FORTY-EIGHTH ASILOMAR CONFERENCE ON SIGNALS, SYSTEMS AND COMPUTERS

November 2–5, 2014
Asilomar Hotel and
Conference Grounds

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Welcome from the General Chairman

Prof. Roger Woods
Queen's University Belfast, UK

Welcome to the 48th Asilomar Conference on Signals, Systems, and Computers! I have had a long involvement with the Conference since my first publication in 1997 when I was immediately struck by the unique nature of the Asilomar conference environment. The picturesque sand dunes and warm sunshine provide a wonderful backdrop to a conference that allows easy access to, and interaction with key researchers. Understandably, over the years, I have needed little persuasion to attend. There will never be a better opportunity to capture the attention of a key researcher in your area of expertise than at Asilomar!

The technical program was crafted expertly by the Technical Program Chair, Geert Leus, and his team of Technical Area Chairs: Shengli Zhou, Zhengdao Wang, Bhaskar Rao, Michael Rabbat, Zhi Tian, Visa Koivunen, Selin Aviyente, Jorn Janneck, Mohsin Jamali, and Matt McKay. I would like to thank Geert and his team for assembling a high quality program with 439 accepted papers and 164 invited papers. The student paper contest this year has been chaired by Joe Cavallaro and he has selected a total of 11 submissions. The student finalists will present poster presentations to the judges on Sunday afternoon and of course, everyone is welcome to attend. The awards for the top three papers will be made at the plenary session. A key Innovation this year has been to inculcate two major themes, brain machine interface and neural networks, and processing of high dimensional large scale data.

This year's plenary talk will be given by Professor Georgios B. Giannakis, from the University of Minnesota. I am pleased to have such a high profile speaker with a strong background in signal processing across a wide range of applications. Georgios will describe signal processing techniques to handle massive datasets which are noisy, incomplete, vulnerable to cyber-attacks and have outliers. The growth of Big Data represents a major ongoing challenge for humanity. The derivation of suitable data processing techniques is a vital activity and I am especially looking forward to seeing what can be accomplished in this area. Georgios has had a long engagement with the conference having acted as part of the technical committee as early as 1993 and presented his first paper at Asilomar in 1988.

I am privileged to have served as this year's General Chair. I hope that you enjoy the 2014 Conference programme whilst taking some time out to encounter the very special environment and atmosphere that Asilomar has to offer.

Prof. Roger Woods
Queen's University Belfast, UK, June 2014

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2014 Asilomar Conference Session Schedule

Sunday Afternoon, November 2, 2014

3:00–7:00 PM	Registration — Merrill Hall
4:00–6:30 PM	Student Paper Contest — Heather
7:00–9:00 PM	Welcoming Dessert Reception — Merrill Hall

Monday Morning, November 3, 2014

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

10:15 AM–11:55 PM   MORNING SESSIONS
MA1b   Learning and Optimization for Big Data
MA2b   EEG Based Brain Computer Interface
MA3b   Underwater Wireless Networks
MA4b   Physical Layer Security I
MA5b   Image and Video Processing
MA6b   Sparse Estimation and Learning in Multi-Channel and Array Systems
MA7b   Architectures for Detection and Decoding
MA8b1 Synchronization and Channel Estimation (Poster)
MA8b2 Relaying (Poster)
MA8b3 Active Sensing and Target Recognition (Poster)
MA8b4 Physiological Signal Processing (Poster)

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

Monday Afternoon, November 3, 2014

1:30–5:10 PM   AFTERNOON SESSIONS
MP1a   Big Data Analytics
MP1b   Tensor-Based Signal Processing
MP2a   Neural Engineering and Signal Processing
MP2b   Brain Connectomics
MP3a   Compressed Sensing I
MP3b   Compressed Sensing II
MP4a   Underwater Acoustic Communications and Networking
MP4b   Massive MIMO I
MP5a   Smart Grid: Learning and Optimization
MP5b   Image and Video Quality
MP6a   Array Calibration
MP6b   Wireless Localization
MP7a   Resource-aware and Domain-specific Computing
MP7b   Detection and Estimation for Networked Data
MP8a1 Network Resource Allocation and Localization (Poster)
MP8a2 Bioinformatics and Medical Imaging (Poster)
MP8a3 Source Separation and Array Processing (Poster)
MP8a4 Digital Communications (Poster)
MP8a5 Image and Speech Processing (Poster)

Monday Evening, November 3, 2014

6:00–9:30 PM	Conference Cocktail/Social — Merrill Hall The Cocktail/Social takes the place of Monday's dinner. No charge for conference attendees and a guest.

2014 Asilomar Conference Session Schedule
(continued)

Tuesday Morning, November 4, 2014

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

8:15 AM–11:55 PM   MORNING SESSIONS
TA1a   High Dimensional and Large Volume Data
TA1b   Big Data Signal Processing
TA2a   Neural Spike Train Analysis
TA2b   Dynamic Brain Functional Connectivity
TA3a   Distributed Optimization over Networks
TA3b   Latest Coding Advances
TA4a   Enhanced MIMO for LTE-A and 5G Systems
TA4b   Cognitive Radio I
TA5a   Recent Advances in Speech Coding
TA5b   Historic Photographic Paper Identification via Textural Similarity Assessment
TA6a   Compressive Methods in Radar
TA6b   Statistical Inference in Smart Grids
TA7a   Computer Arithmetic I
TA7b   MIMO Sensing
TA8a1 Channel Estimation and MIMO Feedback (Poster)
TA8a2 Image Processing I (Poster)
TA8a3 Signal Processing for Communications (Poster)
TA8a4 Adaptive Filtering (Poster)
TA8b1 Multiuser and Cellular Systems (Poster)
TA8b2 Computer Arithmetic II (Poster)
TA8b3 Array Processing Methods (Poster)
TA8b4 Compressed Sensing III (Poster)

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

Tuesday Afternoon, November 4, 2014

1:30–5:35 PM   AFTERNOON SESSIONS
TP1a   Covariance Mining
TP1b   Large-Scale Learning and Optimization
TP2a   Bioinformatics and DNA Computing
TP2b   Echo Cancellation
TP3a   Machine Learning
TP3b   Sparse Signal Recovery
TP4a   Optical Communications
TP4b   Energy Harvesting Wireless Communications
TP5a   Speech Enhancement
TP5b   Full Duplex MIMO Radio
TP6a   Passive and Multistatic Radars
TP6b   Many-Core Platforms
TP7a   Design Methodologies for Signal Processing
TP7b   Optical Wireless Communications
TP8a1 Cognitive Radio II (Poster)
TP8a2 Signal Processing Methods (Poster)
TP8a3 Image Processing II (Poster)
TP8a4 Sensor and Wireless Networks (Poster)
TP8b1 Topics in Communication Systems (Poster)
TP8b2 Relays, Cognitive, Cooperative, and Heterogeneous Networks (Poster)
TP8b3 Signal Processing Architectures (Poster)
TP8b4 Signal Processing Theory and Applications (Poster)

Tuesday Evening   Open Evening — Enjoy the Monterey Peninsula

2014 Asilomar Conference Session Schedule
(continued)

Wednesday Morning, November 5, 2014

7:30–9:00 AM   Breakfast — Crocker Dining Hall
8:00 AM–12:00 PM   Registration — Copyright forms must be turned in before the registration closes at 12:00 noon.

8:15 AM–11:55 PM   MORNING SESSIONS
WA1a   MIMO Design for mmWave Systems
WA1b   Massive MIMO II
WA2a   5G and Energy Efficient Cellular Networks
WA2b   Mobile Health
WA3a   Sparse Learning and Estimation
WA3b   Advances in Statistical Learning
WA4a   Physical Layer Security II
WA4b   Coding and Decoding
WA5a   Information Processing for Social and Sensor Networks
WA5b   Document Processing and Synchronization
WA6a   Adaptive Signal Design and Analysis
WA6b   Distributed Detection and Optimization
WA7a   Implementation of Sireless Systems
WA7b   Video Coding Architecture and Design

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

Heather - Sunday, November 2, 2014, 4:00–6:30 PM

Track A
"Everlasting Secrecy in Disadvantaged Wireless Environments against Sophisticated Eavesdroppers"
Azadeh Sheikholeslami, Dennis Goeckel, Hossein Pishro-nik, UMASS-Amherst, United States

"On Physical Layer Secrecy of Collaborative Compressive Detection"
Bhavya Kailkhura, Thakshila Wimalajeewa, Pramod Varshney, Syracuse University, United States

Track B
"Max-Min Fairness in Compact MU-MIMO Systems: Can the Matching Network Play a Role?"
Yahia Hassan, Armin Wittneben, ETH Zurich, Switzerland

Track C
"On the Convergence Rate of Swap-collide Algorithm for Simple Task Assignment"
Sam Safavi, Usman A. Khan, Tufts University, United States

"Secrecy Outage Analysis of Cognitive Wireless Sensor Networks"
Satyanarayana Vuppala, Jacobs University Bremen, Germany; Weigang Liu, Tharmalingam Ratnarajah, University of Edinburgh, United Kingdom; Giuseppe Abreu, Jacobs University Bremen, Germany

Track D
"Subspace Learning from Extremely Compressed Measurements"
Martin Azizyan, Akshay Krishnamurthy, Aarti Singh, Carnegie Mellon University, United States

"Abstract Algebraic-Geometric Subspace Clustering"
Manolis Tsakiris, Rene Vidal, Johns Hopkins University, United States

Track E
"Calibrating Nested Sensor Arrays with Model Errors"
Keyong Han, Peng Yang, Arye Nehorai, Washington University in St. Louis, United States

Track F
"Whitening 1/f-type Noise in Electroencephalogram Signals for Steady-State Visual Evoked Potential Brain-Computer Interfaces"
Alan Paris, Azadeh Vosoughi, George Atia, University of Central Florida, United States

Track G
"Hybrid Floating-Point Modules with Low Area Overhead on a Fine-Grained Processing Core"
Jon Pimentel, Bevan Baas, University of California, Davis, United States

Track H
"Crowdsourced Study of Subjective Image Quality"
Deepti Ghadiyaram, Alan Bovik, University of Texas at Austin, United States

2014 Asilomar Conference Session Schedule

Coffee breaks will be at 9:55 AM and 3:10 PM. (except Monday morning when refreshments will be served outside Merrill Hall from 9:45–10:15 AM)

Monday, November 3, 2014

CONFERENCE WELCOME AND PLENARY SESSION 8:15–9:45 AM

1. Welcome from the General Chairperson

Prof. Roger Woods
Queen's University of Belfast

2. Session MA1a   Distinguished Lecture for the 2014 Asilomar Conference

Learning Tools for Big Data Analytics

Georgios B. Giannakis
Univ. of Minnesota, USA

Abstract
We live in an era of data deluge. Pervasive sensors collect massive amounts of information on every bit of our lives, churning out enormous streams of raw data in various formats. Mining information from unprecedented volumes of data promises to limit the spread of epidemics and diseases, identify trends in financial markets, learn the dynamics of emergent social-computational systems, and also protect critical infrastructure including the smart grid and the Internet's backbone network. While Big Data can be definitely perceived as a big blessing, big challenges also arise with large-scale datasets. The sheer volume of data makes it often impossible to run analytics using a central processor and storage, and distributed processing with parallelized multi-processors is preferred while the data themselves are stored in the cloud. As many sources continuously generate data in real time, analytics must often be performed "on-the-fly" and without an opportunity to revisit past entries. Due to their disparate origins, massive datasets are noisy, incomplete, prone to outliers, and vulnerable to cyber-attacks. These effects are amplified if the acquisition and transportation cost per datum is driven to a minimum. Overall, Big Data present challenges in which resources such as time, space, and energy, are intertwined in complex ways with data resources. Given these challenges, ample signal processing opportunities arise. This keynote lecture outlines ongoing research in novel models applicable to a wide range of Big Data analytics problems, as well as algorithms to handle the practical challenges, while revealing fundamental limits and insights on the mathematical trade-offs involved.

Biography
Georgios B. Giannakis received his Diploma in Electrical Engineering from the National Technical University of Athens, Greece, 1981. From 1982 to 1986 he was with the University of Southern California, where he received his MSc. in Electrical Engineering (1983), MSc. in Mathematics (1986), and Ph.D. in Electrical Engineering (1986). He became a Fellow of the IEEE in 1997. Since 1999, he has been a Professor with the University of Minnesota where he now holds an ADC Chair in Wireless Telecommunications in the ECE Department, and serves as director of the Digital Technology Center. His general interests span the areas of communications, networking and statistical signal processing – subjects on which he has published more than 370 journal papers, 630 conference papers, 20 book chapters, two edited books and two research monographs (h-index 108). Current research focuses on sparsity and big data analytics, wireless cognitive radios, mobile ad hoc networks, renewable energy, power grid, gene-regulatory, and social networks. He is the (co-) inventor of 22 patents issued, and the (co-) recipient of 8 best paper awards from the IEEE Signal Processing (SP) and Communications Societies, including the G. Marconi Prize Paper Award in Wireless Communications. He also received Technical Achievement Awards from the SP Society (2000), from EURASIP (2005), a Young Faculty Teaching Award, and the G. W. Taylor Award for Distinguished Research from the University of Minnesota. He is a Fellow of EURASIP, and has served the IEEE in a number of posts, including that of a Distinguished Lecturer for the IEEE-SP Society.

**Program of the
2014 Asilomar Conference on
Signals, Systems, and Computers**

**Technical Program Chairman
Prof. Geert Leus
Delft University of Technology**

Session MA1b   Learning and Optimization for Big Data

Co-Chairs: *Konstantinos Slavakis, University of Minnesota and Nicholas D. Sidiropoulos, University of Minnesota*

MA1b-1	FLEXA: A Fast Parallel Algorithm for Big-Data Optimization *Francisco Facchinei, Simone Sagratella, University of Rome, Italy; Gesualdo Scutari, University of Buffalo, the State University of New York, United States*	10:15 AM
MA1b-2	Fast and Robust Bootstrap in Analysing Large Multivariate Datasets *Shahab Basiri, Esa Ollila, Visa Koivunen, Aalto University, Finland*	10:40 AM
MA1b-3	Online Manifold Embedding and Reconstruction Using Dictionary Learning *Konstantinos Slavakis, University of Minnesota, United States*	11:05 AM
MA1b-4	Adaptive Estimation from Big Data via Censored Stochastic Approximation *Dimitrios Berberidis, University of Minnesota, Twin Cities, United States; Gang Wang, Beijing Institute of Technology, China; Georgios Giannakis, Vassilis Kekatos, University of Minnesota, Twin Cities, United States*	11:30 AM

Session MA2b   EEG Based Brain Computer Interface

Chair: *Murat Akcakaya, Northeastern University*

MA2b-1	Decoding the Focus of Auditory Attention from Single-Trial EEG Signals *Lenny Varghese, Inyong Choi, Siddharth Rajaram, Courtney Pacheco, Barbara Shinn-Cunningham, Boston University, United States*	10:15 AM
MA2b-2	Auditory Considerations for a Motor Imagery Brain-Computer Interface for Speech Synthesizer Control *Jonathan Brumberg, Jeremy Burnison, University of Kansas, United States*	10:40 AM
MA2b-3	Single-Trial Identification of Failed Memory Retrieval *Eunho Noh, University of California, San Diego, United States; Matthew Mollison, Tim Curran, University of Colorado Boulder, United States; Virginia de Sa, University of California, San Diego, United States*	11:05 AM
MA2b-4	Utilization of Temporal Trial Dependency in ERP based BCIs *Umut Orhan, CorTech, LLC, United States; Delia Fernandez-Canellas, Universitat Politècnica de Catalunya, Spain; Murat Akcakaya, Dana H. Brooks, Deniz Erdogmus, Northeastern University, United States*	11:30 AM

