerez, University of Malaga

TP8b-8 Construction of Space-time Convolutional Codes with High Spectral Efficiency
Christopher Rouchy, Hamid Sadjadpour, University of California, Santa Cruz

TP8b-9 LDPC-based Distributed Space Time Cooperative Systems with Non-regenerative Relays
Bo Dong, Lin Xie, Peiliang Qiu, Zhejiang University; Qinru Qiu, State University of New York at Binghamton

TP8b-10 Downlink Sum-MSE Transceiver Optimization for Linear Multi-User MIMO Systems
Martin Schubert, Shuying Shi, Fraunhofer German-Sino Lab for Mobile Communications; Eduard A. Jorswieck, Fraunhofer Institute for Telecommunications HHI; Holger Boche, Fraunhofer MCI, HHI, TU Berlin

TP8b-11 Unified PARAFAC Modeling for Multidimensional Wireless Communication Systems with Application to Blind Multiuser Equalization
Andre L. F. de Almeida, Gerard Favier, Laboratoire I3S/CNRS/UNSA; Joao Cesar Mota, Wireless Telecom Research Group (GTEL)

TP8b-12 Blind Channel Estimation for MIMO Systems with Structured Transmit Delay Diversity
Qi Ling, Huahui Wang, Tongtong Li, Michigan State University

TP8b-13 Sub-Band Cramer-Rao Bounds for Frequency-Selective Spectral Analysis
Niclas Sandgren, Peter Stoica, Uppsala University

TP8b-14 SCCR LDPC Code for Ordered MIMO-OFDM Channels
Yuan Li, Ying Chang Liang, Sumei Sun, Institute for Infocomm Research; Rui Zhang, Stanford University

Session WA1 OFDM

WA1-1 Mobile Multiuser Access with MAI-free PMU-OFDM Transceiver Design — 8:30 AM
Layla Tadjpour, Shang-Ho Tsai, C.-C. Jay Kuo, University of Southern California

WA1-2 Exact Solution to Adaptive Subcarrier-and-Bit Allocation in Multiclass Multiuser OFDM System — 8:55 AM
Kainan Zhou, National University of Singapore; Yong Huat Chew, Institute for Infocomm Research

WA1-3 Performance Bounds in OFDM Channel Prediction — 9:20 AM
Ian Wong, Brian Evans, University of Texas, Austin

WA1-4 Analysis of Cyclic-Prefix Correlation Statistics and their Use in OFDM Timing and Frequency Synchronization — 9:45 AM
Brian Krongold, University of Melbourne

BREAK — 10:10 AM

WA1-5 Integration of Amplify and Forward Relays in an OFDM network — 10:30 AM
Klaus Doppler, Ari Hottinen, Nokia Research Center

WA1-6 Fast Active Constellation Extension for MIMO-OFDM PAR Reduction — 10:55 AM
Brian Krongold, University of Melbourne; Grace Woo, Douglas Jones, University of Illinois, Urbana-Champaign

WA1-7 An Efficient Timing and Frequency Offset Estimation in OFDM Systems — 11:20 AM
Heon Huh, James V. Krogmeier, Purdue univeristy

WA1-8 OFDM Receiver Design for Active Constellation Extension — 11:45 AM
Thomas Detwiler, Harris Corporation; Douglas Jones, University of Illinois, Urbana-Champaign

Session WA2 MIMO and Multiple Access

WA2-1 Multiuser-MIMO Downlink TX-RX Design Based on SVD Channel Diagonalization and Multiuser Diversity — 8:30 AM
Komi Dawui, Dirk T. M. Slock, Eurecom Institute

WA2-2 Near-capacity MIMO Multiuser Precoding with QRD-M Algorithm — 8:55 AM
Jianzhong (Charlie) Zhang, Kyeong Jin Kim, Nokia Research Center

WA2-3 A Joint Pre-Coding and Scheduling Technique for Multi-User MIMO Systems — 9:20 AM
Feng Teng, Kamran Kiasaleh, University of Texas, Dallas

WA2-4 Multiuser Tomlinson-Harashima Precoding for Frequency Selective MIMO Channels — 9:45 AM
Frederick Lee, Majid Emami, Oghenekome Oteri, Arogyaswami Paulraj, Stanford University

BREAK 10:10 AM

WA2-5 Capacity of Decode-and-forward Cooperative Links with full CSI 10:30 AM
Aitor delCoso, Christian Ibars, Center for Telcomm. Technology of Catalunya (CTTC)

WA2-6 Limits of Multi-User Wireless Systems Using Multiple Antennas, Scheduling and Rate Feedback 10:55 AM
Tharmalingam Ratnarajah, Queen's University of Belfast

