SS&C Conf. Corp. P.O. Box 8236 Monterey, CA 93943 FORTY-FIFTH
ASILOMAR CONFERENCE ON
SIGNALS, SYSTEMS AND
COMPUTERS



November 6–9, 2011 Asilomar Hotel and Conference Grounds

**Technical Co-sponsor** 

IEEE Signal Processing Society

®

# FORTY-FIFTH ASILOMAR CONFERENCE ON SIGNALS, SYSTEMS & COMPUTERS

# Organized in cooperation with

Naval Postgraduate School Monterey, California

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IEEE SIGNAL PROCESSING SOCIETY

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michael.matthews@atk.com

#### Welcome from the General Chairman

Dr. Jim Schroeder, Harris Corporation, Melbourne, Florida

I am very pleased to welcome you to the 45<sup>th</sup> Asilomar Conference on Signals, Systems and Computers. I personally attended my first Asilomar Conference in 1988, October 31<sup>st</sup> to November 2<sup>nd</sup>; the Asilomar State Park's beautiful and relaxing venue, complemented by the intellectual stimulation provided by the conference attendees, has kept me returning year after year.

A continuing strength of Asilomar is the wide cross section of researchers who come from traditional academic institutions, including esteemed faculty and their graduate students, Federal R&D Laboratories and Corporate Research centers, enables an unmatched synergy unique to Asilomar.

This year's Sydney Parker Memorial Lecture will be presented by Prof. Jose Principe, University of Florida, Gainesville, titled, "Machine Learning in Signal Processing." Jose Principe is a Distinguished Professor of Electrical and Computer Engineering and Biomedical Engineering at the University of Florida where he teaches advanced signal processing, machine learning and artificial neural networks (ANNs) modeling. He is the BellSouth Professor and the Founder and Director of the University of Florida Computational NeuroEngineering Laboratory (CNEL) www.cnel.ufl.edu . His primary area of interest is the processing of time varying signals with adaptive neural models. The CNEL Lab has been studying signal and pattern recognition principles based on information theoretic criteria (entropy and mutual information).

The popular and successful student paper contest will be chaired this year by Dr. Oscar Gustafsson, Linkoping University, Sweden. The student finalists have been selected to present their papers to the panel judges Sunday afternoon. The top three paper winners will receive their awards at the beginning of the conference plenary session.

It is a privilege and honor to serve as this year's General Chair. I personally invite you to enjoy Asilomar to its fullest from the Plenary Talk, Student Poster Sessions, oral and poster sessions and colorful sunsets on the beach.

Jim Schroeder, Harris Corporation, May 2011

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### 2011 Asilomar Conference Session Schedule

#### Sunday Afternoon, November 6, 2011

2:00 - 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 7, 2011

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

9:45 - 10:15 AM Coffee Social

10:15 AM - 12:00 PM MORNING SESSIONS

MA1b Energy Efficient MIMO Communication

MA2b Delay Sensitive Communication

MA3b Graphical Models in Signal Processing I

MA4b In-network Computation

MA5b Medical Imaging

MA6b Collaborative Beamforming

MA7b Multivariate and Multimodal Analysis of Brain Signals

MA8b1 Computer Arithmetic I (Poster)

MA8b2 Physical Layer Security I (Poster)

MA8b3 Physical Layer Security II (Poster)

MA8b4 Image, Video Coding and Analysis (Poster)

MA8b5 Adaptive Systems and Spectral Estimation (Poster)

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

#### Monday Afternoon, November 7, 2011

1:30 - 5:10 PM AFTERNOON SESSIONS

MP1a Interference-Alignment Techniques for Multi-Antenna Systems

MP1b Interference Alignment for the MIMO Interference Channel

MP2a Energy-Harvesting Wireless Networks

MP2b Coding and Decoding

MP3a Graphical Models in Signal Processing II

MP3b Signal Processing and Learning in Complex Systems

MP4a Compressive Sensing Applications in Networking

MP4b Resource Allocation in Wireless Networks

MP5a Advances in Bioimaging and Analysis

MP5b Image/Video Restoration, Enhancement and Evaluation

MP6a Tensor-based Array Signal Processing

MP6b Compressive Sensing for Array Processing

MP7a Processing of Physiological Signals

MP7b Model-based Design Optimization

MP8a1 Adaptive Filtering (Poster)

MP8a2 Speech Processing, Recognition and Coding (Poster)

MP8a3 Parameter Estimation (Poster)

MP8a4 DSP Algorithms and Architectures (Poster)

MP8a5 Novel DSP Architectures (Poster)

#### Monday Evening, November 7, 2011

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 or their

guests.

# 2011 Asilomar Conference Session Schedule (continued)

#### Tuesday Morning, November 8, 2011

7:30 - 9:00 AM Breakfast — Crocker Dining Hall

8:00 AM - 5:00 PM Registration

8:15 - 12:00 PM MORNING SESSIONS

TA1a Random Matrices in Signal Processing and MIMO Communications

TA1b Biosignal Estimation and Classification

TA2a Network Coding

TA2b Relaying through Frequency Selective Channels

TA3a Advances in Compressive Sensing

TA3b Sparse Reconstruction

TA4a Next Generation Network Science

TA4b Bio-inspired Models and Algorithms for Information Processing in Complex Networks

TA5a Image and Video Retrieval

TA5b Sparse Representations with Applications to Images and Video

TA6a Waveform Design and MIMO Radar

TA6b Network Beamforming and Relaying via Multiple Antennas

TA7 Architectures for Wireless Communications

TA8a1 Signal Processing Methods for Representation, Analysis, and Control of Biological Systems (Poster)

TA8a2 Receiver Design and Optimization (Poster)

TA8a3 Communications System Design (Poster)

TA8a4 Applications of Array Processing (Poster)

TA8b1 Multiple Antennas in Multi-User Systems and Networks (Poster)

TA8b2 Cooperative and Cognitive Transmission in Multi-Antenna Systems (Poster)

TA8b3 Adaptive Sensing (Poster)

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

#### Tuesday Afternoon, November 8, 2011

1:30 - 5:10 PM AFTERNOON SESSIONS

TP1a Resource Allocation in Multi-Antenna Systems

TP1b Interference Management

TP2a Cognitive Radio I

TP2b Cognitive Radio II

TP3a Multi-dimensional Compressive Inference

TP3b Advances in Adaptive and Distributed Filtering

TP4a Communication Management in Robot Networks

TP4b Distributed Storage Systems

TP5 Compressive Sensing for Radar

TP6a Source Localization

TP6b Array Processing for Satellite Communications

TP7a Adaptive and Evolvable Architectures

TP7b Computer Arithmetic II

TP8a1 Techniques for Space-Time Signal Processing (Poster)

TP8a2 Statistical and Array Signal Processing for Biomedical Applications (Poster)

TP8a3 Sensor Networks (Poster)

TP8a4 Wireless Networks (Poster)

TP8b1 Machine-Learning-Based Statistical Signal Processing (Poster)

TP8b2 Network Information Theory (Poster)

#### Tuesday Evening — Enjoy the Monterey Peninsula

# 2011 Asilomar Conference Session Schedule (continued)

#### Wednesday Morning, November 9, 2011

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 - 12:00 PM MORNING SESSIONS

WA1a Channel Estimation for Multi-Antenna Systems

WA1b MIMO Radar and SAR

WA2a OFDM

WA2b Beamforming

WA3a Information Theoretic Signal Processing

WA3b Compressive Imaging and Detection

WA4a Cooperation & Relays

WA4b Multiuser Information Theory

WA5a Signal Theory and Image Representation

WA5b Biometrics

WA6a Computational Aspects in Array Processing

WA6b Source Separation

WA7a Multi-core/GPU Implementation

WA7b Reconfigurable Architectures, Algorithms and Applications

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 Hall - Sunday, November 6, 2011, 4:30 - 6:30 PM

"Spectrum Leasing via Cooperative Opportunistic Routing in Distributed Ad Hoc Networks: Optimal and Heuristic Policies"

Cristiano Tapparello, Davide Chiarotto, Michele Rossi, University of Padova; Osvaldo Simeone, New Jersey Institute of Technology; Michele Zorzi, University of Padova

"Correcting Erasure Bursts with Minimum Decoding Delay"

Zhi Li, Stanford University; Ashish Khisti, University or Toronto; Bernd Girod, Stanford University

"Asymptotic Analysis of Double-Scattering Channels"

Jakob Hovdis, Romain Couillet, and Merouane Debbah, SUPELEC

"Mutual Information Distribution of Interference-Limited MIMO: A Joint Coulomb Fluid and Painleve Based Approach"

Shang Li, Hong Koong University of Science and Technology; Yang Chen, Imperial College London; Matthew McKay, Hong Kong University of Science and Technology

"MSE-Optimal Power Allocation in Wireless Sensor Networks for Field Reconstruction Based on Shift-Invariant Spaces"

Günter Reise, Vienna University of Technology; Javier Matamoros and Carles Antôn-Haro, CTTC; Gerald Matz, Vienna University of Technology

"On the Limits of Sequential Testing in High Dimensions"

Matthew Malloy and Robert Nowak, University of Wisconsin

"Non-Uniform Linear Arrays for Improved Identifability in Cumulant Based DOA Estimation"

Piya Pal and P.P. Vaidyanathan, California Institute of Technology

"Maximum Likelihood Time Delay Estimation for CDMA Direct Spread Multipath Transmissions Using Importance Sampling" Ahmed Masmoudi, Faouzi Bellili, and Sofiene Affes, INRS-EMT

"Haplotype Inference Based on Sparse Dictionary Selection" G.H. Jajamovich and X. Wang, Columbia University

"A High-Performance Area-Efficient AES Encipher on a Many-core Platform"

Bin Liu and Bevan Baas, University of California, Davis

"Learning Dictionaries for Local Sparse Coding in Image Classification"

Jayaraman J. Thiagarajan and Andreas Spanias, Arizona State University

### 2011 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 Chapel from 9:45–10:15 AM)

Monday, November 7, 2011

### CONFERENCE WELCOME AND PLENARY SESSION 8:15 – 9:45 AM, LOCATED IN CHAPEL

1. Welcome from the General Chairperson

#### Dr. James Schroeder

Harris Government Communication Systems

2. Session MA1a Distinguished Lecture for the 2011
Asilomar Conference

#### **Machine Learning in Signal Processing**

#### Prof. Jose C. Principe

Distinguished Professor of Electrical Engineering University of Florida

#### **Abstract**

This talk describes our efforts to go beyond the second order moment assumption still prevalent in optimal signal processing. We show how the second norm of the PDF can be estimated directly from data avoiding an explicit PDF estimation step. The link between PDF moments, information theory and Reproducing Kernel Hilbert spaces will be established. Applications to adaptive systems with entropic cost functions will be demonstrated. A generalized correlation function called correntopy will be defined and its applications in signal processing will be outlined. Correntopy leads to new measures of similarity, to a new definition of dependence subspaces and to new tests for causality.

#### **Biography**

**Jose C. Principe** (M'83-SM'90-F'00) is a Distinguished Professor of Electrical and Computer Engineering and Biomedical Engineering at the University of Florida where he teaches advanced signal processing, machine learning and

artificial neural networks (ANNs) modeling. He is BellSouth Professor and the Founder and Director of the University of Florida Computational NeuroEngineering Laboratory (CNEL) www.cnel.ufl.edu. His primary area of interest is processing of time varying signals with adaptive neural models. The CNEL Lab has been studying signal and pattern recognition principles based on information theoretic criteria (entropy and mutual information).

Dr. Principe is an IEEE Fellow. He was the past Chair of the Technical Committee on Neural Networks of the IEEE Signal Processing Society, Past-President of the International Neural Network Society, and Past-Editor in Chief of the IEEE Transactions on Biomedical Engineering. He is a member of the Advisory Board of the University of Florida Brain Institute. Dr. Principe has more than 500 publications. He directed 62 Ph.D. dissertations and 65 Master theses. He wrote in 2000 an interactive electronic book entitled "Neural and Adaptive Systems" published by John Wiley and Sons and more recently co-authored several books on "Brain Machine Interface Engineering" Morgan and Claypool, "Information Theoretic Learning", Springer, and "Kernel Adaptive Filtering", Wiley.