Session MA3b   Underwater Wireless Networks

Chair: *Milica Stojanovic, Northeastern University*

MA3b-1	On the Feasibility of Fully Wireless Remote Control for ROVs *Federico Favaro, Filippo Campagnaro, Paolo Casari, Michele Zorzi, University of Padova, Italy*	10:15 AM
MA3b-2	Modeling Realistic Underwater Acoustic Networks using Experimental Data *Mandar Chitre, Gabriel Chua, National University of Singapore, Singapore*	10:40 AM
MA3b-3	Scalable Collision-Tolerant Localization in Underwater Acoustic Sensor Networks *Hamid Ramezani, Geert Leus, Technical University of Delft, Netherlands; Milica Stojanovic, Northeastern University, United States*	11:05 AM
MA3b-4	New Frontiers in Underwater Acoustic Communications *Andrew Singer, Thomas Riedl, University of Illinois at Urbana Champaign, United States*	11:30 AM

Session MA4b   Physical Layer Security I

Chair: *Yingbin Liang, Syracuse University*

MA4b-1	On Physical Layer Secrecy of Collaborative Compressive Detection *Bhavya Kailkhura, Thakshila Wimalajeewa, Pramod Varshney, Syracuse University, United States*	10:15 AM
MA4b-2	Converse Results for Secrecy Generation over Channels *Himanshu Tyagi, University of California, San Diego, United States; Shun Watanabe, University of Tokushima, Japan*	10:40 AM
MA4b-3	Robust Transmission over Wiretap Channels with Secret Keys *Rafael F. Schaefer, H. Vincent Poor, Princeton University, United States*	11:05 AM
MA4b-4	Secret Key-Private Key Generation for Multiple Terminals *Huishuai Zhang, Syracuse University, United States; Lifeng Lai, Worcester Polytechnic Institute, United States; Yingbin Liang, Huishuai Zhang, Syracuse University, United States*	11:30 AM

Session MA5b   Image and Video Processing

Chair: *Marios S. Pattichis, University of New Mexico*

MA5b-1	Robust Image Recognition by Multi-Kernel Dictionary Learning *Rituparna Sarkar, Sedat Ozer, Scott Acton, Kevin Skadron, University of Virginia, United States*	10:15 AM

MA5b-2 Robust Dual-Band MWIR/LWIR Infrared 10:40 AM
Target Tracking
Chuong Nguyen, Joseph Havlicek, University of Oklahoma, United States; Guoliang Fan, Oklahoma State University, United States; John Caulfield, Cyan Systems, United States; Marios Pattichis, University of New Mexico, United States

MA5b-3 Crowdsourced Study of Subjective Image 11:05 AM
Quality
Deepti Ghadiyaram, Alan Bovik, University of Texas at Austin, United States

MA5b-4 Detecting Coronal Holes for Solar Activity 11:30 AM
Modeling
Marios Pattichis, University of New Mexico, United States; Rachel Hock, AFRL/RVBXS Space Vehicles Directorate, United States; Venkatesh Jatla, University of New Mexico, United States; Carl Henney, Charles Arge, AFRL/RVBXS Space Vehicles Directorate, United States

Session MA6b Sparse Estimation and Learning in Multi-Channel and Array Systems

Co-Chairs: *Palghat P. Vaidyanathan, California Institute of Technology and Piya Pal, University of Maryland*

MA6b-1 Characterization of Orthogonal Subspaces for 10:15 AM
Alias-Free Reconstruction of Damped Complex
Exponential Modes in Sparse Arrays
Pooria Pakrooh, Ali Pezeshki, Louis L. Scharf, Colorado State University, United States

MA6b-2 Exploiting Sparsity during the detection of 10:40 AM
High-Order QAM Signals in Large Dimension
MIMO Systems
Oleg Tanchuk, Bhaskar Rao, University of California, San Diego, United States

MA6b-3 Structured Sparse Representation with 11:05 AM
Low-Rank Interference
Minh Dao, Yuanming Suo, Sang (Peter) Chin, Trac Tran, Johns Hopkins University, United States

MA6b-4 Grid-Less Algorithms for Identifying More 11:30 AM
Spectral Lines Than Sensors.
Piya Pal, University of Maryland, College Park, United States; P. P. Vaidyanathan, California Institute of Technology, United States

Session MA7b Architectures for Detection and Decoding

Chair: *Joseph R. Cavallaro, Rice University*

MA7b-1 A Reduced-Complexity Iterative Decoding 10:15 AM
Scheme for Quasi-Cyclic Low-Density Parity-
Check Codes
Shu Lin, Keke Liu, Juane Li, University of California, Davis, United States

MA7b-2 Efficient Adaptive List Successive 10:40 AM
Cancellation Decoder for Polar Codes
Chuan Zhang, National Mobile Communications Research Laboratory, China; Zhongfeng Wang, Broadcom Corporation, United States; Xiaohu You, National Mobile Communications Research Laboratory, China

MA7b-3 Decoder Diversity Architectures for Finite 11:05 AM
Alphabet Iterative Decoders for LDPC Codes
Bane Vasic, University of Arizona, United States; David Declercq, Universite de Cergy-Pontoise, France; Shiva Planjery, Codelucida, United States

MA7b-4 Asynchronous Design for Precision-Scaleable 11:30 AM
Energy-Efficient LDPC Decoder
Jingwei Xu, Gwan Choi, Texas A&M university, United States

Session MA8b1 Synchronization and Channel Estimation

Chair: *Shengli Zhou, University of Connecticut*

10:15 AM–11:55 AM

MA8b1-1 Frequency Tracking with Intermittent Wrapped Phase
Measurement Using the Rao-Blackwellized Particle
Filter
Maryam Eslami Rasekh, Upamanyu Madhow, University of California, Santa Barbara, United States; Raghuraman Mudumbai, University of Iowa, United States

MA8b1-2 Improving IEEE 1588v2 Time Synchronization
Performance with Phase Locked Loop
Rico Jahja, Suk-seung Hwang, Goo-Rak Kwon, Jae-young Pyun, Seokjoo Shin, Chosun University, Indonesia

MA8b1-3 Superimposed Pilots based Secure Communications for
Multiple Antenna System
Yejian Chen, Bell Laboratories, Alcatel-Lucent, Germany

MA8b1-4 An Improved ESPRIT-Based Blind CFO Estimation
Algorithm In OFDM Systems
Yen-Chang Pan, See-May Phoong, National Taiwan University, Taiwan; Yuan-Pei Lin, National Chiao Tung University, Taiwan

MA8b1-5 Blind, Low Complexity Estimation of Time and
Frequency Offsets in OFDM Systems
Rohan Ramlall, University of California, Irvine, United States

MA8b1-6 Efficient NLOS Optical Wireless Channel Estimation
based on Sparse Pulse
Xiaoke Zhang, Chen Gong, Zhengyuan Xu, University of Science and Technology of China, China

MA8b1-7 Channel Estimation and Precoder Design for Millimeter-
Wave Communications: The Sparse Way
Philip Schniter, Ohio State University, United States; Akbar Sayeed, Wisconsin, United States

Session MA8b2   Relaying

Chair: *Guiseppe Caire, TU Berlin*

10:15 AM–11:55 AM

MA8b2-1   Performance Analysis of Fixed Gain MIMO AF Relaying with Co-Channel Interferences
Min Lin, Min Li, PLA University of Science and Technology, China; Wei-Ping Zhu, Concordia University, Canada; Kang An, PLA University of Science and Technology, China

MA8b2-2   On Carrier-Cooperation in Parallel Gaussian MIMO Relay Channels with Partial Decode-and-Forward
Christoph Hellings, Wolfgang Utschick, Technische Universität München, Germany

MA8b2-3   Enhanced Relay Cooperation via Rate Splitting
Ivana Maric, Dennis Hui, Ericsson, United States

MA8b2-4   Alternate versus Simultaneous Relaying in MIMO Cellular Relay Networks: A Degrees of Freedom Study
Aya Salah, Amr El-Keyi, Nile University, Egypt; Mohammed Nafie, Cairo University, Egypt

MA8b2-5   Low-Complexity Two-Way AF MIMO Relay Strategy for Wireless Relay Networks
Kanghee Lee, Republic of Korea Air Force, Republic of Korea; Visvakumar Aravinthan, Sunghoon Moon, Wichita State University, United States; Jongbum Ryou, Sungo Kim, Changki Moon, Inha Hyun, Republic of Korea Air Force, Republic of Korea

MA8b2-6   Blind Self-Interference Cancellation for Full-Duplex Relays
Gustavo Gonzalez, Fernando Gregorio, Juan Cousseau, CONICET - Universidad Nacional del Sur, Argentina; Armin Wittneben, ETH Zurich, Switzerland

Session MA8b3   Active Sensing and Target Recognition

Chair: *Mark R. Bell, Purdue University*

10:15 AM–11:55 AM

MA8b3-1   Proximal Constrained Waveform Design Algorithms for Cognitive Radar STAP
Pawan Setlur, Wright State Research Institute, United States; Muralidhar Rangaswamy, Air Force Research Laboratory, United States

MA8b3-2   The Generalized Sinusoidal Frequency Modulated Waveform for High Duty Cycle Active Sonar
David Hague, John Buck, University of Massachusetts Dartmouth, United States

MA8b3-3   Concurrent Exploration of Orthogonal Waveform and Co-Prime Array for Quick and High Resolution Scanning
Shuo Yang, Xin Wang, Xuehong Lin, Stony Brook University, United States

MA8b3-4   On Bayesian Transmit Signal Design using Information Theory
Mir H. Mahmood, NextNav LLC, United States; Mark R. Bell, Purdue University, United States

MA8b3-5   Improved Distributed Automatic Target Recognition Performance by Exploiting Dominant Scatterer Spatial Diversity
John Wilcher, William Melvin, Georgia Tech Research Institute, United States; Aaron Lanterman, Georgia Institute of Technology, United States

MA8b3-6   Semi-Supervised Classification of Terrain Features in Polarimetric SAR Images using H/A/alpha and the General Four-Component Scattering Power Decompositions
Stephen Dauphin, Sandia National Laboratories, United States; Margaret Cheney, Colorado State University, United States; Derek West, Robert Riley, Sandia National Laboratories, United States

MA8b3-7   A Super-Resolving Near-Field Holographic Method for Underwater EM Signature Modeling
Hatim Alqadah, Naval Research Laboratory, United States; Nicolas Valdivia, US Naval Research Laboratory, United States

MA8b3-8   Limitations and Capabilities of the Fractional Spectrogram Analysis Tool for SAR-Based Detection of Multiple Vibrating Targets
Adebello Jelili, Balu Santhanam, Majeed Hayat, University of New Mexico, United States

Session MA8b4   Physiological Signal Processing

Chair: *Alessio Medda, Georgia Tech*

10:15 AM–11:55 AM

MA8b4-1   Sample-Based Cross-Frequency Coupling Analysis with CFAR Detection
Charles Creusere, Nathan McRae, Mark Norman, Philip Davis, New Mexico State University, United States

MA8b4-2   Classification of Human Viewers using SVM
Philip Davis, Charles Creusere, Jim Kroger, New Mexico State University, United States

MA8b4-3   Activity Recognition using Statistical Gait Parameters from a Single Accelerometer
Andrew Vaughan, Alessio Medda, Brian Liu, Shean Phelps, Georgia Tech Research Institute, United States

MA8b4-4   Intra-Patient and Inter-Patient Seizure Prediction from Spatial-Temporal EEG Features
Shuoxin Ma, Daniel Bliss, Arizona State University, United States

MA8b4-5   Effective Connectivity in fMRI from Mutual Prediction Approach
Marisel Villafañe-Delgado, Selin Aviyente, Michigan State University, United States

MA8b4-6 Whitening 1/f-type Noise in Electroencephalogram Signals for Steady-State Visual Evoked Potential Brain-Computer Interfaces
Alan Paris, Azadeh Vosoughi, George Atia, University of Central Florida, United States

MA8b4-7 Adaptive Learning of Behavioral Tasks for Patients with Parkinson's Disease Using Signals from Deep Brain Stimulation
Nazanin Zaker, University of Denver, United States; Arindam Dutta, Alexander Maurer, Arizona State University, United States; Jun Zhang, University of Denver, United States; Sara Hanrahan, Adam Hebb, Colorado Neurological Institute, United States; Narayan Kovvali, Antonia Papandreou-Suppappola, Arizona State University, United States

Session MP1a — Big Data Analytics

Chair: *Ali Tajer, Rensselaer Polytechnic Institute*

MP1a-1	Universal Sequential Outlier Hypothesis Testing *Yun Li, Sirin Nitinawarat, Venugopal Veeravalli, University of Illinois at Urbana-Champaign, United States*	1:30 PM
MP1a-2	Parsimonious Models for Random Variables and Stochastic Processes *Weiyu Xu, University of Iowa, United States*	1:55 PM
MP1a-3	Fundamental Limits on Information-Friction Energy of Big-Data Computing *Majid Mahzoon, Pulkit Grover, Carnegie Mellon University, India*	2:20 PM
MP1a-4	Quickest Search Over Correlated Sequences *Ali Tajer, Wayne State University, United States*	2:45 PM

Session MP1b — Tensor-Based Signal Processing

Chair: *Phillip A. Regalia, NSF*

MP1b-1	Memory-Efficient Parallel Computation of Tensor and Matrix Products for Big Tensor Decomposition *Niranjay Ravindran, Nicholas Sidiropoulos, Shaden Smith, George Karypis, University of Minnesota, United States*	3:30 PM
MP1b-2	Recent Advances on Tensor Models and their Relevance for Multidimensional Data Processing *Salah Bourennane, Julien Marot, Ecole Centrale Marseille - Institut Fresnel, France*	3:55 PM
MP1b-3	Tensor-Based Channel Estimation for Non-Regenerative Two-Way Relaying Networks with Multiple Relays *Jianshu Zhang, Kristina Naskovska, Martin Haardt, Ilmenau University of Technology, Germany*	4:20 PM
MP1b-4	Fast Non-Unitary Simultaneous Diagonalization of Third-Order Tensors *Victor Maurandi, Eric Moreau, University of Toulon, France*	4:45 PM

Session MP2a — Neural Engineering and Signal Processing

Chair: *Ervin Sejdic, University of Pittsburgh*

MP2a-1	Electroencephalography-based Alzheimer's Disease Diagnosis: Where we are at Now and Where we are Heading *Tiago Falk, Institut National de la Recherche Scientifique, Canada*	1:30 PM
MP2a-2	EEG Event Detection Using Big Data *Iyad Obeid, Amir Harati, Joseph Picone, Temple University, United States*	1:55 PM
MP2a-3	A Source Localization Approach to Creating a Neural Interface with the Peripheral Nervous System *Jose Zariffa, Toronto Rehabilitation Institute - University Health Network, Canada*	2:20 PM
MP2a-4	A Picture is Worth a Thousand Words: Some Examples of the Utility of Biomedical Image Processing in Brain Research *Negar Memarian, University of California, Los Angeles, United States*	2:45 PM

Session MP2b — Brain Connectomics

Chair: *Dimitri Van De Ville, EPFL*

MP2b-1	Brain-Network Continua Revealed with Multivariate Performance Metrics. *Stephen Strother, Baycrest and University of Toronto, Canada*	3:30 PM
MP2b-2	Learning with Multi-Site fMRI Graph Data *Gabriel Castrillon, Seyed-Ahmad Ahmadi, Nassir Navab, Technische Universität München, Germany; Jonas Richiardi, Stanford University, United States*	3:55 PM
MP2b-3	Using Computer Vision to Understand Biological Vision *Dmitri Chklovskii, Simons Center for Data Analysis, United States*	4:20 PM
MP2b-4	Dynamic Functional Connectivity: Probing Spontaneous Network Reorganization *Dimitri Van De Ville, Nora Leonardi, École Polytechnique Fédérale de Lausanne / University of Geneva, Switzerland*	4:45 PM