WA2-7 On the Sum Rate of Multiple Antenna Broadcast Channels with Channel Imperfectness 11:20 AM
Peilu Ding, David J. Love, Michael D. Zoltowski, Purdue University

WA2-8 Low Complexity Iterative Algorithm for Finding the MIMO-OFDM Broadcast Channel Sum Capacity 11:45 AM
Marian Codreanu, Markku Juntti, Matti Latva-aho, University of Oulu

Session WA3 Multi-Sensor Signal Processing

WA3-1 Distributed Compressed Sensing of Jointly Sparse Signals 8:30 AM
Dror Baron, Marco Duarte, Shriram Sarvotham, Michael Wakin, Richard Baraniuk, Rice University

WA3-2 Acoustic Microsignature Evaluation:New Extraction Concepts 8:55 AM
David Ohm, Vexcel Corporation; S. Lawrence Marple Jr., Oregon State University

WA3-3 Tracking with Sleepy Sensors 9:20 AM
Venugopal Veeravalli, University of Illinois, Urbana-Champaign

WA3-4 Demonstration of Low-Noise Digital Beamforming Architecture Using an Experimental Microwave Digital Array 9:45 AM
Daniel Rabideau, MIT Lincoln Laboratory

BREAK 10:10 AM

WA3-5 Structural Results on Optimal Rate and Number of Clusters in Cluster based Cooperative MIMO Sensor Networks 10:30 AM
Laxminarayana Pillutla, Vikram Krishnamurthy, University of British Columbia

WA3-6 Transform Covariance Differencing Method for Correlated Sources under Unknown Symmetric Toeplitz Noise 10:55 AM
Nizar Tayem, Hyuck Kwon, Wichita State University

WA3-7 Collaborative Self-Localization Techniques for Wireless Image Sensor Networks 11:20 AM
Huang Lee, Hamid Aghajan, Stanford University

WA3-8 Parametric Signal Estimation Using Sensor Networks in the Presence of Node Localization Errors 11:45 AM
Aleksandar Dogandzic, Benhong Zhang, Iowa State University

Session WA4 Wireless Systems

WA4-1 An explicit and unified error probability analysis of two detection schemes for differential unitary space-time modulation 8:30 AM
Haichang Sui, James Zeidler, University of California, San Diego

WA4-2 A Universal Asymptotic Series for Error Rates over Fading Channels 8:55 AM
James Ritcey, University of Washington

WA4-3 Indoor Spatial Correlation Measurements at 2.4 GHz 9:20 AM
Leslie Wood, William Hodgkiss, University of California, San Diego

WA4-4 A Multi-user SC-FDE-MIMO System for Frequency-Selective Channels 9:45 AM
Li Guo, Yih-Fang Huang, University of Notre Dame

BREAK 10:10 AM

WA4-5 Power Control for Multi-antenna Gaussian Channels with Delayed Feedback 10:30 AM
Devdutt Marathe, Srikrishna Bhashyam, Indian Institute of Technology Madras

WA4-6 Efficient Closed-Loop Schemes for MIMO WLAN 10:55 AM
Xiayu Zheng, Yi Jiang, Jian Li, University of Florida

WA4-7 An Unequal Power Allocation Scheme for JPEG Transmission Over MIMO Systems 11:20 AM
Muhammad Sabir, Robert W. Heath, Jr., Alan Bovik, University of Texas, Austin

WA4-8 On the optimal array and signal design in Multiple-Antenna Systems 11:45 AM
Sandeep Krishnamurthy, Brian Hughes, North Carolina State University

Session WA5a Low Power and FPGA

WA5a-1 Low-Power Multipliers with Data Wordlength Reduction 8:30 AM
Kyungtae Han, Brian Evans, Earl E. Swartzlander, Jr., University of Texas, Austin

WA5a-2 Low Power and Low Leakage Implementation of RNS FIR Filters 8:55 AM
Andrea Del Re, Gian Carlo Cardarilli, Marco Re, University of Rome Tor Vergata; Alberto Nannarelli, Technical University, Denmark

WA5a-3 FPGA Implementation of Matrix Inversion Using QRD-RLS Algorithm 9:20 AM
Marjan Karkooti, Joseph R. Cavallaro, Rice University; Chris Dick, Xilinx

WA5a-4 Modeling Heterogeneous DSP-FPGA Based System Partitioning with Extensions to the Spinach Simulation Environment 9:45 AM
Michael Brogioli, Joseph R. Cavallaro, Rice University

Session WA5b Computer Architectures

WA5b-1 Subword permutations with MIX instructions 10:30 AM
Zhijie Shi, University of Connecticut

WA5b-2 How to Optimize the Latency of Itanium FP Division at no extra Cost 10:55 AM
Peter-Michael Seidel, Southern Methodist University