# Program of the 2011 Asilomar Conference on Signals, Systems, and Computers

Technical Program Chairman Prof. Robert W. Heath, Jr. The University of Texas at Austin

Session MA1b	<b>Energy Efficient MIMO</b>
	Communication

Chair: Chan-Byoung Chae, Yonsei University, S. Korea

MA1b-1 Optimal Transmission Policies over Vector Gaussian Broadcast Channels with Energy Harvesting Transmitters

Omur Ozel, University of Maryland; Jing Yang, University of Wisconsin-Madison; Sennur Ulukus, University of Maryland

MA1b-2 Throughput and Energy Consumption of a Random Network with Energy Harvesters

Kaibin Huang, Yonsei University

10:40 AM

MA1b-3 Large-Scale Antenna Systems for Wireless 11:05 AM Energy Efficiency Thomas Marzetta, Bell Laboratories, Alcatel-Lucent

MA1b-4 Energy-Efficient Training for Antenna 11:30 AM Selection in Time-Varying Channels

Vinod Kristem, Broadcom Corporation; Neelesh B. Mehta,
Indian Institute of Science; Andreas Molisch, University of
Southern California

### **Session MA2b** Delay Sensitive Communication

Chair: Ashish Khisti, University of Toronto

MA2b-1 Speeding Multicast by Acknowledgment Reduction Technique (SMART)

Arman Rezaee, Linda Zeger, Muriel Medard,
Massachusetts Institute of Technology

MA2b-2 Spatially-Aware Adaptive Error Correcting 10:40 AM Codes for Flash Memory
Ryan Gabrys, Lara Dolecek, University of California, Los
Angeles

MA2b-3 Correcting Erasure Bursts with Minimum 11:05 AM
Decoding Delay
Zhi Li, Stanford University; Ashish Khisti, University of
Toronto; Bernd Girod, Stanford University

MA2b-4 Code Length and Rate Selection for Delay
Sensitive Bursty Traffic
Tara Javidi, University of California, San Diego

# Session MA3b Graphical Models in Signal Processing I

Chair: Mohsen Bayati, Stanford University

MA3b-1 Stochastic Belief Propagation: A 10:15 AM Low-Complexity Message-Passing Algorithm with Guarantees

Nima Noorshams, Martin Wainwright, University of California, Berkeley

MA3b-2 Reweighted Linear Programming for 10:40 AM Inference and Decoding

Amin Khajehnejad, Alexandros G. Dimakis, Babak Hassibi, University of Southern California

MA3b-3 Message-Passing on Dense Graphs and Applications in Statistical Learning

Mohsen Bayati, Andrea Montanari, Stanford University

MA3b-4 Robust Belief Propagation 11:30 AM

Morteza Ibrahimi, Adel Javanmard, Yashodhan Kanoria,

Andrea Montanari, Stanford University

### **Session MA4b** In-network Computation

Chair: Osvaldo Simeone, New Jersey Institute of Technology

MA4b-1 Network Optimization with Heuristic 10:15 AM Rational Agents

Ceyhun Eksin, Alejandro Ribeiro, University of Pennsylvania

MA4b-2 A Coordination-Free Distributed Algorithm 10:40 AM for Simple Assignment Problems Using Randomized Actions

Usman A. Khan, Tufts University; Soummya Kar, Carnegie Mellon University

MA4b-3 Distributed Estimation of the Maximum 11:05 AM Value over a Wireless Sensor Network

Franck Iutzeler, Jérémie Jakubowicz, Institut Telecom,

Telecom ParisTech, CNRS LTCI; Walid Hachem, CNRSTelecom ParisTech; Philippe Ciblat, Institut Telecom,

Telecom ParisTech, CNRS LTCI

MA4b-4 Collaborative Sequential-Based Detection in 11:30 AM Wireless Sensor Networks

Sabina Zejnilovic, Carnegie Mellon University; Joao Pedro Gomes, Instituto Superior Tecnico; Bruno Sinopoli, Carnegie Mellon University

# **Session MA5b** Medical Imaging

Chair: Ge Yang, Carnegie Melon University

MA5b-1 Calibrationless Parallel MRI Using ORACLE 10:15 AM (Overlapping Low-Rank Approximations for Coil Image Estimation)

Joshua Trzasko, Armando Manduca, Mayo Clinic

MA5b-2 Signal Modeling and the Cramér-Rao Bound 10:40 AM for Absolute Magnetic Resonance Thermometry:
Feasibility in Fat Tissue
Marcus Björk, Johan Berglund, Joel Kullberg, Petre
Stoica, Uppsala University

MA5b-3 Level Estimation for Sparse Reconstruction in 11:05 AM
Discrete Tomography
Yenting Lin, Antonio Ortega, Alexandros G. Dimakis,
University of Southern California

MA5b-4 Multimodal Image Registration by Consistency of Saliency Map

Hiroyuki Takeda, University of Michigan

### Session MA6b Collaborative Beamforming

Chair: Sofiène Affes, INRS-EMT, Université du Québec

MA6b-1	DSP-Centric Algorithms for Distributed Transmit Beamforming Upamanyu Madhow, University of California, Sant Barbara; Raghu Mudumbai, University of Iowa; D Brown, Worcester Polytechnic Institute; Patrick Bio Raytheon BBN Technologies	. R.
MA6b-2	Power Control for Collaborative Beamforming in Wireless Sensor Networks Mohammed Ahmed, Sergiy Vorobyov, University of	10:40 AM
MA6b-3	Testing Zero-Feedback Distributed Beamforming with a Low-Cost SDR Testbed George Sklivanitis, Aggelos Bletsas, Technical Unit of Crete	
MA6b-4	Distributed Cooperative Jamming for Improving Physical Layer Security Yupeng Liu, Athina Petropulu, Rutgers University; Vincent Poor, Princeton University	11:30 AM H.

# Session MA7b Multivariate and Multimodal Analysis of Brain Signals

Co-Chairs: Justin Dauwels, Nanyang Technological University and Deniz Erdogmus, Northeastern University

MA7b-1 Sparse Common Spatial Patterns with
Recursive Weight Elimination
Fikri Goksu, Nuri F. Ince, University of Minnesota

MA7b-2 Identifying Multivariate EEG 10:40 AM
Synchronization Networks through Multiple Subject
Community Detection
Marcos Bolanos, Ali Yener Mutlu, Michigan State

University; Edward Bernat, Florida State University; Selin Aviyente, Michigan State University Frequency Constrained ShifCP Modeling of 11:05 AM Neuroimaging Data

MA7b-4 Context Information Significantly Improves 11:30 AM
Brain Computer Interface Performance - A Case
Study on Text Entry Using a Language Model
Assisted BCI
Umut Orhan, Northeastern University; Kenneth E.

Morten Mørup, Technical University of Denmark

MA7b-3

Umut Orhan, Northeastern University; Kenneth E. Hild II, Oregon Health and Science University; Deniz Erdogmus, Northeastern University; Brian Roark, Barry Oken, Melanie Fried-Oken, Oregon Health and Science University

### Session MA8b1 Computer Arithmetic I

Chair: Roger Woods, Queen's University Belfast,

10:15 AM - 12:00 PM

- MA8b1-1 Efficient Decimal Leading Zero Anticipator Designs

  Mohamed H. Amin, Ahmed M. ElTantawy, Alhassan F.

  Khedr, Hossam A. H. Fahmy, Cairo University
- MA8b1-2 Hybrid Residue Generators for Increased Efficiency

  Michael Sullivan, Earl Swartzlander, The University of

  Texas at Austin
- MA8b1-3 Nested Quadratic Arithmetic for Efficient Convolution of Complex Sequences with Quadratic Modified Fermat Number Transforms

  Chandrashekar Radhakrishnan, University of Illinois;

  Kenneth Jenkins, Pennsylvania State university
- MA8b1-4 On Building General Modular Adders from Standard Binary Arithmetic Components Ghassem Jaberipur, Shahid Beheshti University; Behrooz Parhami, University of California, Santa Barbara; Saeed Nejati, Shahid Beheshti University
- MA8b1-5 A Novel Adaptive Filter Implementation Scheme Using Distributed Arithmetic Rui Guo, Linda S. DeBrunner, Florida State University
- MA8b1-6 A Mixed-Precision Fused Multiply and Add Nicolas Brunie, Kalray; Florent de Dinechin, École Normale Supérieure de Lyon; Benoit de Dinechin, Kalray
- MA8b1-7 Implementation of 32-bit Ling and Jackson Adders

  Matthew Keeter, David Harris, Andrew Macrae, Rebecca

  Glick, Madeleine Ong, Harvey Mudd College; Justin

  Schauer, Oracle
- MA8b1-8 Truncated-Matrix Multipliers with Coefficient Shifting
  E. George Walters III, Penn State Erie, The Behrend
  College; Michael J. Schulte, Advanced Micro Devices

# Session MA8b2 Physical Layer Security I

Chair: Wing-Kin (Ken) Ma, Chinese University of Hong Kong

10:15 AM - 12:00 PM

- MA8b2-1 Faster than Nyquist Interference Assisted Secret Communication for OFDM Systems Arsenia Chorti, H. Vincent Poor, Princeton University
- MA8b2-2 QoS-Constrained Robust Beamforming in MISO Wiretap Channels with a Helper

  Jing Huang, A. Lee Swindlehurst, University of California,

  Irvine
- MA8b2-3 Secrecy Outage in MISO Systems with Partial Channel Information
  Sabrina Gerbracht, Eduard Jorswieck, Dresden University of Technology
- MA8b2-4 Secrecy Rate for Gaussian MISO Wiretap Channels with Spherical Uncertainty

  Jiangyuan Li, Athina Petropulu, Rutgers University

MA8b2-5	Two-Way Discriminatory Channel Estimation for Non-Reciprocal Wireless MIMO Channels
	Chao-Wei Huang, Tsung-Hui Chang, National Tsing Hua University; Xiangyun Zhou, University of Oslo; YW. Peter Hong, National Tsing Hua University
MA8b2-6	Safe Convex Approximation to Outage-Based MISO Secrecy Rate Optimization under Imperfect CSI and with Artificial Noise Qiang Li, Wing-Kin Ma, Anthony Man-Cho So, Chinese University of Hong Kong
MA8b2-7	Benefits of Multiple Transmit Antennas in Secure Communication: A Secrecy Outage Viewpoint Xi Zhang, Hong Kong University of Science and Technology; Xiangyun Zhou, University of Oslo; Matthew McKay, Hong Kong University of Science and Technology
MA8b2-8	Strong Secrecy in Bidirectional Relay Networks Rafael F. Wyrembelski, Holger Boche, Technische Universität München
<b>Session N</b>	AA8b3 Physical Layer Security II
Chair: Wing	g-Kin (Ken) Ma, Chinese University of Hong Kong
	10:15 AM - 12:00 PM
MA8b3-1	A Full-Duplex Active Eavesdropper in MIMO Wiretap Channels: Construction and Countermeasures Amitav Mukherjee, A. Lee Swindlehurst, University of California, Irvine
MA8b3-2	RF Fingerprinting of Users Who Actively Mask Their Identities with Artificial Distortion  Adam Polak, Dennis L. Goeckel, University of  Massachusetts Amherst
MA8b3-3	Power Allocation to Noise-Generating Nodes for Cooperative Secrecy in the Wireless Environment Kyle Morrison, Dennis L. Goeckel, University Massachusetts Amherst
MA8b3-4	Comparing Random Signals with Application to Wireless User Authentication Jitendra Tugnait, Auburn University
MA8b3-5	Transmit Beamforming and Cooperative Jamming for MIMOME Wiretap Channels Wei Shi, James Ritcey, University of Washington
MA8b3-6	Secrecy in Broadcast Channels with Receiver Side Information Rafael F. Wyrembelski, Universitat Munchen; Aydin Sezgin, Ulm University; Holger Boche, Universitat Munchen
MA8b3-7	Coherent Demodulation of AIS-GMSK Signals in Co- Channel Interference Douglas Nelson, Joseph Hopkins, U.S. Department of Defense; Anthony Bartos, Welkin Associates, Ltd.
MA8b3-8	Secure Wireless Multicasting Through Nakagami-m Fading MISO Channel Md. Zahurul I. Sarkar, Tharmalingam Ratnarajah, Queen's University Belfast