Session MP3a — Compressed Sensing I

Chair: *Aleksandar Dogandzic, Iowa State University*

MP3a-1	Tensor Analytic Methods for Single Pixel Video Compressive Sensing *Zemin Zhang, Shuchin Aeron, Tufts University, United States; Petros Boufounos, Mitsubishi Electric Research Laboratory, United States*	1:30 PM
MP3a-2	On the Applicability of Matrix Completion on MIMO Radars *Shunqiao Sun, Athina Petropulu, Rutgers University, United States*	1:55 PM

MP3a-3 Subspace Learning from Extremely   2:20 PM
Compressed Measurements
Martin Azizyan, Akshay Krishnamurthy, Aarti Singh,
Carnegie Mellon University, United States

MP3a-4 Analysis of Misfocus Effects in Compressive   2:45 PM
Optical Imaging
Wenbing Dang, Ali Pezeshki, Randy Bartels, Colorado
State University, United States

Session MP3b   Compressed Sensing II

Chair: *George Atia, University of Central Florida*

MP3b-1 Filter Design for a Compressive Sensing   3:30 PM
Delay Estimation Framework
Misagh Khayambashi, Lee Swindlehurst, University of
California, Irvine, United States

MP3b-2 Adaptive Sequential Compressive Detection   3:55 PM
Davood Mardani, George Atia, University of Central
Florida, United States

MP3b-3 A Recursive Way for Sparse Reconstruction   4:20 PM
of Parametric Spaces
Oguzhan Teke, Bilkent University, Turkey; Ali Cafer
Gurbuz, TOBB University of Economics and Technology,
Turkey; Orhan Arikan, Bilkent University, Turkey

MP3b-4 Subspace Methods for Recovery of Low Rank   4:45 PM
& Joint Sparse Matrices
Sampurna Biswas, Mathews Jacob, Soura Dasgupta,
University of Iowa, United States

Session MP4a   Underwater Acoustic Communications and Networking

Chair: *Zhaohui Wang, Michigan Technological University*

MP4a-1 Experimental Study of Secret Key Generation   1:30 PM
in Underwater Acoustic Channels
Yi Huang, University of Connecticut, United States;
Lifeng Lai, Worcester Polytechnic Institute, United States;
Shengli Zhou, Zhijie Shi, University of Connecticut,
United States

MP4a-2 Random Linear Packet Coding for Fading   1:55 PM
Channels: Joint Power and Rate Control
Rameez Ahmed, Milica Stojanovic, Northeastern
University, United States

MP4a-3 Underwater Acoustic Communications in   2:20 PM
Great Lakes and in Oceans: What is the Difference?
Wensheng Sun, Mohsen Jamalabdollahi, Zhaohui Wang,
Seyed Zekavat, Michigan Technological University, United
States

MP4a-4 Information-Guided Pilot Insertion for   2:45 PM
Capacity Improvement in OFDM Underwater
Acoustic Communications
Xilin Cheng, Colorado State University, United States;
Miaowen Wen, Xiang Cheng, Peking University, China;
Liuqing Yang, Colorado State University, United States

Session MP4b   Massive MIMO I

Chair: *Erik Larsson, Linköping University*

MP4b-1 Jsdm and Multi-Cell Networks: Handling   3:30 PM
Inter-Cell Interference Through Long-Term Antenna
Statistics
Ansuman Adhikary, University of Southern California,
United States; Giuseppe Caire, Technical University
Berlin, Germany

MP4b-2 Enabling Massive MIMO Systems in the   3:55 PM
FDD Mode thanks to D2D Communications
Haifan Yin, Laura Cottatellucci, David Gesbert, Eurecom,
France

MP4b-3 Massive MIMO As a Cyber-Weapon   4:20 PM
Erik G. Larsson, Linkoping University, Sweden; Marcus
Karlsson, Linköping University, Sweden

MP4b-4 Large Antenna Array and Propagation   4:45 PM
Environment Interaction
Xiang Gao, Meifang Zhu, Fredrik Rusek, Fredrik
Tufvesson, Ove Edfors, Lund University, Sweden

Session MP5a   Smart Grid: Learning and Optimization

Chair: *Gonzalo Mateos, University of Minnesota*

MP5a-1 Dynamic Attacks on Power Systems   1:30 PM
Economic Dispatch
Jinsub Kim, Lang Tong, Robert Thomas, Cornell
University, United States

MP5a-2 Line Outage Detection in Power Transmission   1:55 PM
Networks Via Message Passing Algorithms
Jianshu Chen, University of California, Los Angeles,
United States; Yue Zhao, Andrea Goldsmith, Stanford
University, United States; H. Vincent Poor, Princeton
University, United States

MP5a-3 Online Learning Approaches for Dynamic   2:20 PM
Optimal Power Flow
Seung-Jun Kim, Georgios Giannakis, University of
Minnesota, United States

MP5a-4 Decentralized Primary Frequency Control in   2:45 PM
Power Networks
Changhong Zhao, Steven Low, California Institute of
Technology, United States

Session MP5b   Image and Video Quality

Chair: *Pamela C. Cosman, University of California, San Diego*

MP5b-1 Image Assisted Upsampling of Depth Map via   3:30 PM
Nonlocal Similarity
Wentian Zhou, Xin Li, Daryl Reynolds, West Virginia
University, United States

MP5b-2   Joint Source-Channel Rate-Distortion   3:55 PM
Optimization with Motion Information Sharing for
H.264/AVC Video-Plus-Depth Coding
*Yueh-Lun Chang, University of California, San Diego,
United States; Yuan Zhang, Communication University of
China, China; Pamela Cosman, University of California,
San Diego, United States*

MP5b-3   Real-Time 3D Rotation Smoothing for Video   4:20 PM
Stabilization
*Chao Jia, Zeina Sinno, Brian Evans, University of Texas at
Austin, United States*

MP5b-4   Video De-Interlacing Using Asymmetric   4:45 PM
Nonlocal-Means Filtering
*Roozbeh Dehghannasiri, Texas A&M University, United
States*

Session MP6a   Array Calibration

Chair: *Visa Koivunen, Aalto University*

MP6a-1   Bilinear Compressed Sensing for Array   1:30 PM
Self-Calibration
*Benjamin Friedlander, University of California, Santa
Cruz, United States; Thomas Strohmer, University of
California, Davis, United States*

MP6a-2   Calibrating Nested Sensor Arrays with Model   1:55 PM
Errors
*Keyong Han, Peng Yang, Arye Nehorai, Washington
University in St. Louis, United States*

MP6a-3   A New Method for DOA Estimation in the   2:20 PM
Presence of Unknown Mutual Coupling of an
Antenna Array
*Eric Wei-Jhong Ding, Borching Su, National Taiwan
University, Taiwan*

MP6a-4   An Angular Sampling Theorem for the Usable   2:45 PM
Frequency Range of Antenna Array Calibration
Measurements
*Chung-Cheng Ho, Scott Douglas, Southern Methodist
University, United States*

Session MP6b   Wireless Localization

Chair: *Petar M. Djuric, Stony Brook University*

MP6b-1   Direct Localization of Emitters Using Widely   3:30 PM
Spaced Sensors in Multipath Environments
*Nil Garcia, New Jersey Institute of Technology, United
States; Marco Lops, Universita degli Studi di Cassino,
Italy; Martial Coulon, University of Toulouse, France;
Alexander Haimovich, New Jersey Institute of Technology,
United States; Jason Dabin, Space and Naval Warfare
Systems Command - Systems Center Pacific, United States*

MP6b-2   Millimeter-Wave Personal Radars for 3D   3:55 PM
Environment Mapping
*Anna Guerra, Francesco Guidi, Davide Dardari,
University of Bologna, Italy*

MP6b-3   Simultaneous Tracking and RSS Model   4:20 PM
Calibration by Robust Filtering
*Juan Manuel Castro-Arvizu, Universitat Politècnica de
Catalunya, Spain; Jordi Vilà-Valls, Pau Closas, Centre
Tecnològic de Telecomunicacions de Catalunya, Spain;
Juan Fernández-Rubio, Universitat Politècnica de
Catalunya, Spain*

MP6b-4   Proximity Detection with RFID in the Internet   4:45 PM
of Things
*Miodrag Bolic, Majed Rostamian, University of Ottawa,
United States; Petar Djuric, Stony Brook University,
United States*

Session MP7a   Resource-aware and Domain-specific Computing

Chair: *Frank Hannig, Friedrich-Alexander University Erlangen-Nurnberg*

MP7a-1   Partial Expansion of Dataflow Graphs for   1:30 PM
Resource-Aware Scheduling of Multicore Signal
Processing Systems
*George Zaki, IGI Technologies, United States; William
Plishker, Shuvra Bhattacharyya, University of Maryland,
College Park, United States; Frank Fruth, Texas
Instruments, United States*

MP7a-2   Performance Analysis of Weakly-Consistent   1:55 PM
Scenario-Aware Dataflow Graphs
*Marc Geilen, TU Eindhoven, Netherlands; Joachim Falk,
University of Erlangen-Nuremberg, Germany; Christian
Haubelt, Universität Rostock, Germany; Twan Basten,
TU Eindhoven, Netherlands; Bart Theelen, TNO-ESI,
Netherlands; Sander Stuijk, TU Eindhoven, Netherlands*

MP7a-3   Application-driven Reconfiguration of Shared   2:20 PM
Resources for Timing Predictability of MPSoC
Platforms
*Deepak Gangadharan, Ericles Sousa, Vahid Lari,
Frank Hannig, Juergen Teich, University of Erlangen-
Nuremberg, Germany*

MP7a-4   Accelerating the Dynamic Time Warping   2:45 PM
Distance Measure using Logarithmic Arithmetic
*Joseph Tarango, University of California, Riverside / Intel,
United States; Eamonn Keogh, Philip Brisk, University of
California, Riverside, United States*

Session MP7b   Detection and Estimation for Networked Data

Chair: *Yue Lu, Harvard University*

MP7b-1   Detecting Convoys in Networks of   3:30 PM
Short-Range Sensors
Sean Lawlor, Michael Rabbat, McGill University, Canada

MP7b-2   Distributed SPRT for Gaussian Binary   3:55 PM
Hypothesis Testing: Performance Analysis and
Fundamental Trade-offs
*Anit Sahu, Soummya Kar, Carnegie Mellon University,
United States*

MP7b-3   Denoising of Network Graphs using Topology   4:20 PM
         Diffusion
         Mohammad Aghagolzadeh, Hayder Radha, Michigan
         State University, United States

MP7b-4   Optimal Hypothesis Testing with   4:45 PM
         Combinatorial Structure: Applications in Graph
         Detection
         Yue M. Lu, Harvard University, United States

Session MP8a1   Network Resource Allocation and Localization

Chair: *Azadeh Vosoughi, University of Central Florida*

1:30 PM–3:10 PM

MP8a1-1   Optimal Scheduling Policies and the Performance of the
          CDF Scheduling
          *PhuongBang Nguyen, Bhaskar Rao, University of
          California, San Diego, United States*

MP8a1-2   Joint Interference and User Association Optimization in
          Cellular Wireless Networks
          *Changkyu Kim, Russell Ford, Sundeep Rangan, New York
          University, Polytechnic School of Engineering, United
          States*

MP8a1-3   Throughput Maximization in Wireless Powered
          Communication Networks with Energy Saving
          *Rui Wang, Donald Brown, Worcester Polytechnic Institute,
          United States*

MP8a1-4   Optimal Flow Bifurcation in Networks with Dual Base
          Station Connectivity and Non-ideal Backhaul
          Amitav Mukherjee, Hitachi America, Ltd., United States

MP8a1-5   Joint Sequential Target State Estimation and Clock
          Synchronization in Wireless Sensor Networks
          *Jichuan Li, Arye Nehorai, Washington University in St.
          Louis, United States*

MP8a1-6   High-Accuracy Vehicle Position Estimation Using a
          Cooperative Algorithm with Anchors and Probe Vehicles
          *Ramez L. Gerges, First Responder System Testbed
          (FiRST), United States; John J. Shynk, University of
          California, Santa Barbara, United States*

MP8a1-7   Statistical Scheduling of Economic Dispatch and
          Energy Reserves of Hybrid Power Systems with High
          Renewable Energy Penetration
          *Yi Gu, Huaiguang Jiang, University of Denver, United
          States; Yingchen Zhang, National Renewable Energy
          Laboratory, United States; David Wenzhong Gao,
          University of Denver, United States*

MP8a1-8   Packet Loss and Route Loss Mitigation for Video in
          Mobile Ad-hoc Networks
          *Yiting Liao, Jerry Gibson, University of California, Santa
          Barbara, United States*

Session MP8a2   Bioinformatics and Medical Imaging

Chair: *George Atia, University of Central Florida*

1:30 PM–3:10 PM

MP8a2-1   Comparison and Integration of Genomic Profiles Predict
          Brain Cancer Survival and Drug Targets
          *Katherine Aiello, Orly Alter, University of Utah, United
          States*

MP8a2-2   Tensor GSVD for Comparison of Two Large-Scale
          Multidimensional Datasets
          *Theodore Schomay, Orly Alter, University of Utah, United
          States*

MP8a2-3   An Efficient ADMM-based Sparse Reconstruction
          Strategy for Multi-Level Sampled MRI
          *Joshua Trzasko, Eric Borisch, Paul Weavers, Armando
          Manduca, Phillip Young, Stephen Riederer, Mayo Clinic,
          United States*

MP8a2-4   Multiscale Functional Networks in Human Resting State
          Functional MRI
          *Jacob Billings, Emory University, United States; Alessio
          Medda, Georgia Tech Research Institute, United States;
          Shella Keilholz, Georgia Institute of Technology / Emory
          University, United States*

MP8a2-5   Piecewise Linear Slope Estimation
          *Atul Ingle, William Sethares, Tomy Varghese, James
          Bucklew, University of Wisconsin-Madison, United States*

MP8a2-6   Fast Magnetic Resonance Parametric Imaging via
          Model-Based Low-Rank Matrix Factorization
          *Parisa Amiri Eliasi, New York University, Polytechnic
          School of Engineering, United States; Li Feng, Ricardo
          Otazo, New York University, School of Medicine, United
          States; Sundeep Rangan, New York University, Polytechnic
          School of Engineering, United States*

MP8a2-7   A Signal Model for Forensic DNA Mixtures
          *Ullrich Mönich, Massachusetts Institute of Technology,
          United States; Catherine Grgicak, Boston University,
          United States; Viveck Cadambe, Yonglin Wu,
          Massachusetts Institute of Technology, United States;
          Genevieve Wellner, Boston University, United States; Ken
          Duffy, National University of Ireland Maynooth, Ireland;
          Muriel Médard, Massachusetts Institute of Technology,
          United States*

Session MP8a3   Source Separation and Array Processing

Chair: *Douglas Cochran, Arizona State University*

1:30 PM–3:10 PM

MP8a3-1   Forward - Backward Greedy Algorithms for Signal
          Demixing
          *Nikhil Rao, Parikshit Shah, Stephen Wright, University of
          Wisconsin, United States*

MP8a3-2 An Extended Family of Bounded Component Analysis Algorithms
Huseyin Atahan Inan, Alper Tunga Erdogan, Koc University, Turkey

MP8a3-3 Source Separation in Noisy and Reverberant Environment using Miniature Microphone Array
Shuo Li, Milutin Stanacevic, Stony Brook University, United States

MP8a3-4 Competitive Algorithm Blending for Enhanced Source Separation
Keith Gilbert, Karen Payton, University of Massachusetts Dartmouth, United States

MP8a3-5 Design of Coprime DFT Arrays and Filter Banks
Chun-Lin Liu, P. P. Vaidyanathan, California Institute of Technology, United States

MP8a3-6 The Differential Geometry of Asymptotically Efficient Subspace Estimation
Thomas Palka, Raytheon, United States; Richard Vaccaro, University of Rhode Island, United States

MP8a3-7 Effects of Network Topology on the Conditional Distributions of Surrogated Generalized Coherence Estimates
Lauren Crider, Douglas Cochran, Arizona State University, United States