WA5b-3 Adaptive Scheduling of Array-Intensive Applications on Mixed-Mode Reconfigurable Multiprocessors 11:20 AM
Xiaofang Wang, Sotirios Ziavras, New Jersey Institute of Technology

WA5b-4 A Light-Weight Cooperative Multithreading with Hardware Supported Thread-Management on an Embedded Multi-Processor System 11:45 AM
Bo-Cheng Charles Lai, Patrick Schaumont, Ingrid Verbauwhede, University of California, Los Angeles

Session WA6 Image Enhancement and Modeling

WA6-1 Smoothing an Image with Circular Gaussian Filter with Varying Kernel and Varying Standard Error 8:30 AM
Kamal Kant Misra, MNNIT, Allahabad

WA6-2 Halftoning-Inspired Methods for Foveation in Variable-Acuity Superpixel Imager (VASI) Cameras 8:55 AM
Thayne Coffman, Brian Evans, Alan Bovik, University of Texas, Austin

WA6-3 Image Denoising by Adaptive Kernel Regression 9:20 AM
Hiroyuki Takeda, Peyman Milanfar, University of California, Santa Cruz

WA6-4 An Unbiased Homomorphic System to Reduce Speckle in Images 9:45 AM
Debashis Sen, M. N. S. Swamy, M. Omair Ahmad, Concordia University

BREAK 10:10 AM

WA6-5 Hidden Markov Modeling of Noise Periodograms Using Rayleigh Mixture Models 10:30 AM
Karsten Vandborg Sorensen, Soren Vang Andersen, Aalborg University

WA6-6 A Novel Parametric Power Spectral Density Model for Images 10:55 AM
Ryan Prendergast, Truong Nguyen, University of California, San Diego

WA6-7 Bounded-uncertainty estimation for correlated signal and noise 11:20 AM
Dan Lelescu, Frank Bossen, DoCoMo Communications Labs USA

WA6-8 Maximum Likelihood Detection in Image Watermarking Using Generalized Gamma Model 11:45 AM
Tek Ming Ng, Hari Krishna Garg, National University of Singapore

Session WA7 Beamforming and Direction of Arrival Estimation

WA7-1 Self-Orthogonalizing Overlap-Save GSC 8:30 AM
Choo Leng Koh, Stephan Weiss, University of Southampton

WA7-2 Multi-Rank Adaptive Beamforming with Linear and Quadratic Constraints 8:55 AM
Henry Cox, Lockheed Martin-Orincon Defense; Ali Pezeshki, Louis L. Scharf, Colorado State University; Magnus Lundberg, Lulea University of Technology; Hung Lai, Lockheed Martin-Orincon Defense

WA7-3 DOA Estimation for Coherent Sources with Spatial Smoothing without Eigen Decomposition under Unknown Noise Filed 9:20 AM
Nizar Tayem, Hyuck Kwon, Wichita State University

WA7-4 ML Estimation under Misspecified Number of Signals 9:45 AM
Pei-Jung Chung, National Chiao Tung University

BREAK 10:10 AM

WA7-5 Impact of Vector Antennas on Direction Estimation Using a Spherical Array 10:30 AM
Ajith Kamath, Brian Hughes, North Carolina State University

WA7-6 A Fast Beamforming Algorithm for Planar/Volumetric Arrays 10:55 AM
Babafemi Odelowo, Naval Undersea Warfare Center

WA7-7 Asymptotic Mean Squared Error Performance of Diagonally Loaded Capon-MVDR Processor 11:20 AM
Christ Richmond, MIT Lincoln Laboratory; Raj Rao Nadakuditi, Alan Edelman, Massachusetts Institute of Technology

WA7-8 On the probability distribution of the outputs of the diagonally loaded Capon-MVDR processor 11:45 AM
Raj Rao Nadakuditi, Alan Edelman, Massachusetts Institute of Technology

Session WA8 Network Information Theory

WA8-1 Outer Bounds on the Capacity Region of Wireless Networks 8:30 AM
Sahand H. A. Ahmad, Aleksandar Jovicic, Pramod Viswanath, University of Illinois, Urbana-Champaign

WA8-2 An Upper Bound on the Achievable Rates in Multiple Access Channel with Correlated Sources 8:55 AM
Wei Kang, Sennur Ulukus, University of Maryland

WA8-3 The Strong Interference Channel with Common Information 9:20 AM
Ivana Maric, Roy D. Yates, Rutgers University

WA8-4 Cooperation Efficiency in the Low Power Regime 9:45 AM
Zigui Yang, Anders Host-Madsen, University of Hawaii

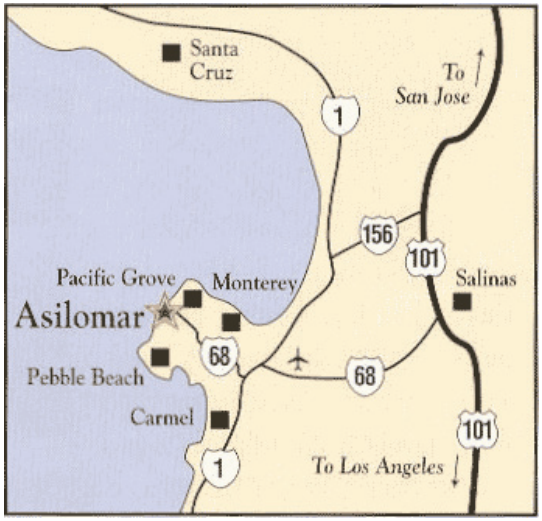
	BREAK	10:10 AM
WA8-5	On Secure Signaling for the Gaussian Multiple Access Channel *Ender Tekin, Aylin Yener, Pennsylvania State University*	10:30 AM
WA8-6	Distributed and Layered Codes for Relaying *Gerhard Kramer, Bell Labs, Lucent Technologies*	10:55 AM
WA8-7	Rateless Slepian-Wolf Codes *Andrew W. Eckford, Wei Yu, University of Toronto*	11:20 AM
WA8-8	On the Computability of Some Information Theoretic Conditions *Sergio D. Servetto, Cornell University*	11:45 AM

Author List

NAME	SESSION
Wang, Zhongfeng	TA4.6
Wanhammar, Lars	TA1.2
Wanhammar, Lars	TP8a.4
Weaver, Robert	TP2.6
Wei, Shuangqing	TP1.3
Weiss, Stephan	TA6.6
Weiss, Stephan	MP8a1.2
Weiss , Stephan	WA7.1
Wen, Jiangtao (Gene)	TP5.4
Whitehouse, Harper	TP8a.11
Wiczanowski, Marcin	MA2b.2
Withers, Lang	MP7.4
Witrisal, Klaus	MP1.6
Wittneben, Armin	TP1.9
Wittneben, Armin	TP1.8
Won, Chee Sun	TP5.5
Wong, Ian	WA1.3
Woo, Grace	WA1.6
Wood, Leslie	WA4.3
Wu, Huapeng	TP8a.2
Wu, Huapeng	TP4.5
Wu, Xiang	TA4.4
Xie, Lin	TP8b.9
Xie, Yao	MP4.6
Xu, Changlong	TA1.7
Xu, Changlong	MP8a2.12
Xu, Luzhou	MP4.6
Xu, Luzhou	MP4.7
Xu, Zhengyuan	MP1.2
Xu, Zhengyuan	MP8a2.5
Yadav, Manoj	TA4.5
Yang, Liuqing	MP1.1
Yang, Zigui	WA8.4
Yao, Ning	TA8b.12
Yasein, Mohamed	TA8a1.6
Yates, Roy D.	WA8.3
Yazici, Birsen	MP4.2
Ye , Yinyu	MP2.6
Yeary, Mark	TA5.6
Yener, Aylin	WA8.5
Yu, Wei	WA8.7
Yu, Xinying	TP6.5
Yu, Yingqun	MP8a2.7
Yu, Yuanning	TA8b.9
Yue, Guosen	TP6.6
Zaidi, Abdellatif	TA2.8
Zaidi, Irtiza	TA8a2.1
Zeidler, James	WA4.1
Zhai, Yan	TA5.6
Zhan, Pengcheng	TP3.8
Zhang, Benhong	TA8a2.11
Zhang, Benhong	WA3.8
Zhang, Jianzhong (Charlie)	WA2.2
Zhang, Liang	MP8b.1
Zhang, Rui	TP8b.14
Zhang, Xi	MP7.6
Zhao, Qian	TP5.3
Zhao, Qing	MP2.2
Zhao, Wanlun	TA7.5
Zhao, Wanlun	TP1.5
Zheng, Xiayu	WA4.6
Zheng, Yibin	MP3.7
Zheng, Yibin	MP4.3
Zhou, Kainan	WA1.2
Zhou, Yugang	MP8b.12
Zhu, Jimmy	TA3a.1
Zhu, Zhenyu	TA2.7
Ziavras, Sotirios	WA5b.3
Zoltowski, Michael D.	WA2.7
Zoltowski, Michael D.	MP7.5
Zoubir, Abdelhak M	TA3b.3

Notes

Notes


Santa Cruz
To San Jose
1
156
101
Salinas
Pacific Grove
Monterey
Asilomar
68
68
Pebble Beach
Carmel
101
1
To Los Angeles