### Session MA8b4 Image, Video Coding and Analysis

Chair: Vishal Monga, Pennsylvania State University

10:15 AM - 12:00 PM

MA8b4-1 JPEG Image Compression Using Quantization Table
Optimization Based on Perceptual Image Quality
Assessment
Yuebing Jiang, Marios Pattichis, University of New
Mexico

MA8b4-2 Efficient Coders for Large Tree-Structured Dictionaries of Tilings

Kai-Lung Hua, National Taiwan University of Science and Technology; Rong Zhang, Qualcomm Incorporated; Mary Comer, Ilva Pollak, Purdue University

MA8b4-3 Variable Block Size-Based MCFI with Fixed Block Size Motion Estimation

Masaru Hoshi, Akihiro Yoshinari, Yuichi Tanaka, Madoka Hasegawa, Shigeo Kato, Utsunomiya University

MA8b4-4 A Structural Similarity Assessment for Generating Hybrid Images Keita Takahashi, Madoka Hasegawa, Yuichi Tanaka, Shigeo Kato, Utsunomiya University

MA8b4-5 A Compact Saliency Model for Video-Rate Implementation Tien Ho-Phuoc, Laurent Alacoque, Antoine Dupret, CEA; Anne Guérin-Dugué, GIPSA-Lab; Arnaud Verdant, CEA

MA8b4-6 Dithered Soft Decision Quantization for Baseline JPEG Encoding and its Joint Optimization with Huffman Coding and Quantization Table Selection En-hui Yang, Chang Sun, University of Waterloo

MA8b4-7 Compressive Sensing Based Imaging via Beleif Propagation Preethi Ramchandara, Mina Sartipi, University of Tennessee Chattanooga

MA8b4-8 An SVD Approach for Data Compression in Emitter Location Systems

Mohammad Pourhomayoun, Mark Fowler, Binghamton
University

# Session MA8b5 Adaptive Systems and Spectral Estimation

Chair: Vitor Nascimento, University of Sao Paulo

10:15 AM - 12:00 PM

MA8b5-1 A Modified System-Based Adaptive Algorithm for a Sparse Reconfigurable Photonic Filter Suk-seung Hwang, Hong Chang, Chosun University; John J. Shynk, University of California, Santa Barbara

MA8b5-2 A New Variable Step-Size Strategy For Adaptive Networks Muhammad Bin Saeed, Azzedine Zerguine, King Fahd University of Petroleum & Minerals

MA8b5-3 A Comparison of Methods for Estimating Broadb Noise in the Frequency Domain Don Hush, Norma Pawley, Kary Myers, Robert Nemzel			Session I	MP1b	<b>Interference Alignment for th MIMO Interference Channel</b>		
	Los Alamos National Laboratory		Chair: Gee	rt Leus, Te	echnical University of Delft		
MA8b5-4	An Information Filter for Voice Prompt Suppres John McDonough, Carnegie Mellon University; Kenie Kumatani, Disney Research; Bhiksha Raj, Carnegie Mellon University; Jill Lehman, Disney Research		MP1b-1	Maximu Meisam F	nterference Alignment and its m Achievable Degrees of Freedom Razaviyayn, Gennady Lyubeznik, Zhi-Quan L y of Minnesota	3:30 PM <i>uo</i> ,	
MA8b5-5	Embedded Track Validation for Tree Search-Bas Tracking of Maneuvering Targets Hossein Roufarshbaf, Jill Nelson, George Mason University	sed	MP1b-2	MIMO I Access N Behrang	nterference Alignment in Random Networks Nosrat-Makouei, Radha Krishna Ganti, Jeffi ws, Robert W. Heath, Jr., The University of To		
MA8b5-6	Urban Terrain Multiple Target Tracking Using Probability Hypothesis Density Particle Filterin Meng Zhou, Bhavana Chakraborty, Jun Jason Zhang, Arizona State University		MP1b-3	at Austin The Nois Distribut	sy MIMO Interference Channel with ted CSI Acquisition and Filter Computa o Negro, Eurecom; Umer Salim, Irfan Ghaur	4:20 PM tion	
MA8b5-7	High-Resolution Non-Parametric Spectral Estin Using the Hirschman Optimal Transform Guifeng Liu, Victor DeBrunner, Florida State Univers		MP1b-4	Secure S	poration; Dirk Slock, Eurecom Space-Time Block Coding via	4:45 PM	
MA8b5-8	Co-Prime Sampling for System Stabilization wi Multi-Rate Controllers			S. Ali A. I	ficial Noise Alignment i A. Fakoorian, A. Lee Swindlehurst, University of fornia, Irvine		
	P. P. Vaidyanathan, Piya Pal, California Institute of Technology		Session I	MP2a	<b>Energy-Harvesting Wireless</b>		
Session N		niques			Networks		
	for Multi-Antenna Systems	<b>1</b>	Chair: Osv	aldo Sime	one, NJIT		
Chair: Vincent Lau, Hong Kong University of Science and Technology	1:30 PM	MP2a-1	Amplitu the Trans	Channel under Time-Varying de Constraints with Causal Information smitter el, Sennur Ulukus, University of Maryland	1:30 PM at		
	Underlay MIMO Cognitive Radio Network Huiqin Du, Tharmalingam Ratnarajah, Haichuan Zho Queen's University Belfast; Ying-Chang Liang, Institu for Infocomm Research		MP2a-2	Optimal Harvesti	Power Control for Energy ng Transmitters in an Interference Chan uncuoglu, Aylin Yener, Penn State University	1:55 PM nel	
MP1a-2	Sum Rate Enhancement by Maximizing SGINR in an Opportunistic Interference Alignm Scheme	1:55 PM nent	MP2a-3	Capacity Vinod Sho	Theoretic and Information Theoretic of Energy Harvesting Sensor Nodes arma, Indian Institute of Science; Ramachan Centre for Airborne Systems	2:20 PM	
	Seong-Ho (Paul) Hur, University of California, San Diego; Bang-Chul Jung, Gyeongsang National Unive Bhaskar D. Rao, University of California, San Diego	rsity;	MP2a-4	Sensor N	nd Power Control for Rechargeable Networks under the SINR Interference	2:45 PM	
MP1a-3	Interference Alignment for Partially Connected Quasi-static MIMO Interference Channel	2:20 PM		Model Zhoujia M State Uni	Aao, Can Emre Koksal, Ness B. Shroff, Ohio versity		
	Liangzhong Ruan, Vincent K.N. Lau, Hong Kong		Session 1	MP2b	<b>Coding and Decoding</b>		
MP1a-4	University of Science and Technology Opportunistic MU-MIMO based on	2:45 PM	Chair: Ayd	in Sezgin,	University of Ulm		
IVII Ta-4	Semi-Blind Interference Alignment Haralabos Papadopoulos, Sayandev Mukherjee, Sean Ramprashad, DoCoMo USA Labs		MP2b-1	Methods	xity Analysis of Interior Point s for LP Decoding , Lara Dolecek, University of California, Los	3:30 PM	
			MP2b-2	Low End	aptive Non-Binary LDPC Codes with coding Complexity Chang, MIT Lincoln Laboratory	3:55 PM	

by Absorbing Set Elimination Jiajun Zhang, Jiadong Wang, University of California, Los Angeles; Shayan Garani Srinivasa, Western Digital		4:20 PM	Session 2	MP4a	Compressive Sensing Applic in Networking	ations	
		tal	Chair: Jar	Chair: Jarvis Haupt, University of Minnesota			
MP2b-4	Corporation; Lara Dolecek, University of California, Angeles  Decoding by Detection: Soft-Input/Soft-Output Error Correction Decode for Arbitrary Binary Linear Codes  Todd Moon, Jacob (Jake) Gunther, Utah State Univer	4:45 PM ers	MP4a-1	Network Network	Recovery of Temporally Changing as: Longitudinal Modeling of Brain as in Children and Jamie Hanson, Seth Pollak, University of	1:30 PM	
Session			MP4a-2		ng Anomalies in Large-Scale	1:55 PM	
	<b>Processing II</b>			Morteza I	ss via Sparsity and Low Rank Mardani, Gonzalo Mateos, Georgios B. s, University of Minnesota		
Chair: <i>Ale</i>	x Ihler, University of California, Irvine		MP4a-3		Access Compressed Sensing: An	2:20 PM	
MP3a-1	Regime Change: Bit-Depth versus Measurement-Rate in Compressive Sensing Jason N. Laska, Richard Baraniuk, Rice University	1:30 PM		Integrate Network Fatemeh	ed Architecture for Energy-Efficient king Fazel, Northeastern University; Maryam Fo		
MP3a-2	Inference and Learning for Continuous-Time	1:55 PM		Universit Universit	y of Washington; Milica Stojanovic, Northe v	vic, Northeastern	
	Stochastic Systems Christian Shelton, E. Busra Celikkaya, University of California, Riverside		MP4a-4	Graphs	Results on Sparse Recovery over	2:45 PM	
MP3a-3	Approximate Bayesian Inference for Robust Speech Processing	2:20 PM		Cornell U	ř		
Ciira Maina, John Walsh, Drexel University			<b>Session</b>	MP4b	Resource Allocation in Wire	less	
MP3a-4	Out-of-Sequence Measurements and Incremental Inference in Graphical Models	2:45 PM		Networks			
	Ozgur Sumer, University of Chicago; Ramgopal Metta		Chair: Rah	ul Urgaon	nkar, University of Southern California		
	University Massachusetts Amherst; Umut Acar, MPI-Alexander Ihler, University of California, Irvine	SWS;	MP4b-1		otimal Power Allocation in Wireless	3:30 PM	
Session	MP3b Signal Processing and Learning	ing in			Networks for Field Reconstruction Base variant Spaces	ed on	
	Complex Systems	S		Günter R	eise, Vienna University of Technology; Javid		
	lrew Singer, University of Illinois at Urbana-Chai	1 0		Telecomu	os, Carles Antón-Haro, Centre Tecnològic a nicacions de Catalunya (CTTC); Gerald M niversity of Technology		
MP3b-1	Diffusion Adaptation over Networks of Particles Subject to Brownian Fluctuations Ali H. Sayed, Faten Sayed, University of California, I Angeles		MP4b-2	Multiple Salam Ak	nterference Mitigation for -Input Multiple-Output Ad Hoc Netwo oum, The University of Texas at Austin; Ma ris, Mérouane Debbah, Supélec; Robert W. I	rios	
MP3b-2	Trust, Opinion Diffusion and Radicalization in Social Networks	3:55 PM			Iniversity of Texas at Austin		
	Lin Li, Anna Scaglione, University of California, Dav Ananthram Swami, Army Research Laboratory; Qing Zhao, University of California, Davis		MP4b-3	Network	y Link Scheduler for Wireless s with Fading Channels ran, Emre Koksal, Ohio State University	4:20 PM	
MP3b-3	Disentangling Mixed Preference Systems and Hidden Variables  Constantine Caramanis, The University of Texas at A.	4:20 PM	MP4b-4		esource Management in eneous Deployments: a System Level ive	4:45 PM	
MP3b-4	Unity Versus Diversity in a Population of Interacting Adaptive Agents: the Value of Extrin Gossip  Andrew Bean, Andrew Singer, University of Illinois,	4:45 PM		Thomas V	Wirth, Fraunhofer Heinrich Hertz Institute		

Urbana-Champaign

Session	MP5a Advances in Bioimaging and Analysis		MP6a-2	arrays	cal Decomposition of Non-Negative loigner, Laurent Albera, Lotfi Senhadji, Am.	1:55 PM
Chair: Jea	n-Christophe Olivo-Marin, Institut Pasteur				ura, University of RENNES 1, LTSI and IN	
MP5a-1	Quantitative Synaptic Vesicle Imaging for Evaluating Neuron Activities in Neurodegenera Diseases Jing Fan, Xiaofeng Xia, Stephen Wong, Methodist Hospital Research Institute		MP6a-3	Tensor-l Estimati Florian I Nima San Song, Ma	Based Semi-Blind Channel ion for MIMO OSTBC-Coded System Roemer, Ilmenau University of Technology; rmadi, Technische Universität Darmstadt; artin Haardt, Ilmenau University of Techno	Bin blogy;
MP5a-2	Flexible and Efficient Multi-Region Segmentation Using Active Contours	1:55 PM		Marius F Darmsta	Pesavento, Alex Gershman, Technische Uni dt	versität
MP5a-3	Grégory Paul, Janick Cardinale, Ivo F. Sbalzarini, E Zurich	<i>TH</i> 2:20 PM	MP6a-4	Structur	Decompositions with Block-Toeplitz re and Applications in Signal Processir	
MIF 3a-3	Nanometer Resolution Imaging and Tracking of Axonal Cargo Transport in Normal and	2.20 FWI	Session		orensen, Lieven De Lathauwer, K.U. Leuve Compressive Sensing for A	
	Degenerative Neurons Ge Yang, Carnegie Mellon University		Session	WII OD	Processing	Tuy
MP5a-4	Statistical Colocalization of Molecular	2:45 PM	Chair: Ben	njamin Fri	edlander, University of California, Sa	nta Cruz
	Species in Biological Imaging Vannary Meas-Yedid, Cyril Basquin, Nathalie Sauvon Jean-Christophe Olivo-Marin, Institut Pasteur	inet,	MP6b-1	Imaging	USIC Algorithm for Compressive g: Noise Stability and Performance	3:30 PM
Session	,			Guarant  Albert Fo	ee annjiang, University of California, Davis	
	<b>Enhancement and Evaluatio</b>	n	MP6b-2		heoretical Results for Compressive	3:55 PM
Chair: Ma	ry Comer, Purdue University			Radar Thomas I	Strohmer, University of California, Davis;	
MP5b-1	Tikhonov's Regularization Functional for Image Restoration by Means of q-Discrepancy	3:30 PM		Benjamir Cruz	n Friedlander, University of California, San	ıta
	Vania V. Estrela, Universidade Federal Fluminense; Aggelos K. Katsaggelos, Northwestern University		MP6b-3	Sensitiv Sensing	ity Considerations in Compressed	4:20 PM
MP5b-2	Equivalence of Plenoptic Cameras Todor Georgiev, Adobe, Sergio Goma, Qualcomm	3:55 PM		Louis Sci Yuejie Cl	harf, Ali Pezeshki, Colorado State Universi hi, Princeton University	
MP5b-3	Incorporated; Andrew Lumsdaine, Adobe Referenceless Image Spatial Quality Evaluator	4:20 PM	MP6b-4	Random	nce, Compressive Sensing and n Sensor Arrays e Carin, Duke University	4:45 PM
	Anish Mittal, Anush Moorthy, Alan Bovik, Wireless Networking and Communications Group		Session	MP7a	<b>Processing of Physiological</b>	Signals
MP5b-4	Noise Model Discrimination for Digital Images based on Variance-Stabilizing Transform	4:45 PM ms			at Ince, University of Minnesota and M niversity of Denmark	1orten
	and on Local Statistics: Preliminary Results Paul Rodriguez, Pontificia Universidad Catolica del	Peru	MP7a-1		e Morphology of High-Frequency	1:30 PM
Session	MP6a Tensor-based Array Signal				0 Hz) Brain Oscillations Change Durit c Seizures?	

Allison Pearce, Drausin Wulsin, Brian Litt, Justin Blanco,

1:55 PM

Early Investigations into Subjective Audio 1 Quality Assessment Using Brainwave Responses

Charles Creusere, Srikant Siddenki, New Mexico State

University; Joe Hardin, Colorado State University; Jim

University of Pennsylvania

Kroger, New Mexico State University

MP7a-2

#### **Tensor-based Array Signal Session MP6a Processing**

Chair: Martin Haardt, Ilmenau University of Technology

Modeling Latency and Shape Changes in MP6a-1 1:30 PM Trial Based Neuroimaging Data Morten Mørup, Technical University of Denmark; Kristoffer Hougaard Madsen, Hvidovre Hospital; Lars Kai Hansen, Technical University of Denmark

MP7a-3	Electrocardiogram Signal Modeling and 2:20 PM Estimation Using the Interacting Multiple Model Particle Filtering Shwetha Edla, Narayan Kowali, Antonia Papandreou- Suppappola, Arizona State University
MP7a-4	A Novel Approach for Simulation, 2:45 PM Measurement and Representation of Surface EMG (sEMG) Signals Anvith Mahabalagiri, Khadeer Ahmed, Fred Schlereth, Syracuse University
<b>Session I</b>	MP7b Model-based Design Optimization
Chair: Mich	hael Schulte, AMD
MP7b-1	Distributed Energy and Environment Sensing 3:30 PM for Smart Building Management Chen Xia, Hao Liu, Xiangrong Zhou, University of Hawaii
MP7b-2	FPGA-Accelerator System for Computing 3:55 PM Biologically-Inspired Feature Extraction Models Michael DeBole, Pennsylvania State University; Chi- li Yu, Arizona State University; Ahmed Al Maashri, Matthew Cotter, Pennsylvania State University; Chaitali Chakrabarti, Arizona State University; Vijaykrishnan Narayanan, Pennsylvania State University
MP7b-3	A Machine Model for Dataflow Actors and its 4:20 PM Applications Jorn W. Janneck, Lund University
MP7b-4	Operation Set Customization in Retargetable 4:45 PM Compilers Heikki Kultala, Pekka Jääskeläinen, Mikael Lepistö, Jarmo Takala, Tampere University of Technology
Session I	MP8a1 Adaptive Filtering
Chair: And	rew Klein, Worcester Polytechnic Institute
	1:30 PM - 3:10 PM
MP8a1-1	Simplified Complex LMS Algorithm for the Cancellation of Second-Order TX Intermodulation Distortions in Homodyne Receivers  Christian Lederer, Mario Huemer, Alpen-Adria- Universitaet Klagenfurt
MP8a1-2	A Steady-State Analysis of the E-Normalized Sign-Error Least Mean Square (NSLMS) Adaptive Algorithm Mohammed Faiz, Azzedine Zerguine, King Fahd University of Petroleum & Minerals
MP8a1-3	A Modified Non-Negative LMS Algorithm and its Stochastic Behavior Analysis Jie Chen, Cédric Richard, Université de Nice Sophia- Antipolis; Jose Bermudez, Federal University of Santa Catarina; Paul Honeine, Université de Technologie de Troyes
MP8a1-4	A Robust LMS Adaptive Algorithm over Distributed Networks Muhammad Bin Saeed, Azzedine Zerguine, Salam Zummo, King Fahd University of Petroleum & Minerals

MP8a1-5	Error-Based "Gear-Shifting" for a Generalized LMS Algorithm John J. Shynk, University of California, Santa Barbara
MP8a1-6	A Variable Step-Size GMDF and its Performance Analysis Hsu-Chang Huang, Junghsi Lee, Yuan-Ze University
MP8a1-7	Acoustic Feedback and Echo Cancellation Strategies for Multiple-Microphone and Single-Loudspeaker Systems Meng Guo, Thomas Bo Elmedyb, Oticon A/S; Søren Holdt Jensen, Aalborg University; Jesper Jensen, Oticon A/S
MP8a1-8	Comparison of Several Techniques for Adaptive Band- Stop Filters  Michael Soderstrand, University of California (Retired)

#### Session MP8a2 Speech Processing, Recognition and **Coding**

Chair: Jerry Gibson, University of California, Santa Barbara

1:30 PM - 3:10 PM

for

MP8a2-1 Automatic Phoneme Recognition with Segmental Hidden Markov Models Areg Baghdasaryan, A. A. (Louis) Beex, Virginia Polytechnic Institute and State University

MP8a2-2 A Perceptually Re-Weighted Mixed-Norm Method for Sparse Approximation of Audio Signals Mads Christensen, Bob Sturm, Aalborg University

MP8a2-3 Scalable Multimode Tree Coder with Perceptual Pre-Weighting and Post-Weighting for Wideband Speech Coding Ying-Yi Li, Jerry Gibson, University of California, Santa Barbara

MP8a2-4 Isolated Word Endpoint Detection Using Time-Frequency Variance Kernels Alexandros Kyriakides, Costas Pitris, University of Cyprus; Andreas Spanias, Arizona State University

MP8a2-5 Performance Enhanced Multi-Rate iLBC Koji Seto, Tokunbo Ogunfunmi, Santa Clara University

MP8a2-6 Enabling Improved Speaker Recognition by Voice **Ouality Estimation** Anthony Bartos, Welkin Associates, Ltd.; Douglas Nelson, U.S. Department of Defense

#### **Session MP8a3** Parameter Estimation

Chair: P.P. Vaidyanathan, California Institute of Technology

1:30 PM - 3:10 PM

MP8a3-1 On Spatial Smoothing of High Resolution Direction Finding of Real-Valued Sinusoidal Signals H. Howard Fan, University of Cincinnati; Stewart DeVilbiss, Air Force Research Laboratory

MP8a3-2	Non-Uniform Linear Arrays for Improved Identifiability in Cumulant Based DOA Estimation Piya Pal, P. P. Vaidyanathan, California Institute of Technology
MP8a3-3	Knowledge-Aided Direction Finding Based on Unitary ESPRIT  Jens Steinwandt, Ilmenau University of Technology; Rodrigo C. de Lamare, University of York; Martin Haardt, Ilmenau University of Technology
MP8a3-4	Maximum Likelihood Time Delay Estimation for CDMA Direct-Spread Multipath Transmissions Using Importance Sampling Ahmed Masmoudi, Faouzi Bellili, Sofiene Affes, INRS- EMT
MP8a3-5	Particle Filter Based DOA Estimation for Multiple Source Tracking (MUST) Thomas Wiese, Technical University Munich; Heiko Claussen, Justinian Rosca, Siemens Corporation, Corporate Research
MP8a3-6	Direction-of-Arrival Estimation Using Distributed Body Area Networks: Error & Refraction Analysis Kaveh Ghaboosi, Pranay Pratap Swar, Kaveh Pahlavan, Worcester Polytechnic Institute
MP8a3-7	Bayesian Estimation of a Subspace Olivier Besson, University of Toulouse-ISAE; Nicolas Dobigeon, Jean-Yves Tourneret, University of Toulouse- IRIT/ENSEIHT
MP8a3-8	Model Order Selection in Sensor Array Response Modeling Mário Costa, Andreas Richter, Visa Koivunen, Aalto University
<b>Session N</b>	MP8a4 DSP Algorithms and Architectures
Chair: Mich	aael Schulte, AMD, USA
	1:30 PM - 3:10 PM
MP8a4-1	High Dynamic Range Adaptive Delta-Sigma Based Focal Plane Array Architecture Shun Yao, Marvel Semiconductors; Sam Kavusi, Khaled Nabil Salama, King Abdullah University of Science and

	Nabil Salama, King Abdullah University of Science and Technology
MP8a4-2	Block Circular and Hyperbolic Transformations for the Block Fast Array RLS Algorithm Roger West, Todd Moon, Jacob (Jake) Gunther, Utah State University
1.500 4.0	Oniversity

MP8a4-3 The Polyphase Random Demodulator for Wideband Compressive Sensing

J.P. Slavinsky, Jason N. Laska, Richard Baraniuk, Rice

University

MP8a4-4 A Floating-Point Fused FFT Butterfly Arithmetic Unit with Merged Multiple-Constant Multipliers

Jae Hong Min, Seong-Wan Kim, Earl Swartzlander, The

University of Texas at Austin

MP8a4-5 Exploiting Cross-Channel Quantizer Error Correlation in Time-Interleaved Analog-to-Digital Converters

Joseph G. McMichael, Shay Maymon, Alan V. Oppenheim,

Massachusetts Institute of Technology

#### Session MP8a5 Novel DSP Architectures

Chair: David Thomas, Imperial College London, UK

1:30 PM - 3:10 PM

MP8a5-1 In-Service Reconfiguration of Signal Processing Components Gordon Brebner, Christopher Neely, Shay Seng, Xilinx, Inc.

MP8a5-2 Rethinking Computation Using FPGA Based Accelerators for Large Applications Dennis Allison, Michael J Flynn, Oskar Mencer, Maxeler Technologies

MP8a5-3 Versatile FPGA DSP Blocks with Carry-Save Arithmetic Support

Hadi Parandeh Afshar, Paolo Ienne, École Polytechnique Fédérale de Lausanne (EPFL)

MP8a5-4 Scalable Acceleration of High-Performance, Fourier-Domain Optical Coherence Tomography Lesley Shannon, Simon Fraser University

MP8a5-5 Fine-Grain Reconfigurable Functional Unit for Embedded Processors Gian Carlo Cardarilli, Luca Di Nunzio, Rocco Fazzolari, Marco Re, University of Rome Tor Vergata

MP8a5-6 Increasing Productivity of Reconfigurable Computing for Signal Processing

Wayne Luk, Imperial College London

MP8a5-7 Synchronous and Asynchronous Computations with Molecular Reactions

Hua Jiang, Marc D. Riedel, Keshab K. Parh Parhi,
University of Minnesota

MP8a5-8 Design and Implementation of a Flexible Queue Manager for Next Generation Networks Qi Zhang, Roger Woods, Alan Marshall, Queen's University Belfast

# Session TA1a Random Matrices in Signal Processing and MIMO Communications

Chair: Matthew McKay, Hong Kong University of Science and Technology

TA1a-1 Beyond Eckart-Young-Mirsky: Exploiting 8:15 AM Random Matrix Theory to Improve Subspace Approximation Raj Rao Nadakuditi, University of Michigan

TA1a-2	Beyond IID Gaussian Matrices in Compressed Sensing Antonia Tulino, Bell Laboratories, Alcatel-Lucent; Giuseppe Caire, University of Southern California;	8:40 AM	TA2a-2	Network Coding for Data Replication over 8:40 AM Wireless Networks Lorenzo Keller, Christina Fragouli, École Polytechnique Fédérale de Lausanne (EPFL)
TA1a-3	Shlomo Shamai, Technion-Israel Institute of Technolo Sergio Verdú, Princeton University Mutual Information Distribution of Interference-Limited MIMO: A Joint Coulomb	9:05 AM	TA2a-3	A Fundamental Approach to Securing Data in 9:05 AM the Cloud from Adversarial Attacks Salim El Rouayheb, Sameer Pawar, Kannan Ramchandran, University of California, Berkeley
	Fluid and Painlevel Based Approach Shang Li, Hong Kong University of Science and		TA2a-4	Network Coding for Security and Privacy <i>Tracey Ho, California Institute of Technology</i> 9:30 AM
	Technology; Yang Chen, Imperial College London; Matthew McKay, Hong Kong University of Science a. Technology	nd	<b>Session T</b>	TA2b Relaying through Frequency Selective Channels
TA1a-4	Outage Capacity for MIMO-OFDM Systems in Block Fading Channels	9:30 AM	Chair: Andy	Klein, Worcester Polytechnic Institute
	Marco Chiani, University of Bologna; Andrea Conti, University of Ferrara; Matteo Mazzotti, Enrico Paoli University of Bologna; Alberto Zanella, WiLab/IEIIT- CNR		TA2b-1	Distributed Single Carrier Frequency-Domain 10:15 AM Equalization for Multi-Relay Cooperative Networks over Frequency Selective Rician Channels Homa Eghbali, Sami Muhaidat, Simon Fraser University;
<b>Session T</b>	0			Ibrahim Abualhaol, Khalifa University of Science, Technology and Research
	Classification		TA2b-2	Cooperative BICM-OFDM Systems for 10:40 AM
	Ulisses Braga-Neto, Texas A&M University and u-Suppappola, Arizona State University	Antonia		Frequency-Selective Relay Channels Reza Heidarpour, Murat Uysal, University of Waterloo
TA1b-1	A Real-Time Reconstruction Algorithm for the Integrate and Fire Sampler Alexander Singh Alvarado, Jose Principe, University Florida	10:15 AM of	TA2b-3	On Relay Selection in Frequency Selective 11:05 AM Channels <i>Qingxiong Deng, Andrew Klein, Worcester Polytechnic Institute</i>
TA1b-2	Using Physiological Signals to Predict Apnea in Preterm Infants James Williamson, Daniel Bliss, David Browne, MIT Lincoln Laboratory; Elisabeth Salisbury, Premanand Indic, David Paydarfar, University of Massachusetts Medical School		TA2b-4	Superposition Coding for Cooperative 11:30 AM BICM-OFDM Systems  Toufiqul Islam, Robert Schober, University of British Columbia; Ranjan K Mallik, Indian Institute of Technology, Delhi; Vijay K Bhargava, University of British Columbia
TA1b-3		11:05 AM	<b>Session T</b>	A3a Advances in Compressive Sensing
	Statistics and Boosting Alicia DeMino, General Dynamics; Robert Kubichek	:	Chair: Chri	stoph Studer, Rice University
TA1b-4	University of Wyoming; Kevin Caves, Duke University	y 11:30 AM	TA3a-1	An Empirical-Bayes Approach to 8:15 AM Compressive Sensing via Approximate Message Passing Jeremy Vila, Philip Schniter, Ohio State University
a	Performance Ipek Ozil, Cornell University; Martin H. Plawecki, Indiana University School of Medicine; Peter C. Doerschuk, Cornell University; Sean J. O'Connor, In University School of Medicine	diana	TA3a-2	Compressive Sensing under Multiplicative 8:40 AM Uncertainties: An Approximate Message Passing Approach  Jason Parker, Air Force Research Laboratory; Volkan  Cevher, École Polytechnique Fédérale de Lausanne  (EDEL), Philip Schulten Ohio State University
Session 1	0		TA3a-3	(EPFL); Philip Schniter, Ohio State University  Compressive Sensing: to Compress or not to 9:05 AM
Chair: <i>Athin</i> TA2a-1	na Markopoulou, University of California, Irvine Network Alignment	8:15 AM	1110410	Compress Davis Kirachaiwanich, Qilian Liang, The University of
	Syed Jafar, University of California, Irvine		TA3a-4	Texas at Arlington Spread Representations Jean Jacques Fuchs, Université de Rennes 1  9:30 AM

Session	TA3b Sparse Reconstruction	TA4b-2	On the Effects of Topology and Node 10:40 AM
Chair: Ge	ert Leus, Technical University of Delft		Distribution on Learning over Complex Adaptive Networks
TA3b-1	New Bounds for Restricted Isometry 10:1: Constants in Orthogonal Multi Matching Pursuit	15 AM	Sheng-Yuan Tu, Ali H. Sayed, University of California, Los Angeles
TA3b-2	Jian Wang, Byonghyo Shim, Korea University	TA4b-3 40 AM	Discrete-Time Opinion Dynamics 11:05 AM Seyed Rasoul Etesami, Angelia Nedic, University of Illinois, Urbana-Champaign
	Bob Sturm, Mads Christensen, Aalborg University; Rémi Gribonval, INRIA		Gossiping Information Dissemination 11:30 AM Through Distributed Femtocell Caching Alexandros G. Dimakis, University of Southern California
TA3b-3	Greedy Sparsity-Constrained Optimization 11:0. Sohail Bahmani, Carnegie Mellon University; Petros	05 AM Session	, ,
	Boufounos, Mitsubishi Electric Research Labs; Bhiksha Raj, Carnegie Mellon University		makrishna Vedantham, Nokia Research
TA3b-4	•	30 AM TA5a-1	Mobile Visual Search Using Image and Text Features Sam Tsai, Huizhong Chen, David Chen, Stanford
Session		nce	University; Ramakrishna Vedantham, Radek Grzeszczuk, Nokia; Bernd Girod, Stanford University
Co-Chairs	:: Victor Preciado, University of Pennsylvania and Ali e, University of Pennsylvania	TA5a-2	A Compact Index for Large-Scale Mobile 8:40 AM Visual Search David Chen, Sam Tsai, Vijay Chandrasekhar, Gabriel
TA4a-1	Stabilization	15 AM	Takacs, Huizhong Chen, Stanford University; Ramakrishna Vedantham, Radek Grzeszczuk, Nokia Research Center; Bernd Girod, Stanford University
	Miroslav Pajic, University of Pennsylvania; Shreyas Sundaram, University of Waterloo; George J. Pappas, Rahul Mangharam, University of Pennsylvania	TA5a-3	Multiple-Channel Compact Visual Descriptor 9:05 AM with Adaptive Channel Learning Rongrong Ji, Harbin Institute of Technology; Ling-Yu
TA4a-2	Models and Their Application to the Minimum Spanning Tree	40 AM	Duan, Jie Chen, Peking University; Hongxun Yao, Harbin Institute of Technology; Tiejun Huang, Wen Gao, Peking University
	David Alderson, Gerald Brown, Naval Postgraduate School; D.B. McPherson, U.S. Navy	TA5a-4	Efficient Re-Ranking in Vocabulary 9:30 AM
TA4a-3	Viral Information Spreading	05 AM	Tree-Based Image Retrieval Xiaoyu Wang, University of Missouri; Ming Yang, Kai Yu, NEC Laboratories America, Inc.
	Victor Preciado, Ali Jadbabaie, University of Pennsylvania	Session	TA5b Sparse Representations with
TA4a-4	<i>C</i> <sup>2</sup> 3	30 AM	<b>Applications to Images and Video</b>
	Network Architecture Ann Hermundstad, Kevin Brown, Danielle Bassett, Jean	Chair: Tro	ac Tran Tran, Johns Hopkins University
G .	Carlson, University of California, Santa Barbara	TA5b-1	Robust Multi-Dimensional Scaling via 10:15 AM
Session	for Information Processing in	ithms	Outlier Sparsity Control Pedro Forero, Georgios B. Giannakis, University of Minnesota
	<b>Complex Networks</b>	TA5b-2	Architectures for Compressive Sampling of 10:40 AM
Chair: <i>Usi</i> TA4b-1	man Khan, Tufts University On Scheduling Without a Master Clock: 10:1:	15 AM	Correlated Signals Ali Ahmed, Justin Romberg, Georgia Institute of Technology
	Coupled Oscillator Time Division Multiplexing Andrea Rueetschi, Anna Scaglione, University of California, Davis	TA5b-3	Compressed-Sensing Recovery of Images and 11:05 AM Video Using Multi-Hypothesis Predictions Chen Chen, Eric Tramel, James Fowler, Mississippi State University

ΓA5b-4 Sparsity-Based Human Activity Recognition for Mobile Computing Devices Victor Shia, Allen Yang, Ruzena Bajcsy, University of		of		TA7	<b>Architectures for Wireless</b> <b>Communications</b>	
	California, Berkeley		Chair: Joe	Cavallero	, Rice University	
ΓΑ5b-5	Sparsity-Based Face Recognition Using Discriminative Graphical Models Umamahesh Srinivas, Vishal Monga, Pennsylvania University; Yi Chen, Trac D. Tran, The Johns Hopkil University	ns	TA7-1	Reliabili LDPC D	Zhang, Fang Cai, Case Western Reserve	8:15 AM
Session	8	.0	TA7-2		eture Exploration, Development and	8:40 AM
	Radar				g Platform for Orthogonal Frequency n Multiplexing (OFDM) Systems	
Chair: Vis	a Koivunen, Aalto University			Antonio N	Mondragon-Torres, Mahesh Kommi, Tamo	ghna
ГА6а-1	Cluster Allocation Schemes for Target	8:15 AM	T. 7. 2		arya, Rochester Institute of Technology	0.05.43.6
	Tracking in Multiple Radar Architectures Hana Godrich, Princeton University; Athina Petrop. Rutgers University; H. Vincent Poor, Princeton Univ.		TA7-3	Majority Binary L	nd Iterative Soft-Reliability-Based y-Logic Decoding Algorithm for Non Low-Density Parity-Check Codes	9:05 AM
ГА6а-2	Synergistic MIMO SAR and GMTI Duc Vu, Luzhou Xu, Jian Li, University of Florida	8:40 AM	TA7-4	_	g Xiong, Zhiyuan Yan, Lehigh University yer 1 Software Design on Multi-Core	9:30 AM
ГА6а-3	Resource Allocation in Widely Distributed MIMO Radars in Non-Ideal Conditions Tuomas Aittomaki, Aalto University; Hana Godrich,	9:05 AM	14/-4	DSP Arc Arokia Iri	chi tectures udayaraj, Michael Brogioli, Nitin Jain, U eescale Semiconductor, Inc.	
	Rutgers University; Visa Koivunen, Aalto University Vincent Poor, Princeton University	; H.		BREAK		9:55 AM
ГА6а-4	Centralized and Distributed Tests for Moving Target Detection with MIMO Radars in Clutte Non-Homogeneous Power Pu Wang, Hongbin Li, Stevens Institute of Technolog Braham Himed, Air Force Research Laboratory	rof	TA7-5	Through Algorith	t FPGA Implementation of a High aput Systolic Array QR-Decomposition of a High aput Systolic Array QR-Decomposition of a High aput Systolic Array QR-Decomposition of a High and Abels, Till Wiegand, Steffen Paul, Univers	
Session	•		TA7-6		ison of Performance and	10:40 AM
	Relaying via Multiple Anten	nas		Detector	entation Complexity of Soft-Output S rs for MIMO-OFDM Systems Myllyla, Renesas Mobile Europe Ltd	phere
	giy Vorobyov, University of Alberta		TA7-7		d Power Optimization in FPGA	11:05 AM
ГА6b-1	Collaborative Beamforming in Wireless Sensor Networks Serkan Sayilir, Yung-Hsiang Lu, Dimitrios Peroulis,	10:15 AM Y.		Based A Mehmood	rchitectures for Polyphase Channeliz d Awan, Peter Koch, Aalborg University; I an Diego State University	
ГА6b-2	Charlie Hu, Byunghoo Jung, Purdue University Joint Power Control and Relay Design in Underlay Cognitive Networks with Multiple Transmitter-Receiver Pairs	10:40 AM	TA7-8	Modulat Paulo Ur	re Implementation of Kuiper-Based tion Level Classification riza, Eric Rebeiz, Danijela Cabric, Unive a, Los Angeles	11:30 AM rsity of
	Keyvan Zarifi, Sofiene Affes, INRS-EMT; Ali Ghraye Concordia University	b,	Session	TA8a1	<b>Signal Processing Methods</b>	for
ГА6b-3	Beamforming in MIMO Broadcast Relay	11:05 AM			Representation, Analysis, a	nd
	Networks with Multiple Antenna Users Godfrey Okeke, Yindi Jing, Witold Krzymien, Univer	sity	Co Chaine	. D I.	Control of Biological System	
ГА6b-4	of Alberta  A Palay Salaction Approach to Bi Directional	11.20 AM		: Byung-Ju of South F	ın Yoon, Texas A&M and Xiaoning Q Florida	ıan,
1A0U-4	A Relay Selection Approach to Bi-Directional Collaborative Communications with Imperfect Fadhel Al-Humaidi, Shahram ShahbazPanahi, Univ.	CSI	om ensu	oj bomit i		1 - 9:55 AM

of Ontario Institute of Technology

TA8a1-1 Exact MSE Performance of the Bayesian MMSE Estimator for Classification Error

Lori A. Dalton, Edward R. Dougherty, Texas A&M

University

- TA8a1-2 Misaligned Principal Component Analysis (Mis-PCA) for Gene Expression Time Series Analysis

  Arnau Tibau-Puig, Alfred O. Hero, University of Michigan
- TA8a1-3 Optimal Intervention Strategies for Cyclic Therapeutic Methods with Fixed-Length Duration of Effect Mohammadmahdi R. Yousefi, Aniruddha Datta, Edward R. Dougherty, Texas A&M University
- TA8a1-4 Maximum Likelihood Estimation of the Binary Coefficient of Determination

  Ting Chen, Ulisses Braga-Neto, Texas A&M University
- TA8a1-5 An MCMC Algorithm for Base Calling in Sequencingby-Synthesis
  Ting Wu, Haris Vikalo, The University of Texas at Austin
- TA8a1-6 Relationships Between Genetic Regulatory Network Models

  Mehmet Umut Caglar, Ranadip Pal, Texas Tech University
- TA8a1-7 Bayesian Networks Modeling of Cellular Regulatory Pathways Chen Zhao, Ivan Ivanov, Texas A&M University; Michael Bittner, Translational Genomics Research Institute; Edward R. Dougherty, Texas A&M University
- TA8a1-8 Haplotype Inference Based on Sparse Dictionary Selection Guido Hugo Jajamovich, Xiaodong Wang, Columbia University
- TA8a1-9 Surface-Constrained 3D Reconstruction in Cryo-EM Andrew C. Barthel, Hemant Tagare, Fred J. Sigworth, Yale University
- TA8a1-10 Phenotypically Constrained Stationary Control Policies for Gene Regulatory Network Intervention Xiaoning Qian, University of South Florida; Edward R. Dougherty, Texas A&M University
- TA8a1-11 Prediction of Cancer Subtypes Using Bayesian Factor Network Model

  Jia Meng, The University of Texas at San Antonio; Manuel
  Sánchez Castillo, University of Granada; Jianqiu Zhang,
  The University of Texas at San Antonio; Isabel María
  Tienda Luna, University of Granada; Yufei Huang, The
  University of Texas at San Antonio
- TA8a1-12 Dynamical Processes on Networks: A Unified View Garrett Jenkinson, John Goutsias, The Johns Hopkins University
- TA8a1-13 A Brief Review of Signal Processing Issues in Mass Spectrometry-Based Proteomics Studies Chao Yang, Weichuan Yu, Hong Kong University of Science and Technology
- TA8a1-14 Fault Detection and Intervention in Biological Feedback Networks

  Ritwik Layek, Aniruddha Datta, Texas A&M University
- TA8a1-15 Fast Global Sequence Alignment Algorithm

  Talal Bonny, Khaled Nabil Salama, King Abdullah

  University of Science and Technology

TA8a1-16 Optimal State Estimation for Boolean Dynamical Systems

\*Ulisses Braga-Neto, Texas A&M University\*

### **Session TA8a2** Receiver Design and Optimization

Chair: Lara Dolecek, UCLA

8:15 AM - 9:55 AM

- TA8a2-1 Incorporating Prior Information into Semi-Definite Relaxation of Quadratic Optimization Problems *Jacob (Jake) Gunther, Todd Moon, Utah State University*
- TA8a2-2 Diversity of the MMSE Receiver in Flat Fading and Frequency Selective MIMO Channels at Fixed Rate Florian Dupuy, Thales Communication / Université Paris Est; Philippe Loubaton, Université Paris Est
- TA8a2-3 Predicting the Pruning Potential on the Sphere Decoding for Multiple-Input Multiple-Output Detection

  Hwanchol Jang, Gwangju Institute of Science and
  Technology; Saeid Nooshabadi, Michigan Technological
  University; Heung-No Lee, Gwangju Institute of Science
  and Technology
- TA8a2-4 Computationally Efficient Design of the MAE Equalizer for Binary Signaling
  Weiwei Zhou, Jill Nelson, George Mason University;
  Ananya Sen Gupta, Woods Hole Oceanographic Institution
- TA8a2-5 Broadband Doppler Compensation: Principles and New Results

  Thomas Riedl, Andrew Singer, University of Illinois,
  Urbana-Champaign
- TA8a2-6 Optimal Pilot Symbol Power Allocation in Multi-Cell Scenario in LTE

  Michal Simko, Markus Rupp, Vienna University of Technology
- TA8a2-7 On the Ergodic Secrecy Capacity of the Wiretap Channel under Imperfect Main Channel Estimation

  Zouheir Rezki, King Abdullah University of Science and Technology; Ashish Khisti, University of Toronto;

  Mohamed-Slim Alouini, King Abdullah University of Science and Technology
- TA8a2-8 On the Stability of DSP Based PI Phase-Locked Loops Containing Matched Filter Delays Fredric Harris, San Diego State University; Behrouz Farhang-Boroujeny, University of Utah

# Session TA8a3 Communications System Design

Chair: Marco Chiani, University Bologna

8:15 AM - 9:55 AM

TA8a3-2 An SDR Architecture for OFDM Transmission over USRP2 Boards

Gilberto Berardinelli, Aalborg University; Per Zetterberg, KTH Royal Institute of Technology; Oscar Tonelli, Andrea F. Cattoni, Troels B. Sørensen, Preben Mogensen, Aalborg University

- TA8a3-3 Environmental-Aware Heterogeneous Partial Feedback Design in a Multi-User OFDMA System Yichao Huang, Bhaskar D. Rao, University of California, San Diego
- TA8a3-4 Adaptive OFDM for Underwater Acoustic Channels with Limited Feedback

  Andreja Radosevic, University of California, San Diego;

  Tolga Duman, Arizona State University; John Proakis,

  University of California, San Diego; Milica Stojanovic,

  Northeastern University
- TA8a3-5 A 512-Point 8-Parallel Pipelined Feedforward FFT for WPAN

  Tanvir Ahmed, Mario Garrido, Oscar Gustafsson,
  Linköping University
- TA8a3-6 On the Convergence of Joint Channel and Mismatch Estimation for Time-Interleaved Data Converters Sandeep Ponnuru, Upamanyu Madhow, University of California, Santa Barbara
- TA8a3-7 Comparison of Energy- and Spectral-Efficient Design for LTE Downlink Systems

  Liying Li, University of Electronic Science and Technology of China; Jiancun Fan, Xi'an Jiaotong University; Gang Wu, Hongbing Xu, University of Electronic Science and Technology of China; Geoffrey Ye Li, Georgia Institute of Technology
- TA8a3-8 An Efficient Cascade of Half-Band Filters for Software Defined Radio Transmitters Fredric Harris, Xiaofei Chen, Elettra Venosa, San Diego State University

# **Session TA8a4** Applications of Array Processing

Chair: Giuseppe Abreu, Oulu University, Finland

8:15 AM - 9:55 AM

- TA8a4-2 Detection Properties of Some Sparse Representation Approaches Jean Jacques Fuchs, Université de Rennes 1
- TA8a4-3 Estimating Bridge Displacement from Acceleration
  Using Modal Analysis and the Minimum Description
  Length Principle
  Viswanadh Kandula, Linda S. DeBrunner, Victor
  DeBrunner, Michelle Rambo-Rodenberry, Florida State
  University
- TA8a4-4 Non-Uniform Sparse Array Design for Active Sensing Ching-Chih Weng, P. P. Vaidyanathan, California Institute of Technology
- TA8a4-5 MIMO Radar Target Measurements

  Kyle Stewart, Mark Frankford, Joel Johnson, Emre Ertin,
  Ohio State University
- TA8a4-6 Efficient Removal of Noise and Interference in Multichannel Quadrupole Resonance
  Naveed Razzag Butt, Andreas Jakobsson, Lund University

- TA8a4-7 Time Reversal Bayesian Ultrasonic Array Imaging for Non-Destructive Testing

  Foroohar Foroozan, Nasim Moallemi, Shahram

  ShahbazPanahi, University of Ontario Institute of Technology
- TA8a4-8 Energy-Efficient MMSE Beamforming and Power Optimization in Multibeam Satellite Systems

  Gan Zheng, Symeon Chatzinotas, Björn Ottersten, SnT,

  University of Luxembourg
- TA8a4-9 Equidistributed Sampling Sequences for Spectral Analysis

  Mustafa Al-Ani, Andrzej Tarczynski, University of Westminster

# Session TA8b1 Multiple Antennas in Multi-User Systems and Networks

Chair: Shuguang Cui, Texas A&M University

10:15 AM - 12:00 PM

- TA8b1-2 Maximum-Likelihood Decoding in Decode-and-Forward Based MIMO Cooperative Communication Systems

  Ankur Bansal, Manav Bhatnagar, Indian Institute of Technology, Delhi; Are Hjørungnes, UNIK, University of Oslo; Zhu Han, University of Houston
- TA8b1-3 Complex Interference Optimization for Power Loss Reduction in MIMO-THP Transmission Christos Masouros, Mathini Sellathurai, Tharmalingam Ratnarajah, Queen's University Belfast; Ying-Chang Liang, Institute for Infocomm Research
- TA8b1-4 Channel Tracking for D-BLAST for Airborne Platforms

  Kapil Borle, Biao Chen, Syracuse University; Michael

  Gans, Air Force Research Laboratory
- TA8b1-5 Interference Alignment for Multiple-Antenna Amplifyand-Forward Relay Interference Channel Kien T. Truong, Robert W. Heath, Jr., The University of Texas at Austin
- TA8b1-6 On the Instantaneous Degrees of Freedom of Downlink Interference Channel with Multiuser Diversity Taejoon Kim, David Love, Purdue University; Bruno Clerckx, Samsung Electronics
- TA8b1-7 On Grouped OFDM-IDMA

  Jian Dang, Southeast University; Liuqing Yang, Colorado

  State University; Zaichen Zhang, Southeast University
- TA8b1-8 Coordinated Multi-Cell Beamforming for LTE-Advanced Systems
  Qixing Wang, Guangyi Liu, China Mobile Research Institute; Shuguang Cui, Texas A&M University
- TA8b1-9 Linear Transceiver Design for Interfering Broadcast Channel with QoS Constraints Meisam Razaviyayn, Zhi-Quan Luo, University of Minnesota
- TA8b1-10 Cooperative Feedback for MIMO Interference Channels Kaibin Huang, Yonsei University; Rui Zhang, National University of Singapore

- TA8b1-11 Eigen-Mode Transmission for Jointly Correlated MIMO Broadcast Channels

  Xiao Li, Shi Jin, Xiqi Gao, Southeast University
- TA8b1-12 How Many Degrees of Freedom Can Be Achieved for Mutually Interfering MIMO Broadcast Channels?

  Hyukjin Chae, Sungyoon Cho, Kaibin Huang, Dongku Kim, Yonsei University
- TA8b1-13 Distributed Beamforming Based Directional Spectrum Sharing

  Juan Liu, Wei Chen, Zhigang Cao, Tsinghua University;

  Ying Jun Zhang, Chinese University of Hong Kong
- TA8b1-14 Spatially Efficient Distributed Relay Selection for Random Relay Networks Sungrae Cho, Wan Choi, Korea Advanced Institute of Science and Technology; Kaibin Huang, Yonsei University
- TA8b1-15 Channel State Information Feedback Control for Interference Alignment

  Lingyang Song, Peking University; Zhu Han, University of Houston; Shaohui Sun, Datang Mobile; Bingli Jiao, Peking University
- TA8b1-16 Self-Optimized MIMO-OFDMA: A Nash-Stackelberg Game-Theoretic Approach Jie Ren, Jianjun Hou, Beijing Jiaotong University; Kai-Kit Wong, University College London

# Session TA8b2 Cooperative and Cognitive Transmission in Multi-Antenna Systems

Chair: Daniel Bliss, MIT Lincoln Laboratory

10:15 AM - 12:00 PM

- TA8b2-1 Cooperative Rate Maximization Based on Base Station Exchange of Powers Samer Bazzi, Guido Dietl, DoCoMo Communications Laboratories Europe GmbH
- TA8b2-2 Half-Duplex Gaussian Diamond Relay Channel with Interference Known at One Relay

  Kagan Bakanoglu, Elza Erkip, Polytechnic Institute of New York University; Osvaldo Simeone, New Jersey

  Institute of Technology
- TA8b2-3 Interference Management in Femtocell Networks with Hybrid-ARQ and Interference Cancellation Tania Villa, Eurecom; Ruben Merz, Deutsche Telekom Laboratories; Raymond Knopp, Eurecom
- TA8b2-4 Achievable Degrees of Freedom of the K-User Interference Channel with Partial Cooperation Ahmed Naguib, Khaled Elsayed, Cairo University; Mohammed Nafie, Nile University
- TA8b2-5 Multicell Downlink Weighted Sum-Rate Maximization: A Distributed Approach Pradeep Chathuranga Weeraddana, Marian Codreanu, Satya Joshi, Matti Latva-aho, Centre for Wireless Communications

- TA8b2-6 Decentralized Multi-Cell Beamforming Coordination for Multiuser MISO Systems

  Harri Pennanen, Antti Tölli, Matti Latva-aho, University of Oulu
- TA8b2-7 Feedback Reduction by Thresholding in Multi-User Broadcast Channels: Design and Limits Matthew Pugh, Bhaskar D. Rao, University of California, San Diego
- TA8b2-8 Full-Duplex Bidirectional MIMO: Achievable Rates under Limited Dynamic Range
  Brian Day, Ohio State University; Daniel Bliss, Adam
  Margetts, MIT Lincoln Laboratory; Philip Schniter, Ohio
  State University

# Session TA8b3 Adaptive Sensing

Chair: Jarvis Haupt, University of Minnesota

10:15 AM - 12:00 PM

- TA8b3-1 Adaptive Search for Sparse Moving Targets under Resource Constraints

  Gregory Newstadt, Eran Bashan, Alfred O. Hero,
  University of Michigan
- TA8b3-2 Adaptive Signal Recovery in Noisy Environments

  Mark Iwen, Duke University; Ahmed H. Tewfik, The

  University of Texas at Austin
- TA8b3-3 On the Limits of Sequential Testing in High Dimensions Matthew Malloy, Robert Nowak, University of Wisconsin
- TA8b3-4 Active Learning for Adaptive Life-Long Learning

  Lawrence Carin, Duke University; Hui Li, Signal

  Innovations Group
- TA8b3-5 Efficient Adaptive Compressive Sensing Using Sparse Hierarchical Learned Dictionaries Akshay Soni, Jarvis Haupt, University of Minnesota
- TA8b3-6 Information-Optimal Adaptive Compressive Imaging Amit Ashok, Mark Neifeld, University of Arizona
- TA8b3-7 On Primary Side Information in Cognitive Radio
  Networks
  May Moussa, Mohammed Nafie, Nile University; Hesham
  El-Gamal, Ohio State University; Ayman Naguib,
  Oualcomm Incorporated
- TA8b3-8 Further Results on Adaptive Sequential Detection with One-Sided Stopping and Deadline

  Wenyi Zhang, University of Science and Technology of China; Ahmed Sadek, Stephen Shellhammer, Cong Shen, Oualcomm Incorporated

# Session TP1a Resource Allocation in Multi-Antenna Systems

Chair: Neelesh Mehta, Indian Institute of Science

TP1a-1 Optimal Power Allocation for Multi-User 1:30 PM
Transmit Beamforming via Regularized Channel
Inversion
Rusdha Muharar, Jamie Evans, University of Melbourne

TP1a-2	Capacity Density Optimization by Fractional Frequency Partitioning Martin Taranetz, Josep Colom Ikuno, Markus Rupp, Vienna University of Technology	1:55 PM	TP2a-4	for Dyn	ed Equilibrium Learning Algorithms amic Spectrum Access Huang, Vikram Krishnamurthy, University o Columbia	2:45 PM
TP1a-3	Resource Allocation in MIMO Multi-Cellular Networks via Submodular Optimization	2:20 PM	Session 7	ГР2b	Cognitive Radio II	
	Narayan Prasad, Honghai Zhang, NEC Laboratories		Chair: Osvaldo Simeone, New Jersey Institute of Technology			
TP1a-4	America, Inc.; Luca Venturino, University of Cassino; Jubin Jose, The University of Texas at Austin; Sampath Rangarajan, NEC Laboratories America, Inc.  Pla-4 Transmit Power Optimization for Multi-Antenna Decode-and-Forward Relays with		TP2b-1	Random Spectrum Giuseppe	E Eigenvalue Distributions of Finite in Wishart Matrices with Application to im Sensing a Abreu, University of Oulu; Wensheng Zhang Inamori, Yukitoshi Sanada, Keio University	3:30 PM
	Loopback Self-Interference from Full-Duplex Operation Taneli Riihonen, Stefan Werner, Risto Wichman, Aalto University	)	TP2b-2	Autocor Spectrum	relation-Based Multi-Antenna m Sensing in Colored Noise Tugnait, Auburn University	3:55 PM
Session 7	<b>TP1b</b> Interference Management		TP2b-3	Masking	alized Cognition via Randomized 3 Moshksar, Amir Khandani, University of Wate	4:20 PM
Chair: Aydi	n Sezgin, University of Ulm		TP2b-4	•		4:45 PM
TP1b-1	Degrees of Freedom of Multiple Unicasts over Multihop Wireless Networks Syed Jafar, University of California, Irvine	3:30 PM	1720-4	Opportu Networl	m Leasing via Cooperative unistic Routing in Distributed Ad Hocks: Optimal and Heuristic Policies of Tapparello, Davide Chiarotto, Michele Ross	
TP1b-2	Optimized Data Symbol Sharing in Multiple-Antenna Interference Channel Maha Odeh, Paul De Kerret, David Gesbert, Eurecon	3:55 PM		University of Padova; Osvaldo Simeone, New Jerse Institute of Technology; Michele Zorzi, University of Padova		ι,
TP1b-3	On Interference Channels with more than Two Source-Destination Pairs Daniela Tuninetti, University of Illinois, Chicago	4:20 PM	TP2b-5	Access Sang Hyr	age-Passing Algorithm for Spectrum in Cognitive Radio Relay Networks un Lee, Manohar Shamaiah, Sriram Vishwana kalo, The University of Texas at Austin	5:10 PM <i>ath</i> ,
TP1b-4	1b-4 Training and Feedback Optimization For 4:45 PM MIMO Interference Alignment in Continuous		Session 7		Multi-dimensional Compress	ive
	Fading Channels				Inference	
	Omar El Ayach, Angel Lozano, Universitat Pompeu Fabra; Robert W. Heath, Jr., The University of Texas Austin	at	Chair: Phil	Schniter,	The Ohio State University	
TP1b-5	Making Optimal Use of the Asymmetric Interference Channel Rachel Learned, MIT Lincoln Laboratory	5:10 PM	TP3a-1	Graeme . Studer, R	me Principal Component Pursuit Pope, Manuel Baumann, ETH Zurich; Christo ice University; Giuseppe Durisi, Chalmers ty of Technology	1:30 PM oph
Session 7	TP2a Cognitive Radio I		TP3a-2		nk Variational Tensor Recovery for	1:55 PM
	aldo Simeone, New Jersey Institute of Technology			Multi-L	inear Inverse Problems qadah, H. Howard Fan, University of Cincin	nati
TP2a-1	Joint Link Learning and Cognitive Radio Network Sensing Seung-Jun Kim, Georgios B. Giannakis, University of Minnesota	1:30 PM	TP3a-3	Compre Karthike	ted Measurements for Kernel ssive Sensing yan Natesan Ramamurthy, Andreas Spanias, State University	2:20 PM
TP2a-2	Spectrum Sensing via Event-Triggered Sampling Yasin Yilmaz, Xiaodong Wang, Columbia University	1:55 PM	TP3a-4	the Mul	t Message Passing-Based Inference in tiple Measurement Vector Problem niel, Philip Schniter, Ohio State University	2:45 PM
TP2a-3	Proactive Resource Allocation in Cognitive Networks John Tadrous, Atilla Eryilmaz, Hesham El-Gamal, Ok State University	2:20 PM		2000	,	

Session TP3b	Advances in Adaptive and
	Distributed Filtering

	Distributed Filtering		Chair: Ale	ex Dimakis, University of Southern California
Chair: Vita	or Nascimento, University of Sao Paulo		TP4b-1	Codes for Robust Scalable Distributed 3:30 PM
TP3b-1	Continuous-Time Distributed Estimation Vitor Nascimento, University of Sao Paulo; Ali H. Say University of California, Los Angeles Sequential Likelihood Consensus and	3:55 PM	11 40-1	Video-on-Demand Systems Sameer Pawar, Salim El Rouayheb, Hao Zhang, University of California, Berkeley; Parimal Parag, Texas A&M University; Kannan Ramchandran, University of California, Berkeley
	Application to Distributed Particle Filtering with Reduced Communications and Latency Ondrej Sluciak, Ondrej Hlinka, Markus Rupp, Franz Hlawatsch, Vienna University of Technology; Petar Djuric, Stony Brook University	1	TP4b-2	Error Coding for Long-Term Archival 3:55 PM Storage Systems Ethan Miller, Ian Adams, Jingpei Yang, Daniel Rosenthal, Darrell Long, University of California, Santa Cruz
TP3b-3	A Unifying Framework for the Analysis of Quaternion-Valued Adaptive Filters Clive Cheong Took, Cyrus Jahanchahi, Danilo Mandi	4:20 PM <i>c</i> ,	TP4b-3	Theoretical Problems in Fault-Tolerant Distributed Storage James Plank, University of Tennessee Survey of Non-MDS Erasure Codes for 4:45 PM
TP3b-4	Imperial College London Joint Conditional and Steady-State Probability Densities of Weight Deviations for	4:45 PM	11 40-4	Distributed Storage Systems  Jay Wylie, Hewlett-Packard Labs
	Proportionate-Type LMS Algorithms		Session	<b>TP5</b> Compressive Sensing for Radar
	Kevin Wagner, Naval Research Laboratory; Miloš Doroslovacki, George Washington University		Chair: Ral	binder Madan, U.S. Office of Naval Research
TP3b-5	Fast and Superfast Computations in Structured Equalization Scenarios Ricardo Merched, Universidade Federal do Rio de Ja.	5:10 PM neiro	TP5-1	Compressive Sensing: Snake Oil or Good 1:30 PM Idea? Fred Daum, Raytheon
Session '	TP4a Communication Managemen	t in	TP5-2	Compressive Sensing for Synthetic Aperture 1:55 PM
	Robot Networks			Radar in Fast-Time and Slow-Time Domains Qilian Liang, The University of Texas at Arlington
Chair: Mic	chael Zavlanos, Stevens Institute of Technology		TP5-3	Comparison of Compressed Sensing, MAP, 2:20 PM and MMOSPA Estimation for Radar
TP4a-1	Co-Optimization of Communication and Motion Planning of a Robotic Operation in Fadi Environments Yuan Yan, Yasamin Mostofi, University of New Mexico			and MMOSPA Estimation for Radar Superresolution David Crouse, Peter Willett, University of Connecticut; Lennart Svensson, Chalmers University; Yaakov Bar- Shalom, University of Connecticut
TP4a-2	A Framework for Integrating Mobility and Routing in Mobile Communication Networks Michael M. Zavlanos, Stevens Institute of Technology, Alejandro Ribeiro, George J. Pappas, University of Pennsylvania	1:55 PM	TP5-4	Support Recovery in Compressive Sensing for Estimation of Direction-of-Arrival <i>Zhiyuan Weng, Xin Wang, Stony Brook University</i> BREAK 3:10 PM
TP4a-3	Multi-Robot Path Following with Visual Connectivity Magnus Lindhé, Royal Institute of Technology; Tamas Keviczky, Delft University of Technology; Karl Henrik Johansson, Royal Institute of Technology		TP5-5	Explore Group Sparsity for Compressive 3:30 PM Sensing Based MIMO Radar Yao Yu, Athina Petropulu, Junzhou Huang, Rutgers University
TP4a-4	Communication Network Challenges for Collaborative Vehicles Pedram Hovareshti, Chen Hua, John Baras, Universit Maryland	2:45 PM	TP5-6	On the Role of Waveform Diversity in MIMO 3:55 PM Radar Benjamin Friedlander, University of California, Santa Cruz
	та ушпи		TP5-7	Non-Coherent Compressive Sensing for 4:20 PM MIMO Radar with Widely Separated Antennas Christian Berger, Jose' Moura, Carnegie Mellon University

**Session TP4b** 

**Distributed Storage Systems** 

TP5-8	Global Methods for Compressive Sensing in MIMO Radar with Distributed Sensors Marco Rossi, Alexander M. Haimovich, New Jersey Institute of Technology; Yonina C. Eldar, Technion-Institute of Technology	4:45 PM	TP6b-4	for the F Satellite Bertrand	ed Interference Mitigation Techniques orward Link of Multi-Beam Broadband Systems Devillers, Centre Tecnològic de nicacions de Catalunya (CTTC); Ana Pérez-	4:45 PM
Session	<b>TP6a</b> Source Localization		TTD (1 . 5		niversitat Politècnica de Catalunya	5 4 0 D) 5
Chair: Mu	ralidhar Rangaswamy, Purdue University		TP6b-5		ance Evaluation of a Satellite  y System Employing Compact MIMO-	5:10 PM
TP6a-1	, , , , , , , , , , , , , , , , , , ,		1:30 PM		ron Antenna ult, Lund University; Abbas Mohammed, Institute of Technology; Zhe Yang, Lund	
	University of Technology	<i>y</i> .	Session 7	TP7a	<b>Adaptive and Evolvable</b>	
TP6a-2	Conditioned MDS with Heterogeneous Information	1:55 PM			Architectures	
	Davide Macagnano, Giuseppe Abreu, University of	Oulu	Chair: And	ly Tyrrell,	University of York, UK	
TP6a-3	Cooperative Multihop Localization with Privacy Golaleh Rahmatollahi, Leibniz University Hannover Giuseppe Abreu, University of Oulu; Stefano Severi, University of Bologna	2:20 PM	TP7a-1	for Bio-I Nano-Sc	ammable Analog and Digital Array nspired Electronic Design Optimization ale Silicon Technology Nodes efzer, James Walker, Andy Tyrrell, University	
TP6a-4 Design and Performance of an Integrated 2:45 PM Waveform-agile Multi-Modal Track-before-Detect Sensing System Jun Jason Zhang, Arizona State University; Surendra Bhat, Pennsylvania State University; Quan Ding, University of Rhode Island; Antonia Papandreou- Suppappola, Arizona State University; Ram Narayanan, Pennsylvania State University; Steven Kay, University of Rhode Island; Muralidhar Rangaswamy, Air Force Research Laboratory		tect		Architec	tures Iaddow, Norwegian University of Science and	1:55 PM
		TP7a-3	Improved Learning in an Evolvable Oscillator 2:20 PM for In-Flight Controller Adaptation in a Flapping-Wing Micro Air Vehicle Gallagher John, Wright State University; Michael Oppenheimer, Air Force Research Laboratory			
Session	TP6b Array Processing for Satelli	te	TP7a-4			2:45 PM
50551011	Communications			Linear S		-
Chair: Mic	chael Joham, Technical University Munich		~		Greenwood, Portland State University	
TP6b-1	On the Capacity of Multi-Beam Joint	3:30 PM	Session 7	TP7b	Computer Arithmetic II	
	Decoding over Composite Satellite Channels		Chair: Neil	l Burgess,	ARM, Inc. USA	
	Dimitrios Christopoulos, Symeon Chatzinotas, Univof Luxembourg; Michail Matthaiou, Chalmers Univof Technology; Björn Ottersten, University of Luxem	ersity bourg	TP7b-1	Andrew S	y-Serial Pipelined Multiplier hafer, Advanced Micro Devices; Lyndsi Park l Swartzlander, The University of Texas at Au	
TP6b-2	User Scheduling for Large Multi-Beam Satellite MIMO Systems Matteo Berioli, Vincent Boussemart, Francesco Ross German Aerospace Center (DLR)	3:55 PM	TP7b-2	Special-l Accelera Micropro	Purpose Crypto Hardware ttors for 45nm High-Performance occssors	3:55 PM
TP6b-3	Multi-User Interference Mitigation Techniques for Broadband Multi-Beam Satelli Systems Ilaria Thibault, Francesco Lombardo, Enzo A. Cana Alessandro Vanelli-Coralli, Giovanni E. Corazza,		TP7b-3	Energy-I for Low- Syed Z. G	hew, Ram Krishnamurthy, Intel Corporation Efficient Floating-Point Arithmetic Power Digital Signal Processors ilani, Nam Sung Kim, University of Wisconsi Michael J. Schulte, Advanced Micro Devices	
	University of Bologna		TP7b-4	Testing I David Lui	Fused Multiply Add Implementations tz, Neil Burgess, Sabrina Romero, ARM	4:45 PM

TP7b-5 Shared Implementation of Radix-10 and Radix-16 Division Algorithm with Limited Precision Primitives

Milos D. Ercegovac, University of California, Los Angeles; Robert McIlhenny, California State University, Northridge

# Session TP8a1 Techniques for Space-Time Signal Processing

Chair: Kaibin Huang, Yonsei University, S. Korea

1:30 PM - 3:10 PM

- TP8a1-1 Equivalent Codes and Optimality of Orthogonal Space-Time Block Codes

  Alex Geyer, Sergiy Vorobyov, Norman Beaulieu, University
  of Alberta
- TP8a1-3 Sparse Space-Time Equalization with L1 Norm

  Laura Slivinski, Brown University; Adam Margetts, Daniel
  Bliss, Massachusetts Institute of Technology
- TP8a1-4 Weighted Sum-Rate Maximization for MISO Downlink Cellular Networks via Branch and Bound Satya Joshi, Pradeep Chathuranga Weeraddana, Marian Codreanu, Matti Latva-aho, Centre for Wireless Communications
- TP8a1-5 Low Complexity Generalized Geometric Mean Decomposition and DFE Transceiver Design Chih-Hao Liu, P. P. Vaidyanathan, California Institute of Technology
- TP8a1-6 Worst-Case Robust Multiuser Transmit Beamforming Using Semidefinite Relaxation: Duality and Implications Tsung-Hui Chang, National Tsing Hua University; Wing-Kin Ma, Chinese University of Hong Kong; Chong-Yung Chi, National Tsing Hua University
- TP8a1-7 Transmitter Optimization for MIMO Systems with Mutual Coupling at High SNR

  Peng Li, Hong Kong University of Science and Technology; Liang Sun, Alcatel-Lucent Shanghai Bell;

  Matthew McKay, Ross Murch, Hong Kong University of Science and Technology
- TP8a1-8 Robust Joint Optimization of Non-Regenerative MIMO Relay Channels with Imperfect CSI Ebrahim A. Gharavol, Erik G. Larsson, Linköping University

# Session TP8a2 Statistical and Array Signal Processing for Biomedical Applications

Chair: Monica Bugallo, University of Stony Brook

1:30 PM - 3:10 PM

- TP8a2-1 ECG De-Noising Using a Dynamical Model and a Marginalized Particle Filter
  Chao Lin, TéSA Laboratory; Monica Bugallo, Stony
  Brook University; Corinne Mailhes, Jean-Yves Tourneret,
  University of Toulouse
- TP8a2-2 Beta Dirichlet Process Mixture Model Based Clustering of DNA Methylation Array Data Jia Meng, Yufei Huang, The University of Texas at San Antonio; Lin Zhang, China University of Mining and Technology
- TP8a2-3 Neonatal Seizure Detection Using Multi-Channel Blind Information Fusion Huaying Li, Aleksandar Jeremic, McMaster University; Kenneth Tan, University of Melbourne
- TP8a2-4 A Novel Approach to Automated Fetal Heart Rate Analysis Shishir Dash, Petar Djuric, Stony Brook University
- TP8a2-5 Joint Waveform and Firing Rate Spike-Sorting for Continuous Extracellular Traces

  Brett Matthews, Mark Clements, Georgia Institute of Technology
- TP8a2-6 Statistical Design of Position-Encoded Microsphere
  Arrays at Low Target Concentrations
  Xiaoxiao Xu, Washington University in St. Louis; Pinaki
  Sarder, Washington University School of Medicine in St.
  Louis; Arye Nehorai, Washington University in St. Louis
- TP8a2-7 Biosensor Arrays for Collaborative Detection of Analytes

  Maryam Abolfath-Beygi, Vikram Krishnamurthy,

  University of British Columbia
- TP8a2-8 Developing Movement Direction Decoders from Local Field Potentials

  Vijay Aditya Tadipatri, Ahmed H. Tewfik, The University of Texas at Austin; James Ashe, Guiseppe Pellizzer, VA

  Medical Center. Minneapolis

#### Session TP8a3 Sensor Networks

Chair: Soumya Kar, Carnegie Mellon University

1:30 PM - 3:10 PM

- TP8a3-1 Dual Trust Secure Protocol for Cluster-Based Wireless Sensor Networks Yang Li, Melody Moh, San Jose State University
- TP8a3-2 User Clustering and Energy Efficient Cooperation in Cellular Networks

  Jinhong Wu, George Washington University; Harry
  (Zhibing) Chen, Yong Liu, Liyu Cai, Alcatel-Lucent
  Shanghai Bell

- TP8a3-3 Optimization of Exponential Error Rates for a Suboptