

**FORTY-EIGHTH
ASILOMAR CONFERENCE ON
SIGNALS, SYSTEMS AND
COMPUTERS**

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



November 2–5, 2014
Asilomar Hotel and
Conference Grounds

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**FORTY-EIGHTH
ASILOMAR CONFERENCE ON
SIGNALS, SYSTEMS & COMPUTERS**

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Monique P. Fargues
Department of Electrical &
Computer Engineering
Naval Postgraduate School
Monterey, CA 93943
E-mail: fargues@asilomarssc.org

Publication Chair

Michael Matthews
ATK Space Systems
10 Ragsdale Drive, Suite 201
Monterey, CA 93940
E-mail:
michael.matthews@atk.com

Publicity Chair

Linda S. DeBrunner
Department of Electrical &
Computer Engineering
Florida State University
Tallahassee, FL 32310-6046
E-mail:
Linda.debrunner@eng.fsu.edu

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Ric Romero
Department of Electrical &
Computer Engineering
Naval Postgraduate School
Monterey, CA 93943-5121
E-mail: treasurer@asilomarssc.org

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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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PROF. MONIQUE P. FARGUES

President & Chair
Electrical & Computer Eng. Dept.
Code EC/Fa
Naval Postgraduate School
Monterey, CA 93943-5121
fargues@asilomarssc.org

PROF. SHERIF MICHAEL

Secretary
Electrical & Computer Eng. Dept.
Code EC/Mi
Naval Postgraduate School
Monterey, CA 93943-5121
michael@nps.edu

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Treasurer
Electrical & Computer Eng. Dept.
Code EC/Rr
Naval Postgraduate School
Monterey, CA 93943-5121
treasurer@asilomarssc.org

PROF. SCOTT ACTON

Electrical & Computer Eng. Dept.
University of Virginia
P.O. Box 400743
Charlottesville, VA 22904-4743
acton@virginia.edu

PROF. MAITE BRANDT-PEARCE

Electrical & Computer Eng. Dept.
University of Virginia
P.O. Box 400743
Charlottesville, VA 22904
mb-p@virginia.edu

PROF. LINDA DEBRUNNER

Publicity Chair
Electrical & Computer Eng. Dept.
Florida State University
2525 Pottsdamer Street, Room A-341-A
Tallahassee, FL 32310-6046
linda.debrunner@eng.fsu.edu

PROF. VICTOR DEBRUNNER

Electrical & Computer Eng. Dept.
Florida State University
2525 Pottsdamer Street, Room A-341-A
Tallahassee, FL 32310-6046
victor.debrunner@eng.fsu.edu

PROF. MILOS ERCEGOVAC

Computer Science Dept.
University of California at Los Angeles
Los Angeles, CA 90095

PROF. BENJAMIN FRIEDLANDER

Computer Eng. Dept.
University of California
1156 High Street, MS:SOE2
Santa Cruz, CA 95064
Benjamin.friedlander@gmail.com

PROF. FREDRIC J. HARRIS

Electrical Eng. Dept.
San Diego State University
San Diego, CA 92182
fred.harris@sdsu.edu

DR. RALPH D. HIPPENSTIEL

San Diego, CA 92126
rhippenstiel@yahoo.com

PROF. W. KENNETH JENKINS

Electrical Eng. Dept.
The Pennsylvania State University
209C Electrical Engineering West
University Park, PA 16802-2705
jenkins@engr.psu.edu

PROF. FRANK KRAGH

Electrical & Computer Eng. Dept.
Code EC/Kr
Naval Postgraduate School
Monterey, CA 93943-5121
frank.kragh@ieee.org

DR. MICHAEL B. MATTHEWS

Publications Chair
ATK Space Systems
10 Ragsdale Drive, Suite 201
Monterey, CA 93940
Michael.matthews@atk.com

DR. MARIOS PATTICHIS

Electrical & Computer Eng. Dept.
MSC01 1100
1 University of New Mexico
ECE Bldg., Room: 229A
Albuquerque, NM 87131-000
Pattichis@ece.unm.edu

PROF. JAMES A. RITCEY

Electrical Eng. Dept.
Box 352500
University of Washington
Seattle, Washington 98195
ritcey@ee.washington.edu

DR. MICHAEL SCHULTE

AMD
11400 Cherisse Dr.
Austin, TX 78739
Michael.schulte@amd.com

PROF. EARL E. SWARTZLANDER, JR.

Electrical & Computer Eng. Dept.
University of Texas at Austin
Austin, TX 78712
eswartzla@aol.com

PROF. KEITH A. TEAGUE

School Electrical & Computer
Engineering / 202ES
Oklahoma State University
Stillwater, OK 74078
Keith.teague@okstate.edu

DR. MILOŠ DOROSLOVAČKI

General Program Chair (ex officio)
Year 2012
Electrical and Computer Engineering Dept.
George Washington University
Washington, DC
doroslov@gwu.edu

PROF. ROBERT HEATH

General Program Chair (ex officio)
Year 2013
Electrical & Computer Eng. Dept.
The University of Texas at Austin
Austin, TX 78712
rheath@ece.utexas.edu

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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
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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.
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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
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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

MA1b-1	FLEXA: A Fast Parallel Algorithm for Big-Data Optimization <i>Francisco Facchinei, Simone Sagratella, University of Rome, Italy; Gesualdo Scutari, University of Buffalo, the State University of New York, United States</i>	10:15 AM
MA1b-2	Fast and Robust Bootstrap in Analysing Large Multivariate Datasets <i>Shahab Basiri, Esa Ollila, Visa Koivunen, Aalto University, Finland</i>	10:40 AM
MA1b-3	Online Manifold Embedding and Reconstruction Using Dictionary Learning <i>Konstantinos Slavakis, University of Minnesota, United States</i>	11:05 AM
MA1b-4	Adaptive Estimation from Big Data via Censored Stochastic Approximation <i>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</i>	11:30 AM

Session MA2b EEG Based Brain Computer Interface

MA2b-1	Decoding the Focus of Auditory Attention from Single-Trial EEG Signals <i>Lenny Varghese, Inyong Choi, Siddharth Rajaram, Courtney Pacheco, Barbara Shinn-Cunningham, Boston University, United States</i>	10:15 AM
MA2b-2	Auditory Considerations for a Motor Imagery Brain-Computer Interface for Speech Synthesizer Control <i>Jonathan Brumberg, Jeremy Burnison, University of Kansas, United States</i>	10:40 AM
MA2b-3	Single-Trial Identification of Failed Memory Retrieval <i>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</i>	11:05 AM
MA2b-4	Utilization of Temporal Trial Dependency in ERP based BCIs <i>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</i>	11:30 AM

Session MA3b Underwater Wireless Networks

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

Session MA4b Physical Layer Security I

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

Session MA5b Image and Video Processing

MA5b-1	Robust Image Recognition by Multi-Kernel Dictionary Learning <i>Rituparna Sarkar, Sedat Ozer, Scott Acton, Kevin Skadron, University of Virginia, United States</i>	10:15 AM
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- MA5b-2 Robust Dual-Band MWIR/LWIR Infrared Target Tracking 10:40 AM
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 Quality 11:05 AM
Deepti Ghadiyaram, Alan Bovik, University of Texas at Austin, United States
- MA5b-4 Detecting Coronal Holes for Solar Activity Modeling 11:30 AM
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

- MA6b-1 Characterization of Orthogonal Subspaces for Alias-Free Reconstruction of Damped Complex Exponential Modes in Sparse Arrays 10:15 AM
Pooria Pakrooh, Ali Pezeshki, Louis L. Scharf, Colorado State University, United States
- MA6b-2 Exploiting Sparsity during the detection of High-Order QAM Signals in Large Dimension MIMO Systems 10:40 AM
Oleg Tanchuk, Bhaskar Rao, University of California, San Diego, United States
- MA6b-3 Structured Sparse Representation with Low-Rank Interference 11:05 AM
Minh Dao, Yuanming Suo, Sang (Peter) Chin, Trac Tran, Johns Hopkins University, United States
- MA6b-4 Grid-Less Algorithms for Identifying More Spectral Lines Than Sensors. 11:30 AM
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

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

- MA7b-2 Efficient Adaptive List Successive Cancellation Decoder for Polar Codes 10:40 AM
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 Alphabet Iterative Decoders for LDPC Codes 11:05 AM
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 Energy-Efficient LDPC Decoder 11:30 AM
Jingwei Xu, Gwan Choi, Texas A&M university, United States

Session MA8b1 Synchronization and Channel Estimation

- 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, Yuan-Pei Lin, National Taiwan 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

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, Nile University / 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

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, Batu Santhanam, Majeed Hayat, University of New Mexico, United States

Session MA8b4 Physiological Signal Processing

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 Villafaña-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

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

Session MP1b Tensor-Based Signal Processing

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

Session MP2a Neural Engineering and Signal Processing

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

Session MP2b Brain Connectomics

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

Session MP3a Compressed Sensing I

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

MP3a-3	Subspace Learning from Extremely Compressed Measurements <i>Martin Azizyan, Akshay Krishnamurthy, Aarti Singh, Carnegie Mellon University, United States</i>	2:20 PM
MP3a-4	Analysis of Misfocus Effects in Compressive Optical Imaging <i>Wenbing Dang, Ali Pezeshki, Randy Bartels, Colorado State University, United States</i>	2:45 PM

Session MP3b Compressed Sensing II

MP3b-1	Filter Design for a Compressive Sensing Delay Estimation Framework <i>Misagh Khayambashi, Lee Swindlehurst, University of California, Irvine, United States</i>	3:30 PM
MP3b-2	Adaptive Sequential Compressive Detection <i>Davood Mardani, George Atia, University of Central Florida, United States</i>	3:55 PM
MP3b-3	A Recursive Way for Sparse Reconstruction of Parametric Spaces <i>Oguzhan Teke, Bilkent University, Turkey; Ali Cafer Gurbuz, TOBB University of Economics and Technology, Turkey; Orhan Arikian, Bilkent University, Turkey</i>	4:20 PM
MP3b-4	Subspace Methods for Recovery of Low Rank & Joint Sparse Matrices <i>Sampurna Biswas, Mathews Jacob, Soura Dasgupta, University of Iowa, United States</i>	4:45 PM