MP8a3-8 Maximum Energy Sequential Matrix Diagonalisation for Parahermitian Matrices
Jamie Corr, Keith Thompson, Stephan Weiss, University of Strathclyde, United Kingdom; John McWhirter, Cardiff University, United Kingdom; Ian Proudler, Loughbourgh University, United Kingdom

Session MP8a4   Digital Communications

Chair: *James Glenn-Anderson, Supercomputer Systems Inc.*

1:30 PM–3:10 PM

MP8a4-1 High-throughput DOCSIS Upstream QC-LDPC Decoder
Bei Yin, Michael Wu, Rice University, United States; Christopher Dick, Xilinx Incorporated, United States; Joseph R. Cavallaro, Rice University, United States

MP8a4-2 On the Performance of LDPC and Turbo Decoder Architectures with Unreliable Memories
Joao Andrade, Instituto de Telecomunicações, Universidade de Coimbra, Portugal; Aida Vosoughi, Guohui Wang, Rice University, United States; Georgios Karakonstantis, Andreas Burg, Telecommunication Circuits Lab, EPFL, Switzerland; Gabriel Falcao, Vitor Silva, Instituto de Telecomunicações, Universidade de Coimbra, Portugal; Joseph R. Cavallaro, Rice University, United States

MP8a4-3 Successive Cancellation List Polar Decoder using Log-likelihood Ratios
Bo Yuan, Keshab K. Parhi, University of Minnesota, Twin Cities, United States

MP8a4-4 60 GHz Synthetic Aperture Radar for Short-Range Imaging: Theory and Experiments
Babak Mamandipoor, University of California, Santa Barbara, United States; Greg Malysa, Amin Arbabian, Stanford University, United States; Upamanyu Madhow, University of California, Santa Barbara, United States; Karam Noujeim, Anritsu Co., United States

MP8a4-5 A Systematic Procedure for Deriving Block-Parallel, Power Efficient, Digital Filter Architectures for High-Speed Data Conversion
Paraskevas Argyropoulos, Hanoch Lev-Ari, Northeastern University, United States

MP8a4-6 Distributed Synchronization of a Testbed Network with USRP N200 Radio Boards
Gilberto Berardinelli, Jakob L. Buthler, Fernando M. L. Tavares, Oscar Tonelli, Dereje A. Wassie, Farhood Hakhamaneshi, Troels B. Sørensen, Preben Mogensen, Aalborg University, Denmark

MP8a4-7 Design Study of a Short-Range Airborne UAV Radar for Human Monitoring
Sevgi Zubeyde Gurbuz, TOBB University of Economics and Technology, Turkey; Muhsin Alperen Bolucek, Tunahan Kirilmaz, TUALCOM Communication and RF Technologies, Turkey; Unver Kaynak, TOBB University of Economics and Technology, Turkey

MP8a4-8 Max-Min Fairness in Compact MU-MIMO Systems: Can the Matching Network Play a Role?
Yahia Hassan, Armin Wittneben, ETH Zurich, Switzerland

Session MP8a5   Image and Speech Processing

Chair: *Linda S. DeBrunner, Florida State University*

1:30 PM–3:10 PM

MP8a5-1 Large Margin Nearest Neighborhood Metric Learning for I-Vector Based Speaker Verification
Waquar Ahmad, Harish Karnick, Rajesh M Hegde, Indian Institute of Technology Kanpur, India

MP8a5-2 Acoustic Echo and Noise Cancellation using Kalman Filter in a Modified GSC Framework
Subhash Tanan, Karan Nathwani, Ayush Jain, Rajesh M Hegde, Indian Institute of Technology Kanpur, India; Ruchi Rani, Abhijit Tripathy, Samsung R&D Institute India Delhi, India

MP8a5-3 Paper Texture Classification via Multi-Scale Restricted Boltzman Machines
Arash Sangari, William Sethares, University of Wisconsin-Madison, United States

MP8a5-4 Regularized Logistic Regression Based classification for Infrared Images
Golrokh Mirzaei, Mohsin M. Jamali, University of Toledo, United States; Jeremy Ross, Peter Gorsevski, Verner Bingman, Bowling Green State University, United States

MP8a5-5 Localizing Near and Far Field Acoustic Sources with Distributed Microphone Arrays
Martin Weiss Hansen, Jesper Rindom Jensen, Mads Græsbøll Christensen, Aalborg University, Denmark

MP8a5-6 Graph Wavelet Transform: Application to Image Segmentation
Alp Ozdemir, Selin Aviyente, Michigan State University, United States

MP8a5-7 Histogram Transform Model Using MFCC Features for Text-Independent Speaker Identification
Hong Yu, Zhanyu Ma, Beijing University of Posts and Telecommunications, China; Minyue Li, Jun Guo, Google, Inc., Sweden

Session TA1a   High Dimensional and Large Volume Data

Chair: *Sergiy Vorobyov, Aalto University*

TA1a-1 Tensor Restricted Isometry Property for Multilinear Sparse System of Genomic Interactions   8:15 AM
Alexandra Fry, Carmeliza Navasca, University of Alabama at Birmingham, United States

TA1a-2 Analysis of a Separable STAP Algorithm for Very Large Arrays   8:40 AM
Jie Chen, Feng Jiang, A. Lee Swindlehurst, University of California, Irvine, United States

TA1a-3 Spatial-Temporal Characterization of Synchrophasor Measurement Systems - A Big Data Approach for Smart Grid System Situational Awareness   9:05 AM
Huaiguang Jiang, University of Denver, United States; Lei Huang, Electric Power Research Institute, China Southern Power Grid, China; Jun Zhang, University of Denver, United States; Yingchen Zhang, National Renewable Energy Laboratory, United States; David Wenzhong Gao, University of Denver, United States

TA1a-4 Performance Analysis of the Tucker HOSVD for Extracting Low-Rank Structure from Multiple Signal-Plus-Noise Matrices   9:30 AM
Himanshu Nayar, Rajesh Nadakuditi, University of Michigan, Ann Arbor, United States

Session TA1b   Big Data Signal Processing

Chair: *Georgios B. Giannakis, University of Minnesota*

TA1b-1 A Comparison of Clustering and Missing Data Methods for Health Sciences   10:15 AM
Ran Zhao, Claremont Graduate University, United States; Deanna Needell, Claremont McKenna College, United States; Christopher Johansen, Jerry Grenard, Claremont Graduate University, United States

TA1b-2 Discovery of Principles of Nature from Matrix and Tensor Modeling of Large-Scale Molecular Biological Data   10:40 AM
Orly Alter, University of Utah, United States

TA1b-3 Big Data Clustering Using Random Sampling and Consensus   11:05 AM
Panagiotis Traganitis, Konstantinos Slavakis, Georgios Giannakis, University of Minnesota, United States

TA1b-4 Classification of Streaming Big Data with Misses   11:30 AM
Fatemeh Sheikholeslami, Morteza Mardani, Georgios Giannakis, University of Minnesota, United States

Session TA2a   Neural Spike Train Analysis

Chair: *Rebecca Willett, University of Wisconsin-Madison*

TA2a-1 Neural Spike Train Denoising by Point Process Re-weighted Iterative Smoothing   8:15 AM
Demba Ba, Massachusetts Institute of Technology, United States; Behtash Babadi, University of Maryland, College Park, United States; Emery Brown, Massachusetts Institute of Technology / Harvard University, United States

TA2a-2 Neurally Inspired Objective Function for Subspace Tracking and Online Feature Learning   8:40 AM
Dmitri Chklovskii, Simons Center for Data Analysis, United States

TA2a-3 Tracking Influence in Dynamic Neural Networks   9:05 AM
Rebecca Willett, University of Wisconsin-Madison, United States; Eric Hall, Duke University, United States

TA2a-4 A Design and Implementation Framework for Unsupervised High-resolution Recursive Filters in Neuromotor Prosthesis Applications   9:30 AM
Islam Badreldin, Karim Oweiss, Michigan State University, United States

Session TA2b   Dynamic Brain Functional Connectivity

Chair: *Laleh Najafizadeh, Rutgers University*

TA2b-1 Functional Connectivity Differences in Brain Networks: Contributions of Shared and Unshared Variance   10:15 AM
Michael Cole, Rutgers University, United States; Grega Repovs?, University of Ljubljana, United States; Alan Anticevic, Yale University, United States

TA2b-2 Beyond Brain Maps: Functional Connectivity versus Task-Based Activations in Mental State Prediction   10:40 AM
Irina Rish, IBM T. J. Watson Research Center, United States

TA2b-3 Approaches for Capturing Dynamic Connectivity States in fMRI data   11:05 AM
Vince Calhoun, University of New Mexico, United States

TA2b-4 Characterizing whole Brain Modulatory Interactions in Resting-State   11:30 AM
Bharat Biswal, New Jersey Institute of Technology, United States

Session TA3a Distributed Optimization over Networks

Chair: *Philippe Ciblat, TELECOM ParisTech*

TA3a-1 The ADMM Algorithm for Distributed 8:15 AM
Averaging: Convergence Rates and Optimal
Parameter Selection
*Euhanna Ghadimi, Andr´e Teixeira, Royal Institute of
Technology-KTH, Sweden; Michael Rabbat, McGill
University, Canada; Mikael Johansson, Royal Institute of
Technology-KTH, Sweden*

TA3a-2 Performance Analysis of Multitask Diffusion 8:40 AM
Adaptation Over Asynchronous Networks
*Roula Nassif, Cédric Richard, André Ferrari, Université
de Nice Sophia-Antipolis, France; Ali H. Sayed, University
of California, Los Angeles, France*

TA3a-3 On the Convergence of an Alternating 9:05 AM
Direction Penalty Method for Nonconvex Problems
*Sindri Magnússon, P. Chathuranga Weeraddana, KTH
Royal Institute of Technology, Sweden; Michael Rabbat,
McGill University, Canada; Carlo Fischione, KTH Royal
Institute of Technology, Sweden*

TA3a-4 Decentralized Regression with Asynchronous 9:30 AM
Sub-Nyquist Sampling
*Hoi To Wai, Anna Scaglione, University of California,
Davis, United States*

Session TA3b Latest Coding Advances

Chair: *Hamid Jafarkhani, University of California, Irvine*

TA3b-1 Joint Space-Time Code Designs for Multiple 10:15 AM
Access Channels
*Tianyi Xu, InterDigital Communications, Inc., United
States; Xiang-Gen Xia, University of Delaware, United
States*

TA3b-2 Quantized Distributed Reception Techniques 10:40 AM
for MIMO Wireless Systems
Junil Choi, David Love, Purdue University, United States

TA3b-3 Generalized Spatial Modulation for 11:05 AM
Large-Scale MIMO Systems: Analysis and
Detection
*Theagarajan Lakshmi Narasimhan, Patchava Raviteja,
Ananthanarayanan Chockalingam, Indian Institute of
Science, India*

TA3b-4 Bandwidth Analysis of Low-Complexity 11:30 AM
Decoupling Networks for Multiple Coupled
Antennas
*Ding Nie, Bertrand Hochwald, University of Notre Dame,
United States*

Session TA4a Enhanced MIMO for LTE-A and 5G Systems

Chair: *Amitava Gosh, Nokia Siemens Networks*

TA4a-1 3D Channel Models for Elevation 8:15 AM
Beamforming and FD-MIMO in LTE-A and 5G
*Jianzhong (Charlie) Zhang, Yang Li, Young-Han Nam,
Samsung, United States*

TA4a-2 Advanced Antenna Solutions for 5G Wireless 8:40 AM
Access
*Erik Dahlman, Stefan Parkvall, David Astely, Hugo
Tullberg, Ericsson, Sweden*

TA4a-3 Multi-Layer Precoding for Full-Dimensional 9:05 AM
MIMO Systems
*Ahmed Alkhateeb, University of Texas at Austin, United
States; Geert Leus, Delft University of Technology,
Netherlands; Robert W. Heath Jr., University of Texas at
Austin, United States*

TA4a-4 Massive MIMO for mmWave systems 9:30 AM
*Frederick Vook, Timothy Thomas, Nokia Solutions and
Networks, United States*

Session TA4b Cognitive Radio I

Chair: *Paul de Kerret, Eurecom*

TA4b-1 Statistically Coordinated Precoding for the 10:15 AM
MISO Cognitive Radio Channel
*Paul de Kerret, Miltiades Filippou, David Gesbert,
Eurecom, France*

TA4b-2 Simultaneous Detection and Estimation based 10:40 AM
Spectrum Sharing in Cognitive Radio Networks
*Jyoti Mansukhani, Priyadip Ray, Indian Institute of
Technology Kharagpur, India; Pramod Varshney, Syracuse
University, United States*

TA4b-3 Interference-Temperature Limit for Cognitive 11:05 AM
Radio Networks with MIMO Primary Users
*Cristian Lameiro, University of Cantabria, Spain;
Wolfgang Utschick, Technische Universität München,
Germany; Ignacio Santamaria, University of Cantabria,
Spain*

TA4b-4 Competitive Dynamic Pricing under Demand 11:30 AM
Uncertainty
*Yixuan Zhai, Qing Zhao, University of California, Davis,
United States*

Session TA5a Recent Advances in Speech Coding

Chair: *Tokunbo Ogunfunmi, Santa Clara University*

TA5a-1 The Shannon Backward Channel and Voice 8:15 AM
Codec Design
*Jerry Gibson, University of California, Santa Barbara,
United States*

TA5a-2 Performance Enhanced Scalable Wideband 8:40 AM
Speech Coding for IP Networks
Tokunbo Ogunfunmi, Koji Seto, Santa Clara University, United States

TA5a-3 Adaptive Control of Applying Band-Width 9:05 AM
for Post Filter of Speech Coder Depending on Pitch
Frequency
Hironobu Chiba, Univ. of Tsukuba, Japan; Yutaka Kamamoto, Takehiro Moriya, Noboru Harada, Nippon Telegraph and Telephone Corp., Japan; Shigeki Miyabe, Takeshi Yamada, Shoji Makino, Univ. of Tsukuba, Japan

TA5a-4 Classification of Sonorant Consonants 9:30 AM
Utilizing Empirical Mode Decomposition
Ashkan Ashrafi, San Diego State University, United States; Stanley Wenndt, Air Force Research Laboratory, United States

Session TA5b   Historic Photographic Paper Identification via Textural Similarity Assessment

Co-Chairs: *Andrew G. Klein, Worcester Polytechnic Institute and Patrice Abry, Ecole Superieure de Lyon (CNRS)*

TA5b-1 Automated Surface Texture Classification of 10:15 AM
Photographic Print Media
Paul Messier, Paul Messier LLC, United States; Richard Johnson, Cornell University, United States

TA5b-2 Eigentextures: An SVD Approach to 10:40 AM
Automated Paper Classification
William Sethares, Atul Ingle, Tomas Krc, University of Wisconsin, United States; Sally Wood, Santa Clara University, United States

TA5b-3 Texture Classification via Area-Scale 11:05 AM
Analysis of Raking Light Images
Andrew G. Klein, Western Washington University, United States; Anh Do, Christopher Brown, Worcester Polytechnic Institute, United States; Philip Klausmeyer, WAM, United States

TA5b-4 Hyperbolic Wavelet Transform for Historic 11:30 AM
Photographic Paper Classification Challenge
Stephane Roux, Patrice Abry, ENS Lyon, France; Herwig Wendt, ENSHEEIT-IRIT, France; Stephane Jaffard, Paris Est University, France

Session TA6a   Compressive Methods in Radar

Chair: *Athina Petropulu, Rutgers University*

TA6a-1 Sparse Arrays, MIMO, and Compressive 8:15 AM
Sensing for GMTI Radar
Haley Kim, Alexander Haimovich, New Jersey Institute of Technology, United States