Session MP4a Underwater Acoustic Communications and Networking

MP4a-1	Experimental Study of Secret Key Generation in Underwater Acoustic Channels <i>Yi Huang, University of Connecticut, United States; Lifeng Lai, Worcester Polytechnic Institute, United States; Shengli Zhou, Zhijie Shi, University of Connecticut, United States</i>	1:30 PM
MP4a-2	Random Linear Packet Coding for Fading Channels: Joint Power and Rate Control <i>Rameez Ahmed, Milica Stojanovic, Northeastern University, United States</i>	1:55 PM
MP4a-3	Underwater Acoustic Communications in Great Lakes and in Oceans: What is the Difference? <i>Wensheng Sun, Mohsen Jamalabdollahi, Zhaohui Wang, Seyed Zekavat, Michigan Technological University, United States</i>	2:20 PM
MP4a-4	Information-Guided Pilot Insertion for Capacity Improvement in OFDM Underwater Acoustic Communications <i>Xilin Cheng, Colorado State University, United States; Miaowen Wen, Xiang Cheng, Peking University, China; Liuqing Yang, Colorado State University, United States</i>	2:45 PM

Session MP4b Massive MIMO I

MP4b-1	JsdM and Multi-Cell Networks: Handling Inter-Cell Interference Through Long-Term Antenna Statistics <i>Ansuman Adhikary, University of Southern California, United States; Giuseppe Caire, Technical University Berlin, Germany</i>	3:30 PM
MP4b-2	Enabling Massive MIMO Systems in the FDD Mode thanks to D2D Communications <i>Haifan Yin, Laura Cottatellucci, David Gesbert, Eurecom, France</i>	3:55 PM
MP4b-3	Massive MIMO As a Cyber-Weapon <i>Erik G. Larsson, Linköping University, Sweden; Marcus Karlsson, Linköping University, Sweden</i>	4:20 PM
MP4b-4	Large Antenna Array and Propagation Environment Interaction <i>Xiang Gao, Meifang Zhu, Fredrik Rusek, Fredrik Tufvesson, Ove Edfors, Lund University, Sweden</i>	4:45 PM

Session MP5a Smart Grid: Learning and Optimization

MP5a-1	Dynamic Attacks on Power Systems Economic Dispatch <i>Jinsub Kim, Lang Tong, Robert Thomas, Cornell University, United States</i>	1:30 PM
MP5a-2	Line Outage Detection in Power Transmission Networks Via Message Passing Algorithms <i>Jianshu Chen, University of California, Los Angeles, United States; Yue Zhao, Andrea Goldsmith, Stanford University, United States; H. Vincent Poor, Princeton University, United States</i>	1:55 PM
MP5a-3	Online Learning Approaches for Dynamic Optimal Power Flow <i>Seung-Jun Kim, Georgios Giannakis, University of Minnesota, United States</i>	2:20 PM
MP5a-4	Decentralized Primary Frequency Control in Power Networks <i>Changhong Zhao, Steven Low, California Institute of Technology, United States</i>	2:45 PM

Session MP5b Image and Video Quality

MP5b-1	Image Assisted Upsampling of Depth Map via Nonlocal Similarity <i>Wentian Zhou, Xin Li, Daryl Reynolds, West Virginia University, United States</i>	3:30 PM
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MP5b-2	Joint Source-Channel Rate-Distortion Optimization with Motion Information Sharing for H.264/AVC Video-Plus-Depth Coding <i>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</i>	3:55 PM
MP5b-3	Real-Time 3D Rotation Smoothing for Video Stabilization <i>Chao Jia, Zeina Sinno, Brian Evans, University of Texas at Austin, United States</i>	4:20 PM
MP5b-4	Video De-Interlacing Using Asymmetric Nonlocal-Means Filtering <i>Roozbeh Dehghannasiri, Texas A&M University, United States</i>	4:45 PM

Session MP6a Array Calibration

MP6a-1	Bilinear Compressed Sensing for Array Self-Calibration <i>Benjamin Friedlander, University of California, Santa Cruz, United States; Thomas Strohmer, University of California, Davis, United States</i>	1:30 PM
MP6a-2	Calibrating Nested Sensor Arrays with Model Errors <i>Keyong Han, Peng Yang, Arye Nehorai, Washington University in St. Louis, United States</i>	1:55 PM
MP6a-3	A New Method for DOA Estimation in the Presence of Unknown Mutual Coupling of an Antenna Array <i>Eric Wei-Jhong Ding, Borching Su, National Taiwan University, Taiwan</i>	2:20 PM
MP6a-4	An Angular Sampling Theorem for the Usable Frequency Range of Antenna Array Calibration Measurements <i>Chung-Cheng Ho, Scott Douglas, Southern Methodist University, United States</i>	2:45 PM

Session MP6b Wireless Localization

MP6b-1	Direct Localization of Emitters Using Widely Spaced Sensors in Multipath Environments <i>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</i>	3:30 PM
MP6b-2	Millimeter-Wave Personal Radars for 3D Environment Mapping <i>Anna Guerra, Francesco Guidi, Davide Dardari, University of Bologna, Italy</i>	3:55 PM

MP6b-3	Simultaneous Tracking and RSS Model Calibration by Robust Filtering <i>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</i>	4:20 PM
MP6b-4	Proximity Detection with RFID in the Internet of Things <i>Miodrag Bolic, Majed Rostamian, University of Ottawa, United States; Petar Djuric, Stony Brook University, United States</i>	4:45 PM

Session MP7a Resource-aware and Domain-specific Computing

MP7a-1	Partial Expansion of Dataflow Graphs for Resource-Aware Scheduling of Multicore Signal Processing Systems <i>George Zaki, IGI Technologies, United States; William Plishker, Shuvra Bhattacharyya, University of Maryland, College Park, United States; Frank Fruth, Texas Instruments, United States</i>	1:30 PM
MP7a-2	Performance Analysis of Weakly-Consistent Scenario-Aware Dataflow Graphs <i>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</i>	1:55 PM
MP7a-3	Application-driven Reconfiguration of Shared Resources for Timing Predictability of MPSoC Platforms <i>Deepak Gangadharan, Ericles Sousa, Vahid Lari, Frank Hannig, Juergen Teich, University of Erlangen-Nuremberg, Germany</i>	2:20 PM
MP7a-4	Accelerating the Dynamic Time Warping Distance Measure using Logarithmic Arithmetic <i>Joseph Taragon, University of California, Riverside / Intel, United States; Eamonn Keogh, Philip Brisk, University of California, Riverside, United States</i>	2:45 PM

Session MP7b Detection and Estimation for Networked Data

MP7b-1	Detecting Convoys in Networks of Short-Range Sensors <i>Sean Lawlor, Michael Rabbat, McGill University, Canada</i>	3:30 PM
MP7b-2	Distributed SPRT for Gaussian Binary Hypothesis Testing: Performance Analysis and Fundamental Trade-offs <i>Anit Sahu, Soumya Kar, Carnegie Mellon University, United States</i>	3:55 PM

MP7b-3	Denoising of Network Graphs using Topology Diffusion <i>Mohammad Aghagolzadeh, Hayder Radha, Michigan State University, United States</i>	4:20 PM
MP7b-4	Optimal Hypothesis Testing with Combinatorial Structure: Applications in Graph Detection <i>Yue M. Lu, Harvard University, United States</i>	4:45 PM

Session MP8a1 Network Resource Allocation and Localization

1:30 PM–3:10 PM

MP8a1-1	Optimal Scheduling Policies and the Performance of the CDF Scheduling <i>PhuongBang Nguyen, Bhaskar Rao, University of California, San Diego, United States</i>	
MP8a1-2	Joint Interference and User Association Optimization in Cellular Wireless Networks <i>Changkyu Kim, Russell Ford, Sundeep Rangan, New York University, Polytechnic School of Engineering, United States</i>	
MP8a1-3	Throughput Maximization in Wireless Powered Communication Networks with Energy Saving <i>Rui Wang, Donald Brown, Worcester Polytechnic Institute, United States</i>	
MP8a1-4	Optimal Flow Bifurcation in Networks with Dual Base Station Connectivity and Non-ideal Backhaul <i>Amitav Mukherjee, Hitachi America, Ltd., United States</i>	
MP8a1-5	Joint Sequential Target State Estimation and Clock Synchronization in Wireless Sensor Networks <i>Jichuan Li, Arye Nehorai, Washington University in St. Louis, United States</i>	
MP8a1-6	High-Accuracy Vehicle Position Estimation Using a Cooperative Algorithm with Anchors and Probe Vehicles <i>Ramez L. Gerges, First Responder System Testbed (FiRST), United States; John J. Shynk, University of California, Santa Barbara, United States</i>	
MP8a1-7	Statistical Scheduling of Economic Dispatch and Energy Reserves of Hybrid Power Systems with High Renewable Energy Penetration <i>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</i>	
MP8a1-8	Packet Loss and Route Loss Mitigation for Video in Mobile Ad-hoc Networks <i>Yiting Liao, Jerry Gibson, University of California, Santa Barbara, United States</i>	

Session MP8a2 Bioinformatics and Medical Imaging

1:30 PM–3:10 PM

MP8a2-1	Comparison and Integration of Genomic Profiles Predict Brain Cancer Survival and Drug Targets <i>Katherine Aiello, Orly Alter, University of Utah, United States</i>	
MP8a2-2	Tensor GSVD for Comparison of Two Large-Scale Multidimensional Datasets <i>Theodore Schomay, Orly Alter, University of Utah, United States</i>	
MP8a2-3	An Efficient ADMM-based Sparse Reconstruction Strategy for Multi-Level Sampled MRI <i>Joshua Trzasko, Eric Borisch, Paul Weavers, Armando Manduca, Phillip Young, Stephen Riederer, Mayo Clinic, United States</i>	
MP8a2-4	Multiscale Functional Networks in Human Resting State Functional MRI <i>Jacob Billings, Emory University, United States; Alessio Medda, Georgia Tech Research Institute, United States; Shella Keilholz, Georgia Institute of Technology / Emory University, United States</i>	
MP8a2-5	Piecewise Linear Slope Estimation <i>Atul Ingle, William Sethares, Tomy Varghese, James Bucklew, University of Wisconsin-Madison, United States</i>	
MP8a2-6	Fast Magnetic Resonance Parametric Imaging via Model-Based Low-Rank Matrix Factorization <i>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</i>	
MP8a2-7	A Signal Model for Forensic DNA Mixtures <i>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</i>	

Session MP8a3 Source Separation and Array Processing

1:30 PM–3:10 PM

MP8a3-1	Forward - Backward Greedy Algorithms for Signal Demixing <i>Nikhil Rao, Parikshit Shah, Stephen Wright, University of Wisconsin, United States</i>	
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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, Loughborough University, United Kingdom

Session MP8a4 Digital Communications

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

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

- TA1a-1 Tensor Restricted Isometry Property for Multilinear Sparse System of Genomic Interactions
Alexandra Fry, Carmeliza Navasca, University of Alabama at Birmingham, United States 8:15 AM
- TA1a-2 Analysis of a Separable STAP Algorithm for Very Large Arrays
Jie Chen, Feng Jiang, A. Lee Swindlehurst, University of California, Irvine, United States 8:40 AM
- TA1a-3 Spatial-Temporal Characterization of Synchrophasor Measurement Systems - A Big Data Approach for Smart Grid System Situational Awareness
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 9:05 AM
- TA1a-4 Performance Analysis of the Tucker HOSVD for Extracting Low-Rank Structure from Multiple Signal-Plus-Noise Matrices
Himanshu Nayar, Rajesh Nadakuditi, University of Michigan, Ann Arbor, United States 9:30 AM

Session TA1b Big Data Signal Processing

- TA1b-1 A Comparison of Clustering and Missing Data Methods for Health Sciences
Ran Zhao, Claremont Graduate University, United States; Deanna Needell, Claremont McKenna College, United States; Christopher Johansen, Jerry Grenard, Claremont Graduate University, United States 10:15 AM
- TA1b-2 Discovery of Principles of Nature from Matrix and Tensor Modeling of Large-Scale Molecular Biological Data
Orly Alter, University of Utah, United States 10:40 AM

- TA1b-3 Big Data Clustering Using Random Sampling and Consensus
Panagiotis Traganitis, Konstantinos Slavakis, Georgios Giannakis, University of Minnesota, United States 11:05 AM
- TA1b-4 Classification of Streaming Big Data with Misses
Fatemeh Sheikholeslami, Morteza Mardani, Georgios Giannakis, University of Minnesota, United States 11:30 AM

Session TA2a Neural Spike Train Analysis

- TA2a-1 Neural Spike Train Denoising by Point Process Re-weighted Iterative Smoothing
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 8:15 AM
- TA2a-2 Neurally Inspired Objective Function for Subspace Tracking and Online Feature Learning
Dmitri Chklovskii, Simons Center for Data Analysis, United States 8:40 AM
- TA2a-3 Tracking Influence in Dynamic Neural Networks
Rebecca Willett, University of Wisconsin-Madison, United States; Eric Hall, Duke University, United States 9:05 AM
- TA2a-4 A Design and Implementation Framework for Unsupervised High-resolution Recursive Filters in Neuromotor Prosthesis Applications
Islam Badreldin, Karim Oweiss, Michigan State University, United States 9:30 AM

Session TA2b Dynamic Brain Functional Connectivity

- TA2b-1 Functional Connectivity Differences in Brain Networks: Contributions of Shared and Unshared Variance
Michael Cole, Rutgers University, United States; Grega Repovs?, University of Ljubljana, United States; Alan Anticevic, Yale University, United States 10:15 AM
- TA2b-2 Beyond Brain Maps: Functional Connectivity versus Task-Based Activations in Mental State Prediction
Irina Rish, IBM T. J. Watson Research Center, United States 10:40 AM
- TA2b-3 Approaches for Capturing Dynamic Connectivity States in fMRI data
Vince Calhoun, University of New Mexico, United States 11:05 AM
- TA2b-4 Characterizing whole Brain Modulatory Interactions in Resting-State
Bharat Biswal, New Jersey Institute of Technology, United States 11:30 AM

Session TA3a Distributed Optimization over Networks

TA3a-1	The ADMM Algorithm for Distributed Averaging: Convergence Rates and Optimal Parameter Selection <i>Euhanna Ghadimi, Andr’e Teixeira, Royal Institute of Technology-KTH, Sweden; Michael Rabbat, McGill University, Canada; Mikael Johansson, Royal Institute of Technology-KTH, Sweden</i>	8:15 AM
TA3a-2	Performance Analysis of Multitask Diffusion Adaptation Over Asynchronous Networks <i>Roula Nassif, Cédric Richard, André Ferrari, Université de Nice Sophia-Antipolis, France; Ali H. Sayed, University of California, Los Angeles, France</i>	8:40 AM
TA3a-3	On the Convergence of an Alternating Direction Penalty Method for Nonconvex Problems <i>Sindri Magnússon, P. Chathuranga Weeraddana, KTH Royal Institute of Technology, Sweden; Michael Rabbat, McGill University, Canada; Carlo Fischione, KTH Royal Institute of Technology, Sweden</i>	9:05 AM
TA3a-4	Decentralized Regression with Asynchronous Sub-Nyquist Sampling <i>Hoi To Wai, Anna Scaglione, University of California, Davis, United States</i>	9:30 AM

Session TA3b Latest Coding Advances

TA3b-1	Joint Space-Time Code Designs for Multiple Access Channels <i>Tianyi Xu, InterDigital Communications, Inc., United States; Xiang-Gen Xia, University of Delaware, United States</i>	10:15 AM
TA3b-2	Quantized Distributed Reception Techniques for MIMO Wireless Systems <i>Junil Choi, David Love, Purdue University, United States</i>	10:40 AM
TA3b-3	Generalized Spatial Modulation for Large-Scale MIMO Systems: Analysis and Detection <i>Theagarajan Lakshmi Narasimhan, Patchava Raviteja, Ananthanarayanan Chockalingam, Indian Institute of Science, India</i>	11:05 AM
TA3b-4	Bandwidth Analysis of Low-Complexity Decoupling Networks for Multiple Coupled Antennas <i>Ding Nie, Bertrand Hochwald, University of Notre Dame, United States</i>	11:30 AM

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

TA4a-1	3D Channel Models for Elevation Beamforming and FD-MIMO in LTE-A and 5G <i>Jianzhong (Charlie) Zhang, Yang Li, Young-Han Nam, Samsung, United States</i>	8:15 AM
TA4a-2	Advanced Antenna Solutions for 5G Wireless Access <i>Erik Dahlman, Stefan Parkvall, David Astely, Hugo Tullberg, Ericsson, Sweden</i>	8:40 AM
TA4a-3	Multi-Layer Precoding for Full-Dimensional MIMO Systems <i>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</i>	9:05 AM
TA4a-4	Massive MIMO for mmWave systems <i>Frederick Vook, Timothy Thomas, Nokia Solutions and Networks, United States</i>	9:30 AM

Session TA4b Cognitive Radio I

TA4b-1	Statistically Coordinated Precoding for the MISO Cognitive Radio Channel <i>Paul de Kerret, Miltiades Filippou, David Gesbert, Eurecom, France</i>	10:15 AM
TA4b-2	Simultaneous Detection and Estimation based Spectrum Sharing in Cognitive Radio Networks <i>Jyoti Mansukhani, Priyadip Ray, Indian Institute of Technology Kharagpur, India; Pramod Varshney, Syracuse University, United States</i>	10:40 AM
TA4b-3	Interference-Temperature Limit for Cognitive Radio Networks with MIMO Primary Users <i>Cristian Lameiro, University of Cantabria, Spain; Wolfgang Utschick, Technische Universität München, Germany; Ignacio Santamaria, University of Cantabria, Spain</i>	11:05 AM
TA4b-4	Competitive Dynamic Pricing under Demand Uncertainty <i>Yixuan Zhai, Qing Zhao, University of California, Davis, United States</i>	11:30 AM

Session TA5a Recent Advances in Speech Coding

TA5a-1	The Shannon Backward Channel and Voice Codec Design <i>Jerry Gibson, University of California, Santa Barbara, United States</i>	8:15 AM
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TA5a-2	Performance Enhanced Scalable Wideband Speech Coding for IP Networks <i>Tokunbo Ogunfunmi, Koji Seto, Santa Clara University, United States</i>	8:40 AM
TA5a-3	Adaptive Control of Applying Band-Width for Post Filter of Speech Coder Depending on Pitch Frequency <i>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</i>	9:05 AM
TA5a-4	Classification of Sonorant Consonants Utilizing Empirical Mode Decomposition <i>Ashkan Ashrafi, San Diego State University, United States; Stanley Wenndt, Air Force Research Laboratory, United States</i>	9:30 AM

Session TA5b

Historic Photographic Paper Identification via Textural Similarity Assessment

TA5b-1	Automated Surface Texture Classification of Photographic Print Media <i>Paul Messier, Paul Messier LLC, United States; Richard Johnson, Cornell University, United States</i>	10:15 AM
TA5b-2	Eigentextures: An SVD Approach to Automated Paper Classification <i>William Sethares, Atul Ingle, Tomas Krc, University of Wisconsin, United States; Sally Wood, Santa Clara University, United States</i>	10:40 AM
TA5b-3	Texture Classification via Area-Scale Analysis of Raking Light Images <i>Andrew G. Klein, Anh Do, Christopher Brown, Worcester Polytechnic Institute, United States; Philip Klausmeyer, WAM, United States</i>	11:05 AM
TA5b-4	Hyperbolic Wavelet Transform for Historic Photographic Paper Classification Challenge <i>Stephane Roux, Patrice Abry, ENS Lyon, France; Herwig Wendt, ENSHEEIT-IRIT, France; Stephane Jaffard, Paris Est University, France</i>	11:30 AM

Session TA6a

Compressive Methods in Radar

TA6a-1	Sparse Arrays, MIMO, and Compressive Sensing for GMTI Radar <i>Haley Kim, Alexander Haimovich, New Jersey Institute of Technology, United States</i>	8:15 AM
TA6a-2	Efficient Linear Time-Varying System Identification Using Chirp Waveforms <i>Andrew Harms, Duke University, United States; Waheed Bajwa, Rutgers University, United States; Robert Calderbank, Duke University, United States</i>	8:40 AM

TA6a-3	Robust Multipath Exploitation Radar Imaging in Urban Sensing Based on Bayesian Compressive Sensing <i>Qisong Wu, Yimin Zhang, Moeness Amin, Fauzia Ahmad, Villanova University, United States</i>	9:05 AM
TA6a-4	Joint Sparse and Low-rank Model for Radio-Frequency Interference Suppression in Ultra-wideband Radar Applications <i>Lam Nguyen, Army Research Laboratory, United States; Minh Dao, Trac Tran, Johns Hopkins University, United States</i>	9:30 AM

Session TA6b

Statistical Inference in Smart Grids

TA6b-1	Revisiting Cyclo-Stationary Random Signal Analysis for Modeling Renewable Power <i>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</i>	10:15 AM
TA6b-2	Integrating PMU-data-driven and Physics-based Analytics for Power Systems Operations <i>Yang Chen, Le Xie, P. R. Kumar, Texas A&M University, United States</i>	10:40 AM
TA6b-3	Sensor Placement for Real-Time Dynamic State Estimation in Power Systems: A Structural Systems Approach <i>Pedro Rocha, University of Porto, Portugal; Sergio Pequito, Carnegie Mellon University, United States; Pedro Aguiar, Paula Rocha, University of Porto, Portugal; Soumya Kar, Carnegie Mellon University, United States</i>	11:05 AM
TA6b-4	Dynamic Joint Outage Identification and State Estimation in Power Systems <i>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</i>	11:30 AM

Session TA7a

Computer Arithmetic I

TA7a-1	Ultra-Light Weight Hardware Accelerator Circuits for Data Encryption in Wearable Systems <i>Sanu Mathew, Sudhir Satpathy, Vikram Suresh, Ram Krishnamurthy, Intel Corporation, United States</i>	8:15 AM
TA7a-2	Arithmetic Operations in the Heterogeneous System Architecture <i>Michael Schulte, AMD Research, United States</i>	8:40 AM
TA7a-3	Low Latency is Low Energy <i>David Lutz, Neil Burgess, ARM, United States</i>	9:05 AM

TA7a-4 Optimizing DSP Circuits by a New Family of 9:30 AM
Arithmetic Operators
Javier Hormigo, Julio Villalba, Universidad de Malaga, Spain

Session TA7b MIMO Sensing

TA7b-1 Bi-Static MIMO Radar Operations for 10:15 AM
Range-Folded Clutter Mitigation
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 10:40 AM
Using Radar Clutter and MIMO
Matthew Brown, Mitch Mirkin, Dan Rabideau, MIT Lincoln Laboratory, United States

TA7b-3 High Resolution Imaging for MIMO Forward 11:05 AM
Looking Ground Penetrating Radar
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 11:30 AM
Mimo Ultrasonic Sensing and Group Sparse
Bayesian Learning
Qisong Wu, Yimin Zhang, Moeness Amin, Andrew Golato, Sridhar Santhanam, Fauzia Ahmad, Villanova University, United States

Session TA8a1 Channel Estimation and MIMO Feedback

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

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 Vanderghyest, 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 <i>Benoit Fortin, Regis Lherbier, Jea-Charles Noyer, Univ. Littoral Cote d'Opale, France</i>
TA8a2-8	Spatial Domain Synthetic Scene Statistics <i>Debarati Kundu, Brian Evans, University of Texas at Austin, United States</i>

Session TA8a3 Signal Processing for Communications

8:15 AM–9:55 AM

TA8a3-1	Energy-Efficient Secure Communications in MISO-SE Systems <i>Alessio Zappone, Pin-Hsun Lin, Eduard A. Jorswieck, TU Dresden, Germany</i>
TA8a3-2	Distinguishing BFSK from QAM and PSK by Sampling Once per Symbol <i>Mohammad Bari, Milos Doroslovacki, George Washington University, United States</i>
TA8a3-3	Quadratic Program Solution of Communication Links Under Jamming <i>Koorosh Firouzbakht, Guevara Noubir, Masoud Salehi, Northeastern University, United States</i>
TA8a3-4	An Iterative Soft Decision Based Adaptive K-best Decoder Without SNR Estimation <i>Mehnaz Rahman, Ehsan Rohani, Gwan Choi, Texas A&M University, United States</i>
TA8a3-5	MMSE Scaling Enhances Performance in Practical Lattice Codes <i>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</i>
TA8a3-6	RLS-Based Frequency-domain DFE for Uplink SC-FDMA <i>Naveed Iqbal, Azzedine Zerguine, King Fahd University of Petroleum and Minerals, Saudi Arabia; Naofal Al-Dhahir, University of Texas at Dallas, United States</i>
TA8a3-7	Reduced-State Cyclic Viterbi Receiver for Localized SC-FDMA Uplink System <i>Jeng-Kuang Hwang, Jeng-Da Li, Yu-Chang Hsu, Chuan-Shun Lin, Yuan-Ze University, Taiwan</i>
TA8a3-8	Energy Detection Using Very Large Antenna Array Receivers <i>Alex Oliveras Martinez, Elisabeth De Carvalho, Petar Popovski, Gert Frølund Pedersen, Aalborg University, Denmark</i>

Session TA8a4 Adaptive Filtering

8:15 AM–9:55 AM

TA8a4-1	On Component-Wise Conditionally Unbiased Linear Bayesian Estimation <i>Mario Huemer, Oliver Lang, Johannes Kepler University Linz, Austria</i>
TA8a4-2	Performance of Proportionate-type NLMS Algorithm with Gain Allocation Proportional to the Mean Square Weight Deviation <i>Kevin Wagner, Naval Research Laboratory, United States; Milos Doroslovacki, George Washington University, United States</i>
TA8a4-3	Predictive Sensor Selection for Navigation in Constrained Environments <i>Markus Fröhle, Ali A. Zaidi, Erik Ström, Henk Wymeersch, Chalmers University of Technology, Sweden</i>
TA8a4-4	An Efficient Least Mean Squares Algorithm based on q-Gradient <i>Ubaid Al-Saggaf, Mohammad Moinuddin, King Abdulaziz University, Saudi Arabia; Azzedine Zerguine, King Fahd University of Petroleum and Minerals, Saudi Arabia</i>
TA8a4-5	Optimal Step Size Control for Acoustic Echo Cancellation <i>Khosrow Lashkari, Seth Suppappola, Cirrus Logic, United States</i>
TA8a4-6	Stochastic Gradient Algorithm Based on an Improved Higher Order Exponentiated Error Cost Function <i>Umair bin Mansoor, Syed Asad, Azzedine Zerguine, King Fahd University of Petroleum and Minerals, Saudi Arabia</i>
TA8a4-7	Spectral Multiscale Coverage with the Feature Aided CPHD Tracker <i>Ramona Georgescu, Shuo Zhang, Amit Surana, Alberto Speranzon, Ozgur Erdinc, United Technologies Research Center, United States</i>
TA8a4-8	Adaptive Sampling with Sensor Selection for Target Tracking in Wireless Sensor Networks <i>Abdulkadir Kose, Engin Masazade, Yeditepe University, Turkey</i>

Session TA8b1 Multiuser and Cellular Systems

10:15 AM–11:55 AM

TA8b1-1	Average Sum MSE Minimization in the Multi-User Downlink With Multiple Power Constraints <i>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</i>
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TA8b1-2	Hierarchical Precoding for Ultra-Dense Heterogeneous Networks <i>Lars Thiele, Martin Kurras, Fraunhofer Institute for Telecommunications Heinrich Hertz Institute, Germany</i>
TA8b1-3	Detection using Block QR Decomposition for MIMO HetNets <i>Robin Thomas, Raymond Knopp, Eurecom, France; Sunil (B.T.) Maharaj, University of Pretoria, South Africa</i>
TA8b1-4	On Performance Prediction for Multiuser Detection Enabled Systems in Packet Based Asynchronous Gaussian Multiple Access Channels <i>Prabahan Basu, MIT Lincoln Laboratory, United States</i>
TA8b1-5	Decentralized Target Rate Optimization for MU-MIMO Leakage Based Precoding <i>Tim Rüegg, Marc Kuhn, Armin Wittneben, ETH Zurich, Switzerland</i>
TA8b1-6	Leveraging Interference for Increasing Throughput and Reliability of Commercial Wireless Small Cells <i>Rachel Learned, Michael Pitaro, Matthew Ho, Massachusetts Institute of Technology, United States</i>
TA8b1-7	Throughput Analysis of LTE and WiFi in Unlicensed Band <i>Abhijeet Bhorkar, Christian Ibars Casas, Pingping Zong, Intel Corporation, United States</i>
TA8b1-8	Multi-User Detection for xDSL with Partial Cooperation Among Multiple Operators <i>Syed Hassan Raza Naqvi, Umberto Spagnolini, Politecnico di Milano, Italy</i>

Session TA8b2 Computer Arithmetic II

10:15 AM–11:55 AM

TA8b2-1	Improved Non-restoring Square Root Algorithm with Dual Path Calculation <i>Kihwan Jun, Earl Swartzlander, University of Texas at Austin, Republic of Korea</i>
TA8b2-2	Merged Residue Number System Generation <i>Michael Sullivan, Earl Swartzlander, University of Texas at Austin, United States</i>
TA8b2-3	Partial Product Generation and Addition for Multiplication in FPGAs With 6-Input LUTs <i>George Walters, Penn State Erie, The Behrend College, United States</i>
TA8b2-4	Low-Power Radix-4 Quotient Generator <i>Milos Ercegovic, University of California, Los Angeles, United States</i>
TA8b2-5	Memristor Based Adders <i>Divya Mahajan, Matheen Musaddiq, Earl Swartzlander, University of Texas at Austin, United States</i>
TA8b2-6	Canonic Real-Valued FFT Structures <i>Megha Parhi, Yingjie Lao, Keshab K. Parhi, University of Minnesota, Twin Cities, United States</i>

TA8b2-7	A High Throughput and Low Power Radix-4 FFT Architecture <i>Soumak Mookherjee, Linda S. DeBrunner, Victor DeBrunner, Florida State University, United States</i>
TA8b2-8	A Domain Splitting Algorithm for the Mathematical Functions Code Generator <i>Olga Kuprianova, Christoph Lauter, UPMC, LIP6, PEQUAN team, France</i>

Session TA8b3 Array Processing Methods

10:15 AM–11:55 AM

TA8b3-1	Array Self Calibration with Large Initial Errors <i>Benjamin Friedlander, University of California, Santa Cruz, United States</i>
TA8b3-2	Maximum Likelihood Estimation for Geolocation in the Presence of Multipath <i>Benjamin Friedlander, University of California, Santa Cruz, United States</i>
TA8b3-3	Enhanced Location Detection Algorithms Based on Time of Arrival Trilateration <i>Sajina Pradhan, Jae-young Pyun, Goo-Rak Kwon, Seokjoo Shin, Suk-seung Hwang, Chosun University, Republic of Korea</i>
TA8b3-4	Designing Radio Interferometric Positioning Systems for Indoor Localizations in Millimeter Wave Bands <i>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</i>
TA8b3-5	Indoor Sound Source Localization and Number Estimation Using Infinite Gaussian Mixture Model <i>Longji Sun, Qi Cheng, Oklahoma State University, United States</i>
TA8b3-6	On the Structural Nature of Cooperation in Distributed Network Localization <i>Alireza Ghods, Stefano Severi, Giuseppe Abreu, Jacobs University Bremen, Germany; Samuel Van de Velde, Ghent University, Belgium</i>
TA8b3-7	Enabling Distributed Detection with Dependent Sensors <i>Brian Proulx, Junshan Zhang, Douglas Cochran, Arizona State University, United States</i>
TA8b3-8	Active Sonar Transmission Strategies in the Presence of Strong Direct Blast <i>Luzhou Xu, Jian Li, Akshay Jain, University of Florida, United States</i>

Session TA8b4 Compressed Sensing III

10:15 AM–11:55 AM

TA8b4-1	Super-resolution Line Spectrum Estimation with Block Priors <i>Kumar Vijay Mishra, Myung Cho, Anton Kruger, Weiyu Xu, University of Iowa, United States</i>	
TA8b4-2	Robust Line Spectral Estimation <i>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</i>	
TA8b4-3	Complexity Reduction in Compressive Sensing using Hirschman Uncertainty Structured Random Matrices <i>Peng Xi, Victor DeBrunner, Florida State University, United States</i>	
TA8b4-4	A Sparse Approach for Estimation of Amplitude Modulated Sinusoids <i>Stefan Ingi Adalbjörnsson, Johan Swärd, Andreas Jakobsson, Ted Kronvall, Lund University, Sweden</i>	
TA8b4-5	Sparsity Order Estimation for Single Snapshot Compressed Sensing <i>Florian Roemer, Anastasia Lavrenko, Giovanni Del Galdo, Thomas Hotz, Technische Universitaet Ilmenau, Germany; Orhan Arikan, Bilkent University, Turkey; Reiner Thomae, Technische Universitaet Ilmenau, Germany</i>	
TA8b4-6	Streaming Signal Recovery Using Sparse Bayesian Learning <i>Uditha Wijewardhana, Marian Codreanu, Centre for Wireless Communications, Finland</i>	
TA8b4-7	Compressed Change Detection for Structural Health Monitoring <i>Omid Sarayanibafghi, George Atia, Masoud Malekzadeh, Necati Catbas, University of Central Florida, United States</i>	
TA8b4-8	A Sparse Semi-Parametric Chirp Estimator <i>Johan Swärd, Johan Brynolfsson, Andreas Jakobsson, Maria Hansson-Sandsten, Lund University, Sweden</i>	

Session TP1a Covariance Mining

TP1a-1	Abstract Algebraic-Geometric Subspace Clustering <i>Manolis Tsakiris, Rene Vidal, Johns Hopkins University, United States</i>	1:30 PM
TP1a-2	Minimum Variance Portfolio Optimization with Robust Shrinkage Covariance Estimation <i>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</i>	1:55 PM

TP1a-3	Greedy Algorithms in Convex Optimization on Banach Spaces <i>Vladimir Temlyakov, University of South Carolina, United States</i>	2:20 PM
TP1a-4	Greedy Algorithms for Learning Graphical Models <i>Ali Jalali, Christopher Johnson, Pradeep Ravikumar, University of Texas at Austin, United States</i>	2:45 PM

Session TP1b Large-Scale Learning and Optimization

TP1b-1	Distributed Adaptive Sparsity-Imposing Canonical Correlations <i>Jia Chen, Ioannis Schizas, University of Texas at Arlington, United States</i>	3:30 PM
TP1b-2	Game-Theoretic Learning In A Distributed-Information Setting: Distributed Convergence To Mean-Centric Equilibria <i>Brian Swenson, Soumya Kar, Carnegie Mellon University, United States; Joao Xavier, Instituto Superior Tecnico, Portugal</i>	3:55 PM
TP1b-3	Network Newton <i>Aryan Mokhtari, Alejandro Ribeiro, University of Pennsylvania, United States</i>	4:20 PM
TP1b-4	Communication-Computation Tradeoffs in Decentralized Stochastic Optimization <i>Konstantinos Tsianos, Michael Rabbat, McGill University, Canada</i>	4:45 PM

Session TP2a Bioinformatics and DNA Computing

TP2a-1	On the Capacity of String-Duplication Systems and Genomic Duplication <i>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</i>	1:30 PM
TP2a-2	Intrinsic Universality and the Computational Power of Self-Assembly <i>Damien Woods, California Institute of Technology, United States</i>	1:55 PM
TP2a-3	Hybrid Rank Aggregation for Gene Prioritization <i>Minji Kim, Farzad Farnoud, Olgica Milenkovic, University of Illinois at Urbana-Champaign, United States</i>	2:20 PM
TP2a-4	Rate-Independent Computation in Chemical Reaction Networks <i>David Doty, California Institute of Technology, United States</i>	2:45 PM

Session TP2b Echo Cancellation

TP2b-1	Echo Cancellation for Bone Conduction Transducers <i>Mohammad Behgam, Steven L. Grant, Missouri University of Science and Technology, United States</i>	3:30 PM
TP2b-2	Uncertainty Modeling in Acoustic Echo Control <i>Gerald Enzner, Rainer Martin, Ruhr-University Bochum, Germany; Peter Vary, RWTH Aachen University, Germany</i>	3:55 PM
TP2b-3	A Kalman Filter for Stereophonic Acoustic Echo Cancellation <i>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</i>	4:20 PM
TP2b-4	Study and Design of Differential Microphone Array Beamforming <i>Jingdong Chen, Northwestern Polytechnical University, China; Jacob Benesty, INRS-EMT, University of Quebec, Canada</i>	4:45 PM

Session TP3a Machine Learning

TP3a-1	Consensus Inference with Multilayer Graphs for Multi-modal Data <i>Karthikeyan Natesan Ramamurthy, IBM T. J. Watson Research Center, United States; Jayaraman J. Thiagarajan, Lawrence Livermore National Laboratory, United States; Rahul Sridhar, Premnisanth Kothandaraman, Ramanathan Nachiappan, SSN College of Engineering, India</i>	1:30 PM
TP3a-2	Energy Price Matrix Factorization <i>Vassilis Kekatos, University of Minnesota, United States</i>	1:55 PM
TP3a-3	A New Reduction Scheme for Gaussian Sum Filters <i>Leila Pishdad, Fabrice Labeau, McGill University, Canada</i>	2:20 PM
TP3a-4	Exploring Upper Bounds on the Number of Distinguishable Classes <i>Catherine Keller, MIT Lincoln Laboratory, United States; Gary Whipple, Laboratory for Telecommunication Sciences, United States</i>	2:45 PM

Session TP3b Sparse Signal Recovery

TP3b-1	Compression Schemes for Time-Varying Sparse Signals <i>Sundeepr Prabhakar Chepuri, Geert Leus, Delft University of Technology, Netherlands</i>	3:30 PM
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TP3b-2	A Fast Algorithm for Sparse Generalized Eigenvalue Problem <i>Junxiao Song, Prabhu Babu, Daniel Palomar, Hong Kong University of Science and Technology, Hong Kong SAR of China</i>	3:55 PM
TP3b-3	Bootstrapped Sparse Bayesian Learning for Sparse Signal Recovery <i>Ritwik Giri, Bhaskar Rao, University of California, San Diego, United States</i>	4:20 PM
TP3b-4	A Fast Proximal Gradient Algorithm for Reconstructing Nonnegative Signals with Sparse Transform Coefficients <i>Renliang Gu, Aleksandar Dogandžic, Iowa State University, United States</i>	4:45 PM

Session TP4a Optical Communications

TP4a-1	Fifth-Order Volterra Series Based Nonlinear Equalizer for Long-Haul High Data Rate Optical Fiber Communications <i>Abdelkerim Amari, Philippe Ciblat, Yves Jaouen, Telecom ParisTech, France</i>	1:30 PM
TP4a-2	Improving the Ultraviolet Scattering Channel Via Beam Reshaping <i>Difan Zou, Shang-Bin Li, Zhengyuan Xu, School of Information Science and Technology, and Optical Wireless Communication and Network Center, China</i>	1:55 PM
TP4a-3	Correlation Study on the SIMO Channel Output of NLOS Optical Wireless Communications <i>Boyang Huang, Chen Gong, Zhengyuan Xu, University of Science and Technology of China, China</i>	2:20 PM
TP4a-4	An Improved Performance Decoding Technique for Asymmetrically and Symmetrically Clipped Optical (ASCO)-OFDM <i>Nan Wu, Yeheskel Bar-Ness, New Jersey Institute of Technology, United States</i>	2:45 PM

Session TP4b Energy Harvesting Wireless Communications

TP4b-1	On the Capacity of the Energy Harvesting Channel with Energy Transfer <i>Aylin Yener, Pennsylvania State University, United States</i>	3:30 PM
TP4b-2	Renewables Powered Mobile Cloud Offloading <i>Kaibin Huang, University of Hong Kong, Hong Kong SAR of China</i>	3:55 PM
TP4b-3	Sum-rate Analysis for Systems with Wireless Energy Transfer <i>Rania Morsi, Derrick Wing Kwan Ng, Robert Schober, Friedrich-Alexander University of Erlangen-Nuremberg, Germany</i>	4:20 PM

TP4b-4 Network Information and Energy Flow 4:45 PM
Sennur Ulukus, University of Maryland, United States

Session TP5a Speech Enhancement

TP5a-1 Noise Power Spectral Density Matrix 1:30 PM
Estimation Based on Improved IMCRA
Qipeng Gong, Benoit Champagne, Peter Kabal, McGill University, Canada

TP5a-2 BI-CosampSE: Block Identification based 1:55 PM
Compressive Sampling Matching Pursuit for Speech
Enhancement
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 2:45 PM
Components within Complex-Valued Subband
Mixtures with Applications to Speech Processing
Greg Okopal, Scott Wisdom, Les Atlas, University of Washington, United States

Session TP5b Full Duplex MIMO Radio

TP5b-1 Non-Linear Distortion Cancellation in Full 3:30 PM
Digital Domain for Full Duplex Radios
Yang-Seok Choi, Feng Xue, Roya Doostnejad, Shilpa Talwar, Intel Corporation, United States

TP5b-2 Blind Digital Tuning for Interference 3:55 PM
Cancellation in Full-Duplex Radio
Yingbo Hua, University of California, Riverside, United States

TP5b-3 On In-Band Full-Duplex MIMO Radios with 4:20 PM
Transmit and Receive Antenna Reuse
Daniel Bliss, Yu Rong, Arizona State University, United States

TP5b-4 MIMO Broadcast Channel with Continuous 4:45 PM
Feedback using Full-duplex Radios
Xu Du, Rice University, United States; Christopher Dick, Xilinx Incorporated, United States; Ashutosh Sabharwal, Rice University, United States

Session TP6a Passive and Multistatic Radars

TP6a-1 Passive Multistatic Radar Based on 1:30 PM
Long-term Evolution Signals
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 1:55 PM
Algorithm in Passive Radar with DVB-T2 Emitter
Guolong Cui, Hongbin Li, Stevens Institute of Technology, United States; Braham Himed, Air Force Research Laboratory, United States

TP6a-3 Improving Multistatic MIMO Radar 2:20 PM
Performance in Data-Limited Scenarios
Tariq Qureshi, Muralidhar Rangaswamy, Air Force Research Laboratory, United States; Kristine Bell, Metron Inc., United States

TP6a-4 Market based Sensor Mobility Management 2:45 PM
for Target Localization
Nianxia Cao, Swastik Brahma, Pramod Varshney, Syracuse University, United States

Session TP6b Many-Core Platforms

TP6b-1 Towards Modeling and Analyzing 3:30 PM
Performance of LTE Base Station Software
Konstantin Popov, SICS, Sweden; Mats Brorsson, KTH Royal Institute of Technology, Sweden

TP6b-2 REPLICA T7-16-128 - A 2048-threaded 3:55 PM
16-core 7-FU Chained VLIW Chip Multiprocessor
Martti Forsell, Jussi Roivainen, VTT, Finland

TP6b-3 Improving Image Quality by SSIM Based 4:20 PM
Increase of Run-Length Zeros in GPGPU JPEG
Encoding
Stefan Petersson, Håkan Grahn, Blekinge Institute of Technology, Sweden

TP6b-4 Kickstarting High-Performing 4:45 PM
Energy-Efficient Manycore Architectures with
Epiphany
Tomas Nordström, Zain ul-Abdin, Halmstad University, Sweden; Andreas Olofsson, Adapteva, United States

Session TP7a Design Methodologies for Signal Processing

TP7a-1 Finding Fast Action Selectors for Dataflow 1:30 PM
Actors
Gustav Cedersjö, Jörn W. Janneck, Jonas Skeppstedt, Lund University, Sweden

TP7a-2 Automatic Generation of Application Specific 1:55 PM
FPGA Multicore Accelerators
Pascal Schleuniger, Andreas Hindborg, Nicklas Bo Jensen, Maxwell Walter, Laust Brock-Nannestad, Lars Bonnichen, Christian W. Probst, Sven Karlsson, Technical University of Denmark, Denmark

TP7a-3 Dataflow Toolset for Soft-Core Processors on 2:20 PM
FPGA for Image Processing Applications
Burak Bardak, Fahad Manzoor Siddiqui, Roger Woods, Queen's University Belfast, United Kingdom

TP7a-4 An Enhanced and Embedded GNU Radio 2:45 PM
Flow
*Ryan Marlow, Peter Athanas, Virginia Polytechnic
Institute and State University, United States*

Session TP7b Optical Wireless Communications

TP7b-1 Multiuser MISO Indoor Visible Light 3:30 PM
Communications
*Jie Lian, Mohammad Noshad, Maite Brandt-Pearce,
University of Virginia, United States*

TP7b-2 Optical Spatial Modulation OFDM using 3:55 PM
Micro LEDs
*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 4:20 PM
Communications and Illumination Constraints
*Thomas Little, Hany Elgala, Boston University, United
States*

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

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, Emre Can 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

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

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

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, D. Richard Brown III, Worcester Polytechnic Institute, United States

Session TP8b1 Topics in Communication Systems

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
Weihaio 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 Sevuhtekin, Andrew Singer, University of Illinois at Urbana-Champaign, United States
- TP8b1-5

Statistical Data Correction for Unreliable Memories
Christoph Roth, ETH-Zurich, Switzerland; Christoph Struder, 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

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 Administration of ROK, Republic of Korea

Session TP8b3 Signal Processing Architectures

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

3:30 PM–5:10 PM

TP8b4-1	Prediction of a Bed-Exit Motion: Multi-Modal Sensing Approach and Incorporation of Biomechanical Knowledge <i>Jun Hao, Xiaoxiao Dai, Amy Stroder, Jun Zhang, Bradley Davidson, Mohammad Mahoor, University of Denver, United States; Neil McClure, OKT Enterprises, United States</i>
TP8b4-2	Ultra-Wideband Radar based Human Body Landmark Detection and Tracking with Biomedical Constraints for Human Motion Measuring <i>Xiaoxiao Dai, Zhichong Zhou, Jun Zhang, Bradley Davidson, University of Denver, United States</i>
TP8b4-3	Separation of Interleaved Markov Chains <i>Ariana Minot, Yue Lu, Harvard University, United States</i>
TP8b4-4	Ramanujan Subspaces and Digital Signal Processing <i>P. P. Vaidyanathan, California Institute of Technology, United States</i>
TP8b4-5	Asynchronous Discrete-time Signal Processing with Molecular Reactions <i>Sayed Ahmad Salehi, Marc Riedel, Keshab K. Parhi, University of Minnesota, United States</i>
TP8b4-6	Sequential Prediction of Individual Sequences in the Presence of Computational Errors <i>Mehmet Donmez, Andrew Singer, University of Illinois at Urbana Champaign, United States</i>
TP8b4-7	A Scalable Feature Learning and Tag Prediction Framework for Natural Environment Sounds <i>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</i>
TP8b4-8	Extending Coherence for Optimal Detection of Nonstationary Harmonic Signals <i>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</i>

Session WA1a MIMO Design for mmWave Systems

WA1a-1	A Tractable Model for Rate in Noise Limited mmWave Cellular Networks <i>Sarabjot Singh, Mandar Kulkarni, Jeffrey Andrews, University of Texas at Austin, United States</i>
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WA1a-2	MIMO Designs for mmWave Wireless LAN Systems <i>Sridhar Rajagopal, Samsung Research America, United States</i>	8:40 AM
WA1a-3	Analysis of Millimeter Wave Cellular Networks with Overlaid Microwave Base Stations <i>Tianyang Bai, Robert W. Heath Jr., University of Texas at Austin, United States</i>	9:05 AM
WA1a-4	Increasing Coverage Beyond Microwave Frequencies Using Beamforming <i>Vip Desai, Philippe Sartori, Weimin Xiao, Anthony Soong, Huawei Technologies Co., Ltd., United States</i>	9:30 AM

Session WA1b Massive MIMO II

WA1b-1	A Multistage Linear Receiver Approach for MMSE Detection in Massive MIMO <i>Ting Li, Sujeet Patole, Murat Torlak, University of Texas at Dallas, United States</i>	10:15 AM
WA1b-2	Beamforming-Based Spatial Precoding in FDD Massive MIMO Systems <i>Ming-Fu Tang, Meng-Ying Lee, Borching Su, National Taiwan University, Taiwan; Chia-Pang Yen, Industrial Technology Research Institute, Taiwan</i>	10:40 AM
WA1b-3	Asymmetric Distributed Space Frequency Coded Cooperative Network for Large Scale MIMO <i>Bhagyashri Honrao, Chirag Warty, Shikha Nema, SNDT University, India</i>	11:05 AM

Session WA2a 5G and Energy Efficient Cellular Networks

WA2a-1	Traffic Aware Offloading for BS Sleeping in Heterogeneous Networks <i>Shan Zhang, Sheng Zhou, Zhisheng Niu, Tsinghua University, China</i>	8:15 AM
WA2a-2	A Survey on 5G New Waveform: From Energy Efficiency Aspects <i>Shunqing Zhang, Xiuqiang Xu, Yiqun Wu, Lei Lu, Yan Chen, Huawei Technologies Co., Ltd., China</i>	8:40 AM
WA2a-3	Evolution of LTE and new Radio Access Technologies for FRA (Future Radio Access) <i>Hidetoshi Kayama, Huiling Jiang, DOCOMO Beijing Communications Laboratories Co. Ltd., China</i>	9:05 AM
WA2a-4	A Novel Cell-Interference Model and Performance Analysis of the Future Wireless Networks <i>Jinkang Zhu, Haibao Ren, University of Science and Technology of China, China</i>	9:30 AM

Session WA2b Mobile Health

WA2b-1	On Outlier Detection in R-R Intervals from ECG Data Collected in the Natural Field Environment <i>Rummana Bari, Santosh Kumar, University of Memphis, United States</i>	10:15 AM
WA2b-2	Patient-Centric On-Body Sensor Localization in Smart Health Systems <i>Ramyar Saeedi, Hassan Ghasemzadeh, Washington State University, United States</i>	10:40 AM
WA2b-3	Making Sense of Personal Data in Clinical Settings <i>Harinath Garudadri, University of California, San Diego, United States</i>	11:05 AM

Session WA3a Sparse Learning and Estimation

WA3a-1	Sparse Bayesian Learning Using Approximate Message Passing <i>Maher Al-Shoukairi, Bhaskar Rao, University of California, San Diego, United States</i>	8:15 AM
WA3a-2	Hierarchical Bayesian Approach for Jointly-Sparse Solution of Multiple-Measurement Vectors <i>Mohammad Shekaramiz, Todd K. Moon, Jacob H. Gunther, Information Dynamics Laboratory / Utah State University, United States</i>	8:40 AM
WA3a-3	Dictionary Approaches For Identifying Periodicities in Data <i>Srikanth Venkata Tenneti, P. P Vaidyanathan, California Institute of Technology, United States</i>	9:05 AM
WA3a-4	An Asymptotic Maximum Likelihood Estimator for the Period of a Cyclostationary Process <i>David Ramirez, Peter J. Schreier, University of Paderborn, Germany; Javier Via, Ignacio Santamaria, University of Cantabria, Spain; Louis L. Scharf, Colorado State University, United States</i>	9:30 AM

Session WA3b Advances in Statistical Learning

WA3b-1	Quasicontinuous State Hidden Markov Models Incorporating State Histories <i>Todd K. Moon, Jacob H. Gunther, Utah State University, United States</i>	10:15 AM
WA3b-2	A Classification Centric Quantizer for Efficient Encoding of Predictive Feature Errors <i>Scott Deeann Chen, Pierre Moulin, University of Illinois at Urbana-Champaign, United States</i>	10:40 AM

WA3b-3	Time-Varying Stochastic Multi-Armed Bandit <i>Sattar Vakili, Qing Zhao, Yuan Zhou, University of California, Davis, United States</i>	11:05 AM
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Session WA4a Physical Layer Security II

WA4a-1	Investigation of Secure Wireless Regions Using Configurable Beamforming on WARP platform <i>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</i>	8:15 AM
WA4a-2	Wiretap-Channels with Constrained Active Attacks <i>Carsten Rudolf Janda, Christian Scheunert, Eduard A. Jorswieck, Dresden University of Technology, Germany</i>	8:40 AM
WA4a-3	Secrecy Rate Maximization for Information and Energy Transfer in MIMO Beamforming Networks <i>Jens Steinwandt, Ilmenau University of Technology, Germany; Sergiy Vorobyov, Aalto University, Finland; Martin Haardt, Ilmenau University of Technology, Germany</i>	9:05 AM
WA4a-4	Everlasting Secrecy in Disadvantaged Wireless Environments against Sophisticated Eavesdroppers <i>Azadeh Sheikholeslami, Dennis Goeckel, Hossein Pishro-nik, UMASS-Amherst, United States</i>	9:30 AM

Session WA4b Coding and Decoding

WA4b-1	Noisy Belief Propagation Decoder <i>Chu-Hsiang Huang, Yao Li, Lara Dolecek, University of California, Los Angeles, United States</i>	10:15 AM
WA4b-2	A Low-Complexity Improved Successive Cancellation Decoder for Polar Codes <i>Orion Afisiadis, Alexios Balatsoukas-Stimming, Andreas Burg, École Polytechnique Fédérale de Lausanne, Switzerland</i>	10:40 AM
WA4b-3	Differential Trellis Coded Modulation with State Dependent Mappings <i>Ruey-Yi Wei, National Central University, Taiwan; James Ritcey, University of Washington, United States</i>	11:05 AM

Session WA5a Information Processing for Social and Sensor Networks

WA5a-1	Fourier Transform for Signals on Dynamic Graphs <i>Arash Golibagh Mahyari, Selin Aviyente, Michigan State University, United States</i>	8:15 AM
WA5a-2	Anomalous Subgraph Detection in Publication Networks: Leveraging Truth <i>Nadya Bliss, Manfred Laubichler, Arizona State University, United States</i>	8:40 AM
WA5a-3	Identifying Congestion in Software-Defined Networks <i>Thomas Parker, Jamie Johnson, Murali Tummala, John McEachen, James Scrofani, Naval Postgraduate School, United States</i>	9:05 AM
WA5a-4	Vulnerability of CPS inference to DoS attacks <i>Mohammadreza Doostmohammadian, Usman A. Khan, Tufts University, United States</i>	9:30 AM

Session WA5b Document Processing and Synchronization

WA5b-1	Synchronizing Ordinal Data over Noisy Channels <i>Han Mao Kiah, Lili Su, Olgica Milenkovic, University of Illinois at Urbana-Champaign, United States</i>	10:15 AM
WA5b-2	Efficient Synchronization of Files in Distributed Storage Systems <i>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</i>	10:40 AM
WA5b-3	Efficient File Synchronization: Extensions and Simulations <i>Clayton Schoeny, Nicolas Bitouze, Frederic Sala, Lara Dolecek, University of California, Los Angeles, United States</i>	11:05 AM

Session WA6a Adaptive Signal Design and Analysis

WA6a-1	Eigen-Basis Analysis of Expected Cumulative Modulus for Constrained Signal Design <i>Aaron Jones, Air Force Research Laboratory, United States; Brian Rigling, Wright State University, United States; Muralidhar Rangaswamy, Air Force Research Laboratory, United States</i>	8:15 AM
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WA6a-2	Characterization of Information in Phase of Radar Range Profiles <i>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</i>	8:40 AM
WA6a-3	Radar Tracking Waveform Design in Continuous Space and Optimization Selection Using Differential Evolution <i>Antonia Papandreou-Suppappola, Bryan Paul, Daniel Bliss, Arizona State University, United States</i>	9:05 AM
WA6a-4	Reduced Rank Adaptive Filtering in Impulsive Noise Environments <i>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</i>	9:30 AM

Session WA6b Distributed Detection and Optimization

WA6b-1	Distributed Detection for Wireless Sensor Networks with Fusion Center under Correlated Noise <i>Alireza S. Behbahani, Ahmed M. Eltawil, Hamid Jafarkhani, University of California, Irvine, United States</i>	10:15 AM
WA6b-2	Distributed Asynchronous Time-Varying Constrained Optimization <i>Andrea Simonetto, Geert Leus, Delft University of Technology, Netherlands</i>	10:40 AM
WA6b-3	M-ary Distributed Detection in the Presence of Channel Estimation Error <i>Zahra Hajibabaei, Azadeh Vosoughi, University of Central Florida, United States</i>	11:05 AM

Session WA7a Implementation of Wireless Systems

WA7a-1	Field-Order Based Hardware Cost Analysis of Non-Binary LDPC Decoders <i>Yuta Toriyama, Behzad Amiri, Lara Dolecek, Dejan Markovic, University of California, Los Angeles, United States</i>	8:15 AM
WA7a-2	Algorithm and Architecture for Hybrid Decoding of Polar Codes <i>Bo Yuan, Keshab K. Parhi, University of Minnesota, Twin Cities, United States</i>	8:40 AM
WA7a-3	A Signal Processing Approach Towards Ultra-Low Power Transceiver Design <i>Vijay Venkateswaran, Pawel Rulikowski, Howard Huang, Bell Labs, Ireland</i>	9:05 AM

WA7a-4

A High Performance GPU-based
Software-defined Basestation
*Kaipeng Li, Michael Wu, Guohui Wang, Joseph R.
Cavallaro, Rice University, United States*

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Session WA7b

Video Coding Architecture and
Design

WA7b-1

Development and Optimization of High Level
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
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Mickaël Raulet, INSA of Rennes / IETR, France; Marco
Mattavelli, École Polytechnique Fédérale de Lausanne,
Switzerland*

10:15 AM

WA7b-2

A Low-Power Hybrid Video Recording
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*

10:40 AM

WA7b-3

Design of View Synthesis Prediction in
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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Rocha, Paula	TA6b-3	Schreier, Peter J.	WA3a-4	Spagnolini, Umberto	TP8b2-6	Thiagarajan, Jayaraman	TP8b4-7
Rocha, Pedro	TA6b-3	Schulte, Michael	TA7a-2	Spanias, Andreas	TP8b4-7	Thiele, Lars	TA8b1-2
Roemer, Florian	TA8b4-5	Schupp, Daniel	TP8b1-8	Speranzon, Alberto	TA8a4-7	Thomae, Reiner	TA8b4-5
Rohani, Ehsan	TA8a3-4	Schwartz, Moshe	TP2a-1	Sridhar, Rahul	TP3a-1	Thomas, Robert	MP5a-1
Roivainen, Jussi	TP6b-2	Schwarz, Stefan	TA8a1-7	Stanacevic, Milutin	MP8a3-3	Thomas, Robin	TA8b1-3
Romero, Ric	TP8a2-5	Scrofanì, James	WA5a-3	Stanczak, Slawomir	TP8b2-1	Thomas, Timothy	TA4a-4
Rong, Yu	TP5b-3	Scutari, Gesualdo	MA1b-1	Stathakis, Efthymios	TP8a1-1	Thompson, Keith	MP8a3-8

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Tonelli, Oscar	MP8a4-6	Vosoughi, Azadeh	MA8b4-6	Wu, Yiqun	WA2a-2	Zerguine, Azzedine	TA8a4-4
Tong, Lang	MP5a-1	Vosoughi, Azadeh	TP8a2-3	Wu, Yonglin	MP8a2-7	Zerguine, Azzedine	TA8a4-6
Toriyama, Yuta	WA7a-1	Vosoughi, Azadeh	TP8a2-7	Wu, Zhengwei	TP8a2-1	Zhai, Yixuan	TA4b-4
Torlak, Murat	WA1b-1	Vosoughi, Azadeh	WA6b-3	Wymeersch, Henk	TA8a4-3	Zhang, Chuan	MA7b-2
Tragantitis, Panagiotis	TA1b-3	Vouras, Peter	TP8a2-8	Xavier, Joao	TP1b-2	Zhang, Huishuai	MA4b-4
Tran, Trac	MA6b-3	Vuppala, Satyanarayana	TP8a4-2	Xi, Chenguang	TP8a4-4	Zhang, Huishuai	MA4b-4
Tran, Trac	TA6a-4	Wage, Kathleen	TP8b3-8	Xi, Peng	TA8b4-3	Zhang, Jianshu	MP1b-3
Tripathy, Abhijit	MP8a5-2	Wagner, Kevin	TA8a4-2	Xia, Xiang-Gen	TA3b-1	Zhang, Jianzhong (Charlie)	TA4a-1
Trzasko, Joshua	MP8a2-3	Wai, Hoi To	TA3a-4	Xiao, Weimin	WA1a-4	Zhang, Jun	MA8b4-7
Tsakiris, Manolis	TP1a-1	Walter, Maxwell	TP7a-2	Xie, Le	TA6b-2	Zhang, Jun	TA1a-3
Tseng, Kai-Han	TA8a1-3	Walters, George	TA8b2-3	Xu, Jingwei	MA7b-4	Zhang, Jun	TP8b4-1
Tsianos, Konstantinos	TP1b-4	Wang, Gang	MA1b-4	Xu, Luzhou	TA7b-3	Zhang, Jun	TP8b4-2
Tsonev, Dobroslav	TP7b-2	Wang, Guohui	MP8a4-2	Xu, Luzhou	TA8b3-8	Zhang, Junshan	TA8b3-7
Tufvesson, Fredrik	MP4b-4	Wang, Guohui	WA7a-4	Xu, Tianyi	TA3b-1	Zhang, Mengyi	TP8b2-4
Tullberg, Hugo	TA4a-2	Wang, Rui	MP8a1-3	Xu, Weiyu	MP1a-2	Zhang, Shan	WA2a-1
Tummala, Murali	WA5a-3	Wang, Xin	MA8b3-3	Xu, Weiyu	TA8a1-2	Zhang, Shunqing	WA2a-2
Tyagi, Himanshu	MA4b-2	Wang, Yiyin	TA8b3-4	Xu, Weiyu	TA8b4-1	Zhang, Shuo	TA8a4-7
ul-Abdin, Zain	TP6b-4	Wang, Zhaohui	MP4a-3	Xu, Xiuqiang	WA2a-2	Zhang, Xiaoke	MA8b1-6
Ulukus, Sennur	TP4b-4	Wang, Zhongfeng	MA7b-2	Xu, Zhengyuan	MA8b1-6	Zhang, Xincheng	TP8b2-5
Utschick, Wolfgang	MA8b2-2	Warty, Chirag	WA1b-3	Xu, Zhengyuan	TP4a-2	Zhang, Yimin	TA6a-3
Utschick, Wolfgang	TA4b-3	Wassie, Dereje A.	MP8a4-6	Xu, Zhengyuan	TP4a-3	Zhang, Yimin	TA7b-4
Utschick, Wolfgang	TA8b1-1	Watanabe, Shun	MA4b-2	Xu, Zhengyuan	TP8b1-2	Zhang, Yingchen	MP8a1-7
Vaccaro, Richard	MP8a3-6	Weavers, Paul	MP8a2-3	Xue, Feng	TP5b-1	Zhang, Yingchen	TA1a-3
Vaidyanathan, P. P.	WA3a-3	Weeraddana, P. Chathuranga	TA3a-3	Yamada, Takeshi	TA5a-3	Zhang, Yuan	MP5b-2
Vaidyanathan, P. P.	MA6b-4	Wei, Ruey-Yi	WA4b-3	Yang, Liqing	MP4a-4	Zhang, Yuanrui	WA4a-1
Vaidyanathan, P. P.	MP8a3-5	Wei-Ping, Zhu	TP8b2-3	Yang, Liusha	TP1a-2	Zhang, Zemin	MP3a-1
Vaidyanathan, P. P.	TP8b4-4	Weiss, Stephan	MP8a3-8	Yang, Peng	MP6a-2	Zhao, Changhong	MP5a-4
Vakili, Sattar	WA3b-3	Wellner, Genevieve	MP8a2-7	Yang, Shuo	MA8b3-3	Zhao, Qing	TA4b-4
Valdivia, Nicolas	MA8b3-7	Wen, Miaowen	MP4a-4	Yang, Yang	TP8b2-4	Zhao, Qing	TP8a1-2
Valkama, Mikko	TA8a1-5	Wendt, Herwig	TA5b-4	Yen, Chia-Pang	WA1b-2	Zhao, Qing	WA3b-3
Van de Velde, Samuel	TA8b3-6	Wenndt, Stanley	TA5a-4	Yener, Aylin	TP4b-1	Zhao, Ran	TA1b-1
Van De Ville, Dimitri	MP2b-4	West, Derek	MA8b3-6	Yin, Bei	MP8a4-1	Zhao, Yue	MP5a-2
Vanderghenst, Pierre	TA8a2-5	Whipple, Gary	TP3a-4	Yin, Bei	WA4a-1	Zhao, Yue	TA6b-4
Varghese, Lenny	MA2b-1	Wijewardhana, Uditha	TA8b4-6	Yin, Haifan	MP4b-2	Zhou, G. Tong	TA8b3-4
Varghese, Tomy	MP8a2-5	Wilcher, John	MA8b3-5	You, Xiaohu	MA7b-2	Zhou, Sheng	WA2a-1
Varshney, Pramod	MA4b-1	Willett, Rebecca	TA2a-3	Young, Phillip	MP8a2-3	Zhou, Shengli	MP4a-1
Varshney, Pramod	TA4b-2	Wimalajeewa, Thakshila	MA4b-1	Younis, Abdelhamid	TP7b-2	Zhou, Wentian	MP5b-1
Varshney, Pramod	TP6a-4	Wisdom, Scott	TP5a-4	Yu, Hong	MP8a5-7	Zhou, Yuan	WA3b-3
Vary, Peter	TP2b-2	Wisdom, Scott	TP8b4-8	Yuan, Bo	MP8a4-3	Zhou, Zhichong	TP8b4-2
Vasic, Bane	MA7b-3	Wittneben, Armin	MA8b2-6	Yuan, Bo	WA7a-2	Zhu, Jinkang	WA2a-4
Vaughan, Andrew	MA8b4-3	Wittneben, Armin	MP8a4-8	Yuan, Haochen	TA8a2-3	Zhu, Meifang	MP4b-4
Veeravalli, Venugopal	MP1a-1	Wittneben, Armin	TA8b1-5	Yviquel, Hervé	WA7b-1	Zhu, Wei-Ping	MA8b2-1
Vehkaperä, Mikko	TP8a1-3	Wong, Lok	TP8b1-6	Zaidi, Ali A.	TA8a4-3	Zhu, Wei-Ping	TP5a-2
Venkateswaran, Vijay	WA7a-3	Wood, Sally	TA5b-2	Zaker, Nazanin	MA8b4-7	Zoechmann, Erich	TA8a1-7
Verde, Francesco	TA6b-1	Woods, Damien	TP2a-2	Zaki, George	MP7a-1	Zong, Pingping	TA8b1-7
Vía, Javier	WA3a-4	Woods, Roger	TP7a-3	Zappone, Alessio	TA8a3-1	Zorzi, Michele	MA3b-1
Vidal, Rene	TP1a-1	Woods, Roger	WA4a-1	Zariffa, Jose	MP2a-3	Zou, Difan	TP4a-2
Vilà-Valls, Jordi	MP6b-3	Wright, Stephen	MP8a3-1	Zekavat, Seyed	MP4a-3		
Villafañe-Delgado, Marisel	MA8b4-5	Wu, Dalei	TP5a-2	Zerguine, Azzedine	TA8a3-6		
Villalba, Julio	TA7a-4	Wu, Michael	MP8a4-1				
Vook, Frederick	TA4a-4	Wu, Michael	WA7a-4				
Vorobyov, Sergiy	TP8a1-3	Wu, Nan	TP4a-4				
Vorobyov, Sergiy	WA4a-3	Wu, Qisong	TA6a-3				
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