TA6a-2 Efficient Linear Time-Varying System 8:40 AM
Identification Using Chirp Waveforms
Andrew Harms, Duke University, United States; Waheed Bajwa, Rutgers University, United States; Robert Calderbank, Duke University, United States

TA6a-3 Robust Multipath Exploitation Radar Imaging 9:05 AM
in Urban Sensing Based on Bayesian Compressive
Sensing
Qisong Wu, Yimin Zhang, Moeness Amin, Fauzia Ahmad, Villanova University, United States

TA6a-4 Joint Sparse and Low-rank Model for 9:30 AM
Radio-Frequency Interference Suppression in Ultra-
wideband Radar Applications
Lam Nguyen, Army Research Laboratory, United States; Minh Dao, Trac Tran, Johns Hopkins University, United States

Session TA6b   Statistical Inference in Smart Grids

Co-Chairs: *H. Vincent Poor, Princeton University and Yue Zhao, Stanford University*

TA6b-1 Revisiting Cyclo-Stationary Random Signal 10:15 AM
Analysis for Modeling Renewable Power
Masood Parvania, University of California, Davis, United States; Francesco Verde, Universita' Federico II di Napoli, Italy; Anna Scaglione, University of California, Davis, United States; Donatella Darsena, Giacinto Gelli, Universita' Federico II di Napoli, Italy

TA6b-2 Integrating PMU-data-driven and 10:40 AM
Physics-based Analytics for Power Systems
Operations
Yang Chen, Le Xie, P. R. Kumar, Texas A&M University, United States

TA6b-3 Sensor Placement for Real-Time Dynamic 11:05 AM
State Estimation in Power Systems: A Structural
Systems Approach
Pedro Rocha, University of Porto, Portugal; Sergio Pequito, Carnegie Mellon University, United States; Pedro Aguiar, Paula Rocha, University of Porto, Portugal; Soummya Kar, Carnegie Mellon University, United States

TA6b-4 Dynamic Joint Outage Identification and 11:30 AM
State Estimation in Power Systems
Yue Zhao, Stanford University, United States; Jianshu Chen, University of California, Los Angeles, United States; Andrea Goldsmith, Stanford University, United States; H. Vincent Poor, Princeton University, United States

Session TA7a   Computer Arithmetic I

Chair: *Neil Burgess, ARM Inc.*

TA7a-1 Ultra-Light Weight Hardware Accelerator 8:15 AM
Circuits for Data Encryption in Wearable Systems
Sanu Mathew, Sudhir Satpathy, Vikram Suresh, Ram Krishnamurthy, Intel Corporation, United States

TA7a-2	Arithmetic Operations in the Heterogeneous System Architecture	8:40 AM
	Michael Schulte, AMD Research, United States	
TA7a-3	Low Latency is Low Energy	9:05 AM
	David Lutz, Neil Burgess, ARM, United States	
TA7a-4	Optimizing DSP Circuits by a New Family of Arithmetic Operators	9:30 AM
	Javier Hormigo, Julio Villalba, Universidad de Malaga, Spain	

Session TA7b MIMO Sensing

Chair: *Jian Li, University of Florida*

TA7b-1	Bi-Static MIMO Radar Operations for Range-Folded Clutter Mitigation	10:15 AM
	Yuri Abramovich, WR Systems Ltd., United States; Gordon Frazer, DSTO, Australia; Geoffrey San Antonio, Naval Research Laboratory, United States; Ben Johnson, Colorado School of Mines, United States	
TA7b-2	Large Phased Array Antenna Calibration Using Radar Clutter and MIMO	10:40 AM
	Matthew Brown, Mitch Mirkin, Dan Rabideau, MIT Lincoln Laboratory, United States	
TA7b-3	High Resolution Imaging for MIMO Forward Looking Ground Penetrating Radar	11:05 AM
	Jian Li, Ode Ojowu, Luzhou Xu, University of Florida, United States; John Anderson, Howard University, United States; Lam Nguyen, Army Research Laboratory, United States	
TA7b-4	Structure Health Monitoring Exploiting Mimo Ultrasonic Sensing and Group Sparse Bayesian Learning	11:30 AM
	Qisong Wu, Yimin Zhang, Moeness Amin, Andrew Golato, Sridhar Santhanam, Fauzia Ahmad, Villanova University, United States	

Session TA8a1 Channel Estimation and MIMO Feedback

Chair: *Ananthanarayanan Chockalingam, Indian Institute of Science*

8:15 AM–9:55 AM

TA8a1-1	Channel Estimation in Millimeter Wave MIMO Systems with One-Bit Quantization
	Jianhua Mo, University of Texas at Austin, United States; Philip Schniter, Ohio State University, United States; Robert W. Heath Jr., University of Texas at Austin, United States
TA8a1-2	Maximum-Likelihood Joint Channel Estimation and Data Detection for Space Time Block Coded MIMO Systems
	Haider Alshamary, Weiyu Xu, University of Iowa, United States

TA8a1-3	Cramer-Rao Bound for Blind Channel Estimation in Cyclic Prefixed MIMO-OFDM Systems With Few Received Symbols
	Borching Su, Kai-Han Tseng, National Taiwan University, Taiwan
TA8a1-4	Efficient MIMO Sparse Channel Estimation Using LTE Sounding Reference Signal
	Jeng-Kuang Hwang, Jen-Hao Liu, Chien-Min Chen, Chuan-Shun Lin, Yuan Ze University, Taiwan
TA8a1-5	Impact of Received Signal on Self-interference Channel Estimation and Achievable Rates in In-band Full-duplex Transceivers
	Dani Korpi, Lauri Anttila, Mikko Valkama, Tampere University of Technology, Finland
TA8a1-6	MIMO Nullforming with RVQ Limited Feedback and Channel Estimation Errors
	D. Richard Brown III, Worcester Polytechnic Institute, United States; David Love, Purdue University, United States
TA8a1-7	Limited Feedback in OFDM Systems for Combating ISI/ICI Caused by Insufficient Cyclic Prefix Length
	Erich Zoechmann, Stefan Pratschner, Stefan Schwarz, Markus Rupp, Vienna University of Technology, Austria
TA8a1-8	Frugal Channel Tracking for Transmit Beamforming
	Omar Mehanna, Nicholas Sidiropoulos, University of Minnesota, United States

Session TA8a2 Image Processing I

Chair: *Kenneth Jenkins, Pennsylvania State University*

8:15 AM–9:55 AM

TA8a2-1	Second Order Model Deviations of Local Gabor Features for Texture Classification
	David Picard, Inbar Fijalkow, ETIS - UMR 8051 / ENSEA, Université Cergy-Pontoise, CNRS, France
TA8a2-2	Weighted Boundary Matching Error Concealment for HEVC Using Block Partition Decisions
	Yan-Tsung Peng, Pamela Cosman, University of California, San Diego, United States
TA8a2-3	Reducing the Latency and Improving the Resolution of Vector Quantization with Anamorphic Stretch Transform
	Haochen Yuan, Mohammad H. Asghari, Bahram Jalali, University of California, Los Angeles, United States
TA8a2-4	Supervised Facial Recognition based on Multiresolution Analysis with Radon Transform
	Ahmed Aldhahab, George Atia, Wasfy Mikhael, University of Central Florida, United States
TA8a2-5	On Compensating Unknown Pixel Behaviors for Image Sensors with Embedded Processing
	William Guicquero, Michele Benetti, Arnaud Peizerat, Antoine Dupret, Commissariat à l'énergie atomique et aux énergies alternatives, France; Pierre Vandergheynst, École Polytechnique Fédérale de Lausanne, Switzerland

TA8a2-6 Representative Selection for Big Data via Sparse Graph and Geodesic Grassmann Manifold Distance
Chinh Dang, Hayder Radha, Michigan State University, United States

TA8a2-7 A Generic Particle Filtering Approach for Multiple Polyhedral Object Tracking in a Distributed Active Sensor Network
Benoit Fortin, Regis Lherbier, Jea-Charles Noyer, Univ. Littoral Cote d'Opale, France

TA8a2-8 Spatial Domain Synthetic Scene Statistics
Debarati Kundu, Brian Evans, University of Texas at Austin, United States

Session TA8a3 Signal Processing for Communications

Chair: *Bhavya Kailkhura, Syracuse University*

8:15 AM–9:55 AM

TA8a3-1 Energy-Efficient Secure Communications in MISO-SE Systems
Alessio Zappone, Pin-Hsun Lin, Eduard A. Jorswieck, TU Dresden, Germany

TA8a3-2 Distinguishing BFSK from QAM and PSK by Sampling Once per Symbol
Mohammad Bari, Milos Doroslovacki, George Washington University, United States

TA8a3-3 Quadratic Program Solution of Communication Links Under Jamming
Koorosh Firouzbakht, Guevara Noubir, Masoud Salehi, Northeastern University, United States

TA8a3-4 An Iterative Soft Decision Based Adaptive K-best Decoder Without SNR Estimation
Mehnaz Rahman, Ehsan Rohani, Gwan Choi, Texas A&M University, United States

TA8a3-5 MMSE Scaling Enhances Performance in Practical Lattice Codes
Nuwan Ferdinand, University of Oulu, Finland; Matthew Nokleby, Duke University, United States; Brian Kurkoski, Japan Advanced Institute of Science and Technology, Japan; Behnaam Aazhang, Rice University, United States

TA8a3-6 RLS-Based Frequency-domain DFE for Uplink SC-FDMA
Naveed Iqbal, Azzedine Zerguine, King Fahd University of Petroleum and Minerals, Saudi Arabia; Naofal Al-Dhahir, University of Texas at Dallas, United States

TA8a3-7 Reduced-State Cyclic Viterbi Receiver for Localized SC-FDMA Uplink System
Jeng-Kuang Hwang, Jeng-Da Li, Yu-Chang Hsu, Chuan-Shun Lin, Yuan-Ze University, Taiwan

TA8a3-8 Energy Detection Using Very Large Antenna Array Receivers
Alex Oliveras Martinez, Elisabeth De Carvalho, Petar Popovski, Gert Frølund Pedersen, Aalborg University, Denmark

Session TA8a4 Adaptive Filtering

Chair: *Milos Doroslovacki, George Washington University*

8:15 AM–9:55 AM

TA8a4-1 On Component-Wise Conditionally Unbiased Linear Bayesian Estimation
Mario Huemer, Oliver Lang, Johannes Kepler University Linz, Austria

TA8a4-2 Performance of Proportionate-type NLMS Algorithm with Gain Allocation Proportional to the Mean Square Weight Deviation
Kevin Wagner, Naval Research Laboratory, United States; Milos Doroslovacki, George Washington University, United States

TA8a4-3 Predictive Sensor Selection for Navigation in Constrained Environments
Markus Fröhle, Ali A. Zaidi, Erik Ström, Henk Wymeersch, Chalmers University of Technology, Sweden

TA8a4-4 An Efficient Least Mean Squares Algorithm based on q-Gradient
Ubaid Al-Saggaf, Mohammad Moinuddin, King Abdulaziz University, Saudi Arabia; Azzedine Zerguine, King Fahd University of Petroleum and Minerals, Saudi Arabia

TA8a4-5 Optimal Step Size Control for Acoustic Echo Cancellation
Khosrow Lashkari, Seth Suppappola, Cirrus Logic, United States

TA8a4-6 Stochastic Gradient Algorithm Based on an Improved Higher Order Exponentiated Error Cost Function
Umair bin Mansoor, Syed Asad, Azzedine Zerguine, King Fahd University of Petroleum and Minerals, Saudi Arabia

TA8a4-7 Spectral Multiscale Coverage with the Feature Aided CPHD Tracker
Ramona Georgescu, Shuo Zhang, Amit Surana, Alberto Speranzon, Ozgur Erdinc, United Technologies Research Center, United States

TA8a4-8 Adaptive Sampling with Sensor Selection for Target Tracking in Wireless Sensor Networks
Abdulkadir Kose, Engin Masazade, Yeditepe University, Turkey

Session TA8b1 Multiuser and Cellular Systems

Chair: *Rafael F. Schaefer, Princeton University*

10:15 AM–11:55 AM

TA8b1-1 Average Sum MSE Minimization in the Multi-User Downlink With Multiple Power Constraints
Andreas Gründinger, Michael Joham, Technische Universität München, Germany; Jose Pablo Gonzalez Coma, Luis Castedo, University of A Coruna, Spain; Wolfgang Utschick, Technische Universität München, Germany

TA8b1-2 Hierarchical Precoding for Ultra-Dense Heterogeneous Networks
Lars Thiele, Martin Kurras, Fraunhofer Institute for Telecommunications Heinrich Hertz Institute, Germany

TA8b1-3 Detection using Block QR Decomposition for MIMO HetNets
Robin Thomas, Raymond Knopp, Eurecom, France; Sunil (B.T.) Maharaj, University of Pretoria, South Africa

TA8b1-4 On Performance Prediction for Multiuser Detection Enabled Systems in Packet Based Asynchronous Gaussian Multiple Access Channels
Prabahan Basu, MIT Lincoln Laboratory, United States

TA8b1-5 Decentralized Target Rate Optimization for MU-MIMO Leakage Based Precoding
Tim Rüegg, Marc Kuhn, Armin Wittneben, ETH Zurich, Switzerland

TA8b1-6 Leveraging Interference for Increasing Throughput and Reliability of Commercial Wireless Small Cells
Rachel Learned, Michael Pitaro, Matthew Ho, Massachusetts Institute of Technology, United States

TA8b1-7 Throughput Analysis of LTE and WiFi in Unlicensed Band
Abhijeet Bhorkar, Christian Ibars Casas, Pingping Zong, Intel Corporation, United States

TA8b1-8 Multi-User Detection for xDSL with Partial Cooperation Among Multiple Operators
Syed Hassan Raza Naqvi, Umberto Spagnolini, Politecnico di Milano, Italy

Session TA8b2   Computer Arithmetic II

Chair: *Sardar Muhammad Sulaman, Lund University*

10:15 AM–11:55 AM

TA8b2-1 Improved Non-restoring Square Root Algorithm with Dual Path Calculation
Kihwan Jun, Earl Swartzlander, University of Texas at Austin, Republic of Korea

TA8b2-2 Merged Residue Number System Generation
Michael Sullivan, Earl Swartzlander, University of Texas at Austin, United States

TA8b2-3 Partial Product Generation and Addition for Multiplication in FPGAs With 6-Input LUTs
George Walters, Penn State Erie, The Behrend College, United States

TA8b2-4 Low-Power Radix-4 Quotient Generator
Milos Ercegovac, University of California, Los Angeles, United States

TA8b2-5 Memristor Based Adders
Divya Mahajan, Matheen Musaddiq, Earl Swartzlander, University of Texas at Austin, United States

TA8b2-6 Canonic Real-Valued FFT Structures
Megha Parhi, Yingjie Lao, Keshab K. Parhi, University of Minnesota, Twin Cities, United States

TA8b2-7 A High Throughput and Low Power Radix-4 FFT Architecture
Soumak Mookherjee, Linda S. DeBrunner, Victor DeBrunner, Florida State University, United States

TA8b2-8 A Domain Splitting Algorithm for the Mathematical Functions Code Generator
Olga Kupriianova, Christoph Lauter, UPMC, LIP6, PEQUAN team, France

Session TA8b3   Array Processing Methods

Chair: *Piya Pal, University of Maryland*

10:15 AM–11:55 AM

TA8b3-1 Array Self Calibration with Large Initial Errors
Benjamin Friedlander, University of California, Santa Cruz, United States

TA8b3-2 Maximum Likelihood Estimation for Geolocation in the Presence of Multipath
Benjamin Friedlander, University of California, Santa Cruz, United States

TA8b3-3 Enhanced Location Detection Algorithms Based on Time of Arrival Trilateration
Sajina Pradhan, Jae-young Pyun, Goo-Rak Kwon, Seokjoo Shin, Suk-seung Hwang, Chosun University, Republic of Korea

TA8b3-4 Designing Radio Interferometric Positioning Systems for Indoor Localizations in Millimeter Wave Bands
Marie Shinotsuka, Georgia Institute of Technology, United States; Yiyin Wang, Shanghai Jiao Tong University, China; Xiaoli Ma, G. Tong Zhou, Georgia Institute of Technology, United States

TA8b3-5 Indoor Sound Source Localization and Number Estimation Using Infinite Gaussian Mixture Model
Longji Sun, Qi Cheng, Oklahoma State University, United States

TA8b3-6 On the Structural Nature of Cooperation in Distributed Network Localization
Alireza Ghods, Stefano Severi, Giuseppe Abreu, Jacobs University Bremen, Germany; Samuel Van de Velde, Ghent University, Belgium

TA8b3-7 Enabling Distributed Detection with Dependent Sensors
Brian Proulx, Junshan Zhang, Douglas Cochran, Arizona State University, United States

TA8b3-8 Active Sonar Transmission Strategies in the Presence of Strong Direct Blast
Luzhou Xu, Jian Li, Akshay Jain, University of Florida, United States

Session TA8b4   Compressed Sensing III

Chair: *Victor DeBrunner, Florida State University*

10:15 AM–11:55 AM

TA8b4-1   Super-resolution Line Spectrum Estimation with Block Priors
Kumar Vijay Mishra, Myung Cho, Anton Kruger, Weiyu Xu, University of Iowa, United States

TA8b4-2   Robust Line Spectral Estimation
Gongguo Tang, Colorado School of Mines, United States; Parikshit Shah, Badri Bhaskar, University of Wisconsin-Madison, United States; Benjamin Recht, University of California, Berkeley, United States

TA8b4-3   Complexity Reduction in Compressive Sensing using Hirschman Uncertainty Structured Random Matrices
Peng Xi, Victor DeBrunner, Florida State University, United States

TA8b4-4   A Sparse Approach for Estimation of Amplitude Modulated Sinusoids
Stefan Ingi Adalbjörnsson, Johan Swärd, Andreas Jakobsson, Ted Kronvall, Lund University, Sweden

TA8b4-5   Sparsity Order Estimation for Single Snapshot Compressed Sensing
Florian Roemer, Anastasia Lavrenko, Giovanni Del Galdo, Thomas Hotz, Technische Universitaet Ilmenau, Germany; Orhan Arikan, Bilkent University, Turkey; Reiner Thomae, Technische Universitaet Ilmenau, Germany

TA8b4-6   Streaming Signal Recovery Using Sparse Bayesian Learning
Uditha Wijewardhana, Marian Codreanu, Centre for Wireless Communications, Finland

TA8b4-7   Compressed Change Detection for Structural Health Monitoring
Omid Sarayanibafghi, George Atia, Masoud Malekzadeh, Necati Catbas, University of Central Florida, United States

TA8b4-8   A Sparse Semi-Parametric Chirp Estimator
Johan Swärd, Johan Brynolfsson, Andreas Jakobsson, Maria Hansson-Sandsten, Lund University, Sweden

Session TP1a   Covariance Mining

Chair: *Pradeep Ravikumar, University of Texas at Austin*

TP1a-1   Abstract Algebraic-Geometric Subspace Clustering   1:30 PM
Manolis Tsakiris, Rene Vidal, Johns Hopkins University, United States

TP1a-2   Minimum Variance Portfolio Optimization with Robust Shrinkage Covariance Estimation   1:55 PM
Liusha Yang, Hong Kong University of Science and Technology, Hong Kong SAR of China; Romain Couillet, Supelec, France; Matthew McKay, Hong Kong University of Science and Technology, Hong Kong SAR of China

TP1a-3   Greedy Algorithms in Convex Optimization on Banach Spaces   2:20 PM
Vladimir Temlyakov, University of South Carolina, United States

TP1a-4   Greedy Algorithms for Learning Graphical Models   2:45 PM
Ali Jalali, Christopher Johnson, Pradeep Ravikumar, University of Texas at Austin, United States

Session TP1b   Large-Scale Learning and Optimization

Chair: *Alejandro Ribeiro, University of Pennsylvania*

TP1b-1   Distributed Adaptive Sparsity-Imposing Canonical Correlations   3:30 PM
Jia Chen, Ioannis Schizas, University of Texas at Arlington, United States

TP1b-2   Game-Theoretic Learning In A Distributed-Information Setting: Distributed Convergence To Mean-Centric Equilibria   3:55 PM
Brian Swenson, Soummya Kar, Carnegie Mellon University, United States; Joao Xavier, Instituto Superior Tecnico, Portugal

TP1b-3   Network Newton   4:20 PM
Aryan Mokhtari, Alejandro Ribeiro, University of Pennsylvania, United States

TP1b-4   Communication-Computation Tradeoffs in Decentralized Stochastic Optimization   4:45 PM
Konstantinos Tsianos, Michael Rabbat, McGill University, Canada

Session TP2a   Bioinformatics and DNA Computing

Co-Chairs: *Olgica Milenkovic, University of Illinois at Urbana-Champaign and Farzad Farnoud, California Institute of Technology*

TP2a-1   On the Capacity of String-Duplication Systems and Genomic Duplication   1:30 PM
Farzad Farnoud, California Institute of Technology, United States; Moshe Schwartz, Ben-Gurion University of the Negev, Israel; Jehoshua Bruck, California Institute of Technology, United States

TP2a-2   Intrinsic Universality and the Computational Power of Self-Assembly   1:55 PM
Damien Woods, California Institute of Technology, United States

TP2a-3   Hybrid Rank Aggregation for Gene Prioritization   2:20 PM
Minji Kim, Farzad Farnoud, Olgica Milenkovic, University of Illinois at Urbana-Champaign, United States

TP2a-4   Rate-Independent Computation in Chemical Reaction Networks   2:45 PM
David Doty, California Institute of Technology, United States

Session TP2b   Echo Cancellation

Chair: *Steven Grant, Missouri University of Science and Technology*

TP2b-1   Echo Cancellation for Bone Conduction   3:30 PM
Transducers
Mohammad Behgam, Steven L. Grant, Missouri University of Science and Technology, United States

TP2b-2   Uncertainty Modeling in Acoustic Echo   3:55 PM
Control
Gerald Enzner, Rainer Martin, Ruhr-University Bochum, Germany; Peter Vary, RWTH Aachen University, Germany

TP2b-3   A Kalman Filter for Stereophonic Acoustic   4:20 PM
Echo Cancellation
Constantin Paleologu, University Politehnica of Bucharest, Romania; Jacob Benesty, University of Quebec, Canada; Steven L. Grant, Missouri University of Science and Technology, United States; Silviu Ciochina, University Politehnica of Bucharest, Romania

TP2b-4   Study and Design of Differential Microphone   4:45 PM
Array Beamforming
Jingdong Chen, Northwestern Polytechnical University, China; Jacob Benesty, INRS-EMT, University of Quebec, Canada

Session TP3a   Machine Learning

Chair: *Vassilis Kekatos, University of Minnesota*

TP3a-1   Consensus Inference with Multilayer Graphs   1:30 PM
for Multi-modal Data
Karthikeyan Natesan Ramamurthy, IBM T. J. Watson Research Center, United States; Jayaraman J. Thiagarajan, Lawrence Livermore National Laboratory, United States; Rahul Sridhar, Premnishanth Kothandaraman, Ramanathan Nachiappan, SSN College of Engineering, India

TP3a-2   Energy Price Matrix Factorization   1:55 PM
Vassilis Kekatos, University of Minnesota, United States

TP3a-3   A New Reduction Scheme for Gaussian Sum   2:20 PM
Filters
Leila Pishdad, Fabrice Labeau, McGill University, Canada

TP3a-4   Exploring Upper Bounds on the Number of   2:45 PM
Distinguishable Classes
Catherine Keller, MIT Lincoln Laboratory, United States; Gary Whipple, Laboratory for Telecommunication Sciences, United States

Session TP3b   Sparse Signal Recovery

Co-Chairs: *Daniel Palomar, Hong Kong University of Science and Technology and Gonzalo Mateos, University of Rochester*

TP3b-1   Compression Schemes for Time-Varying   3:30 PM
Sparse Signals
Sundeep Prabhakar Chepuri, Geert Leus, Delft University of Technology, Netherlands

TP3b-2   A Fast Algorithm for Sparse Generalized   3:55 PM
Eigenvalue Problem
Junxiao Song, Prabhu Babu, Daniel Palomar, Hong Kong University of Science and Technology, Hong Kong SAR of China

TP3b-3   Bootstrapped Sparse Bayesian Learning for   4:20 PM
Sparse Signal Recovery
Ritwik Giri, Bhaskar Rao, University of California, San Diego, United States

TP3b-4   A Fast Proximal Gradient Algorithm for   4:45 PM
Reconstructing Nonnegative Signals with Sparse
Transform Coefficients
Renliang Gu, Aleksandar Dogandžic, Iowa State University, United States

Session TP4a   Optical Communications

Chair: *Philippe Ciblat, TELECOM ParisTech*

TP4a-1   Fifth-Order Volterra Series Based Nonlinear   1:30 PM
Equalizer for Long-Haul High Data Rate Optical
Fiber Communications
Abdelkerim Amari, Philippe Ciblat, Yves Jaouen, Telecom ParisTech, France

TP4a-2   Improving the Ultraviolet Scattering Channel   1:55 PM
Via Beam Reshaping
Difan Zou, Shang-Bin Li, Zhengyuan Xu, School of Information Science and Technology, and Optical Wireless Communication and Network Center, China

TP4a-3   Correlation Study on the SIMO Channel   2:20 PM
Output of NLOS Optical Wireless Communications
Boyang Huang, Chen Gong, Zhengyuan Xu, University of Science and Technology of China, China

TP4a-4   An Improved Performance Decoding   2:45 PM
Technique for Asymmetrically and Symmetrically
Clipped Optical (ASCO)-OFDM
Nan Wu, Yeheskel Bar-Ness, New Jersey Institute of Technology, United States

Session TP4b   Energy Harvesting Wireless Communications

Chair: *Sennur Ulukus, University of Maryland*

TP4b-1   On the Capacity of the Energy Harvesting   3:30 PM
Channel with Energy Transfer
Aylin Yener, Pennsylvania State University, United States

TP4b-2   Renewables Powered Mobile Cloud   3:55 PM
Offloading
Kaibin Huang, University of Hong Kong, Hong Kong SAR of China

TP4b-3   Sum-rate Analysis for Systems with Wireless   4:20 PM
Energy Transfer
Rania Morsi, Derrick Wing Kwan Ng, Robert Schober, Friedrich-Alexander University of Erlangen-Nuremberg, Germany

| TP4b-4 | Network Information and Energy Flow | 4:45 PM |

Sennur Ulukus, University of Maryland, United States

Session TP5a   Speech Enhancement

Chair: *Wei-Ping Zhu, Concordia University*

| TP5a-1 | Noise Power Spectral Density Matrix Estimation Based on Improved IMCRA | 1:30 PM |

Qipeng Gong, Benoit Champagne, Peter Kabal, McGill University, Canada

| TP5a-2 | BI-CosampSE: Block Identification based Compressive Sampling Matching Pursuit for Speech Enhancement | 1:55 PM |

Dalei Wu, Nanjing University of Posts and Telecommunications, China; Wei-Ping Zhu, M.N.S. Swamy, Concordia university, Canada

| TP5a-3 | Pitch Estimation for Non-Stationary Speech | 2:20 PM |

Mads Græsbøll Christensen, Jesper Rindom Jensen, Aalborg University, Denmark

| TP5a-4 | Estimating the Noncircularity of Latent Components within Complex-Valued Subband Mixtures with Applications to Speech Processing | 2:45 PM |

Greg Okopal, Scott Wisdom, Les Atlas, University of Washington, United States

Session TP5b   Full Duplex MIMO Radio

Chair: *Yingbo Hua, University of California, Riverside*

| TP5b-1 | Non-Linear Distortion Cancellation in Full Digital Domain for Full Duplex Radios | 3:30 PM |

Yang-Seok Choi, Feng Xue, Roya Doostnejad, Shilpa Talwar, Intel Corporation, United States

| TP5b-2 | Blind Digital Tuning for Interference Cancellation in Full-Duplex Radio | 3:55 PM |

Yingbo Hua, University of California, Riverside, United States

| TP5b-3 | On In-Band Full-Duplex MIMO Radios with Transmit and Receive Antenna Reuse | 4:20 PM |

Daniel Bliss, Yu Rong, Arizona State University, United States

| TP5b-4 | MIMO Broadcast Channel with Continuous Feedback using Full-duplex Radios | 4:45 PM |

Xu Du, Rice University, United States; Christopher Dick, Xilinx Incorporated, United States; Ashutosh Sabharwal, Rice University, United States

Session TP6a   Passive and Multistatic Radars

Chair: *Muralidhar Rangaswamy, Air Force Research Labs*

| TP6a-1 | Passive Multistatic Radar Based on Long-term Evolution Signals | 1:30 PM |

Sandeep Gogineni, Wright State Research Institute, United States; Muralidhar Rangaswamy, Wright Patterson Air Force Base - AFRL, United States; Arye Nehorai, Washington University in St. Louis, United States

| TP6a-2 | A Correlation-Based Signal Detection Algorithm in Passive Radar with DVB-T2 Emitter | 1:55 PM |

Guolong Cui, Hongbin Li, Stevens Institute of Technology, United States; Braham Himed, Air Force Research Laboratory, United States

| TP6a-3 | Improving Multistatic MIMO Radar Performance in Data-Limited Scenarios | 2:20 PM |

Tariq Qureshi, Muralidhar Rangaswamy, Air Force Research Laboratory, United States; Kristine Bell, Metron Inc., United States

| TP6a-4 | Market based Sensor Mobility Management for Target Localization | 2:45 PM |

Nianxia Cao, Swastik Brahma, Pramod Varshney, Syracuse University, United States

Session TP6b   Many-Core Platforms

Chair: *Mats Brorsson, KTH*

| TP6b-1 | Towards Modeling and Analyzing Performance of LTE Base Station Software | 3:30 PM |

Konstantin Popov, SICS, Sweden; Mats Brorsson, KTH Royal Institute of Technology, Sweden

| TP6b-2 | REPLICA T7-16-128 - A 2048-threaded 16-core 7-FU Chained VLIW Chip Multiprocessor | 3:55 PM |

Martti Forsell, Jussi Roivainen, VTT, Finland

| TP6b-3 | Improving Image Quality by SSIM Based Increase of Run-Length Zeros in GPGPU JPEG Encoding | 4:20 PM |

Stefan Petersson, Håkan Grahn, Blekinge Institute of Technology, Sweden

| TP6b-4 | Kickstarting High-Performing Energy-Efficient Manycore Architectures with Epiphany | 4:45 PM |

Tomas Nordström, Zain ul-Abdin, Halmstad University, Sweden; Andreas Olofsson, Adapteva, United States

Session TP7a   Design Methodologies for Signal Processing

Chair: *Chris Lee, NCKU*

| TP7a-1 | Finding Fast Action Selectors for Dataflow Actors | 1:30 PM |

Gustav Cedersjö, Jörn W. Janneck, Jonas Skeppstedt, Lund University, Sweden

| TP7a-2 | Automatic Generation of Application Specific FPGA Multicore Accelerators | 1:55 PM |

Pascal Schleuniger, Andreas Hindborg, Nicklas Bo Jensen, Maxwell Walter, Laust Brock-Nannestad, Lars Bonnichsen, Christian W. Probst, Sven Karlsson, Technical University of Denmark, Denmark

| TP7a-3 | Dataflow Toolset for Soft-Core Processors on FPGA for Image Processing Applications | 2:20 PM |

Burak Bardak, Fahad Manzoor Siddiqui, Roger Woods, Queen's University Belfast, United Kingdom

| TP7a-4 | An Enhanced and Embedded GNU Radio Flow | 2:45 PM |

Ryan Marlow, Peter Athanas, Virginia Polytechnic Institute and State University, United States

Session TP7b   Optical Wireless Communications

Chair: *Zhengyuan (Daniel) Xu, University of Science and Technology of China*

| TP7b-1 | Multiuser MISO Indoor Visible Light Communications | 3:30 PM |

Jie Lian, Mohammad Noshad, Maite Brandt-Pearce, University of Virginia, United States

| TP7b-2 | Optical Spatial Modulation OFDM using Micro LEDs | 3:55 PM |

Muhammad Ijaz, Dobroslav Tsonev, Abdelhamid Younis, University of Edinburgh, United Kingdom; Jonathan J. D. McKendry, Erdan Gu, Martin Dawson, University of Strathclyde, United Kingdom; Harald Haas, University of Edinburgh, United Kingdom

| TP7b-3 | Adaptation of OFDM under Visible Light Communications and Illumination Constraints | 4:20 PM |

Thomas Little, Hany Elgala, Boston University, United States

| TP7b-4 | Hybrid Dimmable Visible Light -with Infra-Red Optical Wireless Communications | 4:45 PM |

Andrew Burton, Z Ghassemlooy, Edward Bently, Hoa LeMinh, Northumbria University, United Kingdom; S K Laiw, National Taiwan University of Science and Technology, Taiwan; Chung Ghiu Lee, Chosun University, Republic of Korea

Session TP8a1   Cognitive Radio II

Chair: *Priyadip Ray, IIT Kharagpur*

1:30 PM–3:10 PM

TP8a1-1   Characterization of Outage Performance for Cognitive Relay Networks with Mixed Fading
Efthymios Stathakis, Lars K. Rasmussen, Mikael Skoglund, Royal Institute of Technology (KTH), Sweden

TP8a1-2   Restless Multi-Armed Bandits under Time-Varying Activation Constraints
Kobi Cohen, Qing Zhao, Anna Scaglione, University of California, Davis, United States

TP8a1-3   On the Optimal Relay Design for Multi-Antenna Cognitive Two-Way AF Relay Networks
Maksym Girnyk, KTH Royal Institute of Technology, Sweden; Mikko Vehkaperä, Sergiy Vorobyov, Aalto University, Finland

TP8a1-4   Network Aware Spectrum Efficiency Metric for Heterogeneous and Dynamic Radio Environments
Aditya Padaki, Ravi Tandon, Jeffrey Reed, Virginia Polytechnic Institute and State University, United States

TP8a1-5   A Unified Framework for Robust Cooperative Spectrum Sensing
Qi Cheng, Eric Chan-Tin, Oklahoma State University, United States

TP8a1-6   Receiver Configuration and Testbed Development for Underwater Cognitive Channelization
George Sklivanitis, Emrecan Demirors, Stella N. Batalama, Tommaso Melodia, Dimitris A. Pados, State University of New York at Buffalo, United States

TP8a1-7   Estimation of Subspace Occupancy
Kaitlyn Beaudet, Douglas Cochran, Arizona State University, United States

TP8a1-8   Performance Analysis: DF Cognitive Network with Transceiver Imperfections
Dang Khoa Nguyen, Kyushu Institute of Technology, Japan; Tu Thanh Lam, Post and Telecommunications Institute of Technology, Viet Nam; Hiroshi Ochi, Kyushu Institute of Technology, Japan

Session TP8a2   Signal Processing Methods

Chair: *Azadeh Vosoughi, University of Central Florida*

1:30 PM–3:10 PM

TP8a2-1   Blind Equalization Based On Blind Separation with Toeplitz Constraint
Zhengwei Wu, Saleem Kassam, University of Pennsylvania, United States

TP8a2-2   Piecewise-Constant Recovery via Spike-and-Slab Approximate Message-Passing using a Scalarwise Denoiser
Jaewook Kang, Heung-No Lee, Kiseon Kim, Gwangju Institute of Science and Technology (GIST), Republic of Korea

TP8a2-3   Resource Allocation Optimization for Distributed Vector Estimation with Digital Transmission
Alireza Sani, Azadeh Vosoughi, University of Central Florida, United States

TP8a2-4   Exploiting the Cramér-Rao Bound for Optimised Sampling and Quantisation of FRI Signals
Andre Angierski, Volker Kuehn, University of Rostock, Germany

TP8a2-5   Adaptive Waveform for Integrated Detection and Identification of Moving Extended Target
Jo-Yen Nieh, Ric Romero, Naval Postgraduate School, United States

TP8a2-6   Channel Gain Cartography Via Low Rank and Sparsity
Donghoon Lee, Seung-Jun Kim, University of Minnesota, United States

TP8a2-7   Bayesian Cramér-Rao Bound for Distributed Estimation of Correlated Data with Non-linear Observation Model
Mojtaba Shirazi, Azadeh Vosoughi, University of Central Florida, United States

TP8a2-8   Multirate Processing Using Nested Sampling
Peter Vouras, Naval Research Laboratory, United States

Session TP8a3   Image Processing II

Chair: *Jerry D. Gibson, University of California, Santa Barbara*

1:30 PM–3:10 PM

TP8a3-1   Smoothed Rank Approximation Algorithms for Matrix Completion
Mohammed Al-Qizwini, Hayder Radha, Michigan State University, United States

TP8a3-2   Visibility Prediction of Flicker Distortions on Naturalistic Videos
Lark Kwon Choi, Lawrence Cormack, Alan Bovik, University of Texas at Austin, United States

TP8a3-3   Image Compression via Wavelets and Row Compression
Mary HudachekBuswell, Michael Stewart, Saied Belkasim, Georgia State University, United States

TP8a3-4   Low Complexity Dimensionality Reduction for Hyperspectral Images
Seda Senay, Hector Erives, New Mexico Institute of Mining and Technology, United States

TP8a3-5   Improving Image Clustering using Sparse Text and the Wisdom of the Crowds
Anna Ma, Claremont Graduate University, United States; Arjuna Flenner, Naval Air Warfare Center, United States; Deanna Needell, Claremont McKenna College, United States; Allon Percus, Claremont Graduate University, United States

TP8a3-6   Color Image Watermarking Using Quaternion Wavelets
Lahouari Ghouti, King Fahd University of Petroleum and Minerals, Saudi Arabia

TP8a3-7   Immersion Ultrasonic Array Imaging Using a New Array Spatial Signature in Different Imaging Algorithms
Nasim Moallemi, Shahram Shahbazpanahi, University of Ontario Institute of technology, Canada

TP8a3-8   A Proof on the Invariance of the Hirschman Uncertainty to the Rényi Entropy Parameter and an Observation on its Relevance in the Image Texture Classification Problem
Kirandeep Ghuman, Victor DeBrunner, Florida State University, United States

Session TP8a4   Sensor and Wireless Networks

Chair: *Usman Khan, Tufts University*

1:30 PM–3:10 PM

TP8a4-1   Design of Orthogonal Golomb Rulers with Applications in Wireless Localization.
Omotayo Oshiga, Giuseppe Abreu, Jacobs University Bremen, Germany

TP8a4-2   Secrecy Outage Analysis of Cognitive Wireless Sensor Networks
Satyanarayana Vuppala, Jacobs University Bremen, Germany; Weigang Liu, Tharmalingam Ratnarajah, University of Edinburgh, United Kingdom; Giuseppe Abreu, Jacobs University Bremen, Germany

TP8a4-3   On the Convergence Rate of Swap-Collide Algorithm for Simple Task Assignment
Sam Safavi, Usman A. Khan, Tufts University, United States

TP8a4-4   On the Impact of Low-Rank Interference on Distributed Multi-Agent Optimization
Chenguang Xi, Usman A. Khan, Tufts University, United States

TP8a4-5   Multipath-Aided Cooperative Network Localization Using Convex Optimization
Hassan Naseri, Mario Pereira da Costa, Visa Koivunen, Aalto University, Finland

TP8a4-6   Mobile Sensor Mapping via Semi-Definite Programming
Giuseppe Destino, Davide Macagnano, University of Oulu, Finland

TP8a4-7   Indoor Node Localization using Geometric Dilution of Precision in Ad-Hoc Sensor Networks
Sudhir Kumar, Rajesh M. Hegde, Indian Institute of Technology Kanpur, India

TP8a4-8   Efficient Consensus Synchronization via Implicit Acknowledgment
Andrew G. Klein, Western Washington University, United States; D. Richard Brown III, Worcester Polytechnic Institute, United States

Session TP8b1   Topics in Communication Systems

Chair: *Alexios Balatsoukas-Stimming, EPFL*

3:30 PM–5:10 PM

TP8b1-1   Performance Analysis of a MMSE Turbo Equalizer with LDPC in a FTN Channel with Application to Digital Video Broadcast
Ghassan Maalouli, Brian A. Banister, Comtech EF Data, United States

TP8b1-2   Characteristics of Optical Scattering and Turbulence Communication Channels
Weihao Liu, Zhengyuan Xu, University of Science and Technology of China, China

TP8b1-3   Comparison of SNR and Peak-SNR (PSNR) Performance Measures and Signals for Peak-limited Two-Dimensional (2D) Pixelated Optical Wireless Communication
Eyal Katz, Yeheskel Bar-Ness, New Jersey Institute of Technology, United States

TP8b1-4   I.I.D. Stochastic Analysis of PWM Signals
Noyan Sevuktekin, Andrew Singer, University of Illinois at Urbana-Champaign, United States

TP8b1-5   Statistical Data Correction for Unreliable Memories
Christoph Roth, ETH-Zurich, Switzerland; Christoph Studer, Cornell University, United States; Georgios Karakonstantis, Andreas Burg, École Polytechnique Fédérale de Lausanne, Switzerland

TP8b1-6 Sonar Data Compression using Non-Uniform
Quantization and Noise Shaping
*Lok Wong, Gregory Allen, Brian Evans, University of
Texas at Austin, United States*

TP8b1-7 Multilevel Coding for Non-Orthogonal Broadcast
*Stephan Pfletschinger, Monica Navarro, Centre Tecnologic
de Telecomunicacions de Catalunya, Spain; Christian
Ibars, Intel Corporation, United States*

TP8b1-8 Dynamic Target Identification and Classification Based
on Resonance Topography Grouping
*Ananya Sen Gupta, Daniel Schupp, University of Iowa,
United States; Ivars Kirsteins, Naval Undersea Warfare
Center, United States*

Session TP8b2 Relays, Cognitive, Cooperative, and Heterogeneous Networks

Chair: *Andrew G. Klein, Worcester Polytechnic Institute*

3:30 PM–5:10 PM

TP8b2-1 A Distributed Algorithm for Energy Saving in Nomadic
Relaying Networks
*Zhe Ren, BMW Group Research and Technology,
Germany; Mahdy Shabeeb, Munich University of
Technology, Germany; Slawomir Stanczak, Fraunhofer
Institute for Telecommunications Heinrich Hertz Institute,
Germany; Peter Fertl, BMW Group Research and
Technology, Germany*

TP8b2-2 Instantaneous Relaying for the 3-Way Relay Channel
with Circular Message Exchanges
*Bho Matthiesen, Eduard A. Jorswieck, Technische
Universität Dresden, Germany*

TP8b2-3 On the Performance of Hybrid Satellite-Terrestrial
Cooperative Networks with Interferences
*Min Lin, PLA University of Science and Technology,
China; Jian Ouyang, Nanjing University of Posts and
Telecommunications, China; Zhu Wei-Ping, Concordia
University, Canada*

TP8b2-4 An Online Parallel Algorithm for Spectrum Sensing in
Cognitive Radio Networks
*Yang Yang, Technische Universitaet Darmstadt, Germany;
Mengyi Zhang, Chinese University of Hong Kong, Hong
Kong SAR of China; Marius Pesavento, Technische
Universitaet Darmstadt, Germany; Daniel Palomar, Hong
Kong University of Science and Technology, Hong Kong
SAR of China*

TP8b2-5 On the Spatial Spectral Efficiency of ITLinQ
*Ratheesh Mungara, Universitat Pompeu Fabra, Spain;
Xinchen Zhang, University of Texas at Austin, United
States; Angel Lozano, Universitat Pompeu Fabra, Spain;
Robert W. Heath Jr., University of Texas at Austin, United
States*

TP8b2-6 Time and Frequency Self-Synchronization in Dense
Cooperative Networks
*Maria Antonieta Alvarez, Bahar Azari, Umberto
Spagnolini, Politecnico di Milano, Italy*

TP8b2-7 Effect of Cluster Rotation Speed in Coordinated
Heterogeneous MIMO Cellular Networks with
Proportionally Fair User Scheduling
*Hakimeh Purmehdi, Robert Elliott, Witold Krzymien,
University of Alberta, Canada; Jordan Melzer, TELUS
Communications, Canada*

TP8b2-8 Relay Selection for AF Wireless Relay Networks in
Adverse Communication Environments
*Kanghee Lee, Republic of Korea Air Force, Republic
of Korea; Visvakumar Aravinthan, Sunghoon Moon,
Wichita State University, United States; Jongbum Ryou,
Changki Moon, Inha Hyun, Republic of Korea Air Force,
Republic of Korea; Sun Jo, Defense Acquisition Program
Administrtion of ROK, Republic of Korea*

Session TP8b3 Signal Processing Architectures

Chair: *Zain Ul-Abdin, Halmstad University*

3:30 PM–5:10 PM

TP8b3-1 Hybrid Floating-Point Modules with Low Area Overhead
on a Fine-Grained Processing Core
*Jon Pimentel, Bevan Baas, University of California,
Davis, United States*

TP8b3-2 Scalable Hardware-Based Power Management for Many-
Core Systems
*Bin Liu, Brent Bohnenstiehl, Bevan Baas, University of
California, Davis, United States*

TP8b3-3 Optimized FPGA Based Implementation of Discrete
Wavelet Transform
*Amin Jarrah, Mohsin M. Jamali, University of Toledo,
United States*

TP8b3-4 Mapping and Scheduling of Dataflow Graphs - A
Systematic Map
*Usman Mazhar Mirza, Mehmet Ali Arslan, Gustav
Cedersjö, Sardar Muhammad Sulaman, Jörn W. Janneck,
Lund University, Sweden*

TP8b3-5 Dataflow Machines
*Jörn W. Janneck, Gustav Cedersjö, Lund University,
Sweden; Endri Bezati, Simone Casale Brunet, École
Polytechnique Fédérale de Lausanne, Switzerland*

TP8b3-6 Replacement Techniques for Improving Performance in
Sub-Block Caches
*Oluleye Olorode, Mehrdad Nourani, University of Texas at
Dallas, United States*

TP8b3-7 Dynamic Reconfiguration of FPGA-based Multi-
Processor Arrays
*James Glenn-Anderson, Supercomputer Systems, Inc.,
United States*

TP8b3-8 Coprime Processing for the Elba Island Sonar Data Set
*Vaibhav Chavali, Kathleen Wage, George Mason
University, United States; John Buck, University of
Massachusetts Dartmouth, United States*

Session TP8b4   Signal Processing Theory and Applications

Chair: *Yue Lu, Harvard University*

3:30 PM–5:10 PM

TP8b4-1   Prediction of a Bed-Exit Motion: Multi-Modal Sensing Approach and Incorporation of Biomechanical Knowledge
Jun Hao, Xiaoxiao Dai, Amy Stroder, Jun Zhang, Bradley Davidson, Mohammad Mahoor, University of Denver, United States; Neil McClure, OKT Enterprises, United States

TP8b4-2   Ultra-Wideband Radar based Human Body Landmark Detection and Tracking with Biomedical Constraints for Human Motion Measuring
Xiaoxiao Dai, Zhichong Zhou, Jun Zhang, Bradley Davidson, University of Denver, United States

TP8b4-3   Separation of Interleaved Markov Chains
Ariana Minot, Yue Lu, Harvard University, United States

TP8b4-4   Ramanujan Subspaces and Digital Signal Processing
P. P. Vaidyanathan, California Institute of Technology, United States

TP8b4-5   Asynchronous Discrete-time Signal Processing with Molecular Reactions
Sayed Ahmad Salehi, Marc Riedel, Keshab K. Parhi, University of Minnesota, United States

TP8b4-6   Sequential Prediction of Individual Sequences in the Presence of Computational Errors
Mehmet Donmez, Andrew Singer, University of Illinois at Urbana Champaign, United States

TP8b4-7   A Scalable Feature Learning and Tag Prediction Framework for Natural Environment Sounds
Prasanna Sattigeri, Arizona State University, United States; Jayaraman Thiagarajan, Lawrence Livermore National Laboratory, United States; Mohit Shah, Arizona State University, United States; Karthikeyan Ramamurthy, IBM Research, United States; Andreas Spanias, Arizona State University, United States

TP8b4-8   Extending Coherence for Optimal Detection of Nonstationary Harmonic Signals
Scott Wisdom, University of Washington, United States; James Pitton, Applied Physics Laboratory and University of Washington, United States; Les Atlas, University of Washington, United States

Session WA1a   MIMO Design for mmWave Systems

Chair: *Zhouyue Pi, Samsung*

WA1a-1   A Tractable Model for Rate in Noise Limited mmWave Cellular Networks   8:15 AM
Sarabjot Singh, Mandar Kulkarni, Jeffrey Andrews, University of Texas at Austin, United States

WA1a-2   MIMO Designs for mmWave Wireless LAN Systems   8:40 AM
Sridhar Rajagopal, Samsung Research America, United States

WA1a-3   Analysis of Millimeter Wave Cellular Networks with Overlaid Microwave Base Stations   9:05 AM
Tianyang Bai, Robert W. Heath Jr., University of Texas at Austin, United States

WA1a-4   Increasing Coverage Beyond Microwave Frequencies Using Beamforming   9:30 AM
Vip Desai, Philippe Sartori, Weimin Xiao, Anthony Soong, Huawei Technologies Co., Ltd., United States

Session WA1b   Massive MIMO II

Chair: *David J. Love, Purdue University*

WA1b-1   A Multistage Linear Receiver Approach for MMSE Detection in Massive MIMO   10:15 AM
Ting Li, Sujeet Patole, Murat Torlak, University of Texas at Dallas, United States

WA1b-2   Beamforming-Based Spatial Precoding in FDD Massive MIMO Systems   10:40 AM
Ming-Fu Tang, Meng-Ying Lee, Borching Su, National Taiwan University, Taiwan; Chia-Pang Yen, Industrial Technology Research Institute, Taiwan

WA1b-3   Asymmetric Distributed Space Frequency Coded Cooperative Network for Large Scale MIMO   11:05 AM
Bhagyashri Honrao, Chirag Warty, Shikha Nema, SNDT University, India

Session WA2a   5G and Energy Efficient Cellular Networks

Chair: *Jinkang Zhu, University of Science and Technology of China*

WA2a-1   Traffic Aware Offloading for BS Sleeping in Heterogeneous Networks   8:15 AM
Shan Zhang, Sheng Zhou, Zhisheng Niu, Tsinghua University, China

WA2a-2   A Survey on 5G New Waveform: From Energy Efficiency Aspects   8:40 AM
Shunqing Zhang, Xiuqiang Xu, Yiqun Wu, Lei Lu, Yan Chen, Huawei Technologies Co., Ltd., China

WA2a-3   Evolution of LTE and new Radio Access Technologies for FRA (Future Radio Access)   9:05 AM
Hidetoshi Kayama, Huiling Jiang, DOCOMO Beijing Communications Laboratories Co. Ltd., China

WA2a-4   A Novel Cell-Interference Model and Performance Analysis of the Future Wireless Networks   9:30 AM
Jinkang Zhu, Haibao Ren, University of Science and Technology of China, China

Session WA2b   Mobile Health

Chair: *Mi Zhang, Cornell University*

WA2b-1   On Outlier Detection in R-R Intervals from   10:15 AM
ECG Data Collected in the Natural Field
Environment
*Rummana Bari, Santosh Kumar, University of Memphis,
United States*

WA2b-2   Patient-Centric On-Body Sensor Localization   10:40 AM
in Smart Health Systems
*Ramyar Saeedi, Hassan Ghasemzadeh, Washington State
University, United States*

WA2b-3   Making Sense of Personal Data in Clinical   11:05 AM
Settings
*Harinath Garudadri, University of California, San Diego,
United States*

Session WA3a   Sparse Learning and Estimation

Chair: *Ali Pezeshki, Colorado State University*

WA3a-1   Sparse Bayesian Learning Using Approximate   8:15 AM
Message Passing
*Maher Al-Shoukairi, Bhaskar Rao, University of
California, San Diego, United States*

WA3a-2   Hierarchical Bayesian Approach for   8:40 AM
Jointly-Sparse Solution of Multiple-Measurement
Vectors
*Mohammad Shekaramiz, Todd K. Moon, Jacob H.
Gunther, Information Dynamics Laboratory / Utah State
University, United States*

WA3a-3   Dictionary Approaches For Identifying   9:05 AM
Periodicities in Data
*Srikanth Venkata Tenneti, P. P Vaidyanathan, California
Institute of Technology, United States*

WA3a-4   An Asymptotic Maximum Likelihood   9:30 AM
Estimator for the Period of a Cyclostationary
Process
*David Ramírez, Peter J. Schreier, University of Paderborn,
Germany; Javier Vía, Ignacio Santamaría, University
of Cantabria, Spain; Louis L. Scharf, Colorado State
University, United States*

Session WA3b   Advances in Statistical Learning

Chair: *Qing Zhao, University of California, Davis*

WA3b-1   Quasicontinuous State Hidden Markov   10:15 AM
Models Incorporating State Histories
*Todd K. Moon, Jacob H. Gunther, Utah State University,
United States*

WA3b-2   A Classification Centric Quantizer for   10:40 AM
Efficient Encoding of Predictive Feature Errors
*Scott Deeann Chen, Pierre Moulin, University of Illinois
at Urbana-Champaign, United States*

WA3b-3   Time-Varying Stochastic Multi-Armed Bandit   11:05 AM
*Sattar Vakili, Qing Zhao, Yuan Zhou, University of
California, Davis, United States*

Session WA4a   Physical Layer Security II

Chair: *Eduard Jorswieck, TU Dresden*

WA4a-1   Investigation of Secure Wireless Regions   8:15 AM
Using Configurable Beamforming on WARP
platform
*Yuanrui Zhang, Queen's University Belfast, United
Kingdom; Bei Yin, Rice University, United States; Roger
Woods, Queen's University Belfast, United Kingdom;
Joseph R. Cavallaro, Rice University, United States;
Alan Marshall, University of Liverpool, United Kingdom;
Youngwook Ko, Queen's University Belfast, United
Kingdom*

WA4a-2   Wiretap-Channels with Constrained Active   8:40 AM
Attacks
*Carsten Rudolf Janda, Christian Scheunert, Eduard A.
Jorswieck, Dresden University of Technology, Germany*

WA4a-3   Secrecy Rate Maximization for Information   9:05 AM
and Energy Transfer in MIMO Beamforming
Networks
*Jens Steinwandt, Ilmenau University of Technology,
Germany; Sergiy Vorobyov, Aalto University, Finland;
Martin Haardt, Ilmenau University of Technology,
Germany*

WA4a-4   Everlasting Secrecy in Disadvantaged   9:30 AM
Wireless Environments against Sophisticated
Eavesdroppers
*Azadeh Sheikholeslami, Dennis Goeckel, Hossein Pishro-
nik, UMASS-Amherst, United States*

Session WA4b   Coding and Decoding

Chair: *James A. Ritcey, University of Washington*

WA4b-1   Noisy Belief Propagation Decoder   10:15 AM
*Chu-Hsiang Huang, Yao Li, Lara Dolecek, University of
California, Los Angeles, United States*

WA4b-2   A Low-Complexity Improved Successive   10:40 AM
Cancellation Decoder for Polar Codes
*Orion Afisiadis, Alexios Balatsoukas-Stimming, Andreas
Burg, École Polytechnique Fédérale de Lausanne,
Switzerland*

WA4b-3   Differential Trellis Coded Modulation with   11:05 AM
State Dependent Mappings
*Ruey-Yi Wei, National Central University, Taiwan; James
Ritcey, University of Washington, United States*

Session WA5a — Information Processing for Social and Sensor Networks

Chair: *Michael Rabbat, McGill University*

WA5a-1 Fourier Transform for Signals on Dynamic Graphs 8:15 AM
Arash Golibagh Mahyari, Selin Aviyente, Michigan State University, United States

WA5a-2 Anomalous Subgraph Detection in Publication Networks: Leveraging Truth 8:40 AM
Nadya Bliss, Manfred Laubichler, Arizona State University, United States

WA5a-3 Identifying Congestion in Software-Defined Networks 9:05 AM
Thomas Parker, Jamie Johnson, Murali Tummala, John McEachen, James Scrofani, Naval Postgraduate School, United States

WA5a-4 Vulnerability of CPS inference to DoS attacks 9:30 AM
Mohammadreza Doostmohammadian, Usman A. Khan, Tufts University, United States

Session WA5b — Document Processing and Synchronization

Chair: *Olgica Milenkovic, University of Illinois at Urbana-Champaign*

WA5b-1 Synchronizing Ordinal Data over Noisy Channels 10:15 AM
Han Mao Kiah, Lili Su, Olgica Milenkovic, University of Illinois at Urbana-Champaign, United States

WA5b-2 Efficient Synchronization of Files in Distributed Storage Systems 10:40 AM
Salim El Rouayheb, Illinois Institute of Technology, United States; Sreechakra Goparaju, Princeton University, United States; Han Mao Kiah, Olgica Milenkovic, University of Illinois at Urbana-Champaign, United States

WA5b-3 Efficient File Synchronization: Extensions and Simulations 11:05 AM
Clayton Schoeny, Nicolas Bitouze, Frederic Sala, Lara Dolecek, University of California, Los Angeles, United States

Session WA6a — Adaptive Signal Design and Analysis

Chair: *Antonia Papandreou-Suppappola, Arizona State University*

WA6a-1 Eigen-Basis Analysis of Expected Cumulative Modulus for Constrained Signal Design 8:15 AM
Aaron Jones, Air Force Research Laboratory, United States; Brian Rigling, Wright State University, United States; Muralidhar Rangaswamy, Air Force Research Laboratory, United States

WA6a-2 Characterization of Information in Phase of Radar Range Profiles 8:40 AM
Linda Moore, Air Force Research Laboratory / University of Dayton, United States; Brian Rigling, Wright State University, United States; Robert Penno, University of Dayton, United States

WA6a-3 Radar Tracking Waveform Design in Continuous Space and Optimization Selection Using Differential Evolution 9:05 AM
Antonia Papandreou-Suppappola, Bryan Paul, Daniel Bliss, Arizona State University, United States

WA6a-4 Reduced Rank Adaptive Filtering in Impulsive Noise Environments 9:30 AM
Hamza Soury, King Abdullah University of Science and Technology (KAUST), Saudi Arabia; Karim Abed-Meraim, Polytech Orleans, France; Mohamed-Slim Alouini, King Abdullah University of Science and Technology (KAUST), Saudi Arabia

Session WA6b — Distributed Detection and Optimization

Chair: *Andrea Simonetto, Delft University of Technology*

WA6b-1 Distributed Detection for Wireless Sensor Networks with Fusion Center under Correlated Noise 10:15 AM
Alireza S. Behbahani, Ahmed M. Eltawil, Hamid Jafarkhani, University of California, Irvine, United States

WA6b-2 Distributed Asynchronous Time-Varying Constrained Optimization 10:40 AM
Andrea Simonetto, Geert Leus, Delft University of Technology, Netherlands

WA6b-3 M-ary Distributed Detection in the Presence of Channel Estimation Error 11:05 AM
Zahra Hajibabaei, Azadeh Vosoughi, University of Central Florida, United States

Session WA7a — Implementation of Wireless Systems

Chair: *Roger Woods, Queens University*

WA7a-1 Field-Order Based Hardware Cost Analysis of Non-Binary LDPC Decoders 8:15 AM
Yuta Toriyama, Behzad Amiri, Lara Dolecek, Dejan Markovic, University of California, Los Angeles, United States

WA7a-2 Algorithm and Architecture for Hybrid Decoding of Polar Codes 8:40 AM
Bo Yuan, Keshab K. Parhi, University of Minnesota, Twin Cities, United States

WA7a-3 A Signal Processing Approach Towards Ultra-Low Power Transceiver Design 9:05 AM
Vijay Venkateswaran, Pawel Rulikowski, Howard Huang, Bell Labs, Ireland

WA7a-4   A High Performance GPU-based   9:30 AM
          Software-defined Basestation
          Kaipeng Li, Michael Wu, Guohui Wang, Joseph R.
          Cavallaro, Rice University, United States

Session WA7b   Video Coding Architecture and Design

Chair: *Jorn Janneck, Lund University*

WA7b-1   Development and Optimization of High Level 10:15 AM
          Dataflow Programs: the HEVC Decoder Design
          Case
          Khaled Jerbi, INSA of Rennes / IETR, France; Daniele
          Renzi, Damien De Saint-Jorre, École Polytechnique
          Fédérale de Lausanne, Switzerland; Hervé Yviquel,
          INSA of Rennes / IETR, France; Claudio Alberti, École
          Polytechnique Fédérale de Lausanne, Switzerland;
          Mickaël Raulet, INSA of Rennes / IETR, France; Marco
          Mattavelli, École Polytechnique Fédérale de Lausanne,
          Switzerland

WA7b-2   A Low-Power Hybrid Video Recording   10:40 AM
          System with H.264/AVC and Light-Weight
          Compression
          Hyun Kim, Seoul National University, Republic of Korea;
          Chae Eun Rhee, Inha University, Republic of Korea;
          Hyuk-Jae Lee, Seoul National University, Republic of
          Korea

WA7b-3   Design of View Synthesis Prediction in   11:05 AM
          3D-HEVC via Algorithmic Complexity Analysis
          Gwo Giun (Chris) Lee, Bo-Syun Li, Chun-Fu Chen,
          National Cheng Kung University, Taiwan

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Rohani, Ehsan	TA8a3-4	Schwartz, Moshe	TP2a-1	Sridhar, Rahul	TP3a-1	Thomas, Robert	MP5a-1
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Tran, Trac	MA6b-3
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Tripathy, Abhijit	MP8a5-2
Trzasko, Joshua	MP8a2-3
Tsakiris, Manolis	TP1a-1
Tseng, Kai-Han	TA8a1-3
Tsianos, Konstantinos	TP1b-4
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Tullberg, Hugo	TA4a-2
Tummala, Murali	WA5a-3
Tyagi, Himanshu	MA4b-2
ul-Abdin, Zain	TP6b-4
Ulukus, Sennur	TP4b-4
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Vaccaro, Richard	MP8a3-6
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Vary, Peter	TP2b-2
Vasic, Bane	MA7b-3
Vaughan, Andrew	MA8b4-3
Veeravalli, Venugopal	MP1a-1
Vehkaperä, Mikko	TP8a1-3
Venkateswaran, Vijay	WA7a-3
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Wu, Yonglin	MP8a2-7
Wu, Zhengwei	TP8a2-1
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Xi, Chenguang	TP8a4-2
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Xu, Luzhou	TA7b-3
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Xu, Tianyi	TA3b-1
Xu, Weiyu	MP1a-2
Xu, Weiyu	TA8a1-2
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Xu, Xiuqiang	WA2a-2
Xu, Zhengyuan	MA8b1-6
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Zhang, Junshan	TA8b3-7
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Zhang, Yingchen	MP8a1-7
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Zhang, Zemin	MP3a-1
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Zhao, Qing	TA4b-4
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Zhao, Ran	TA1b-1
Zhao, Yue	MP5a-2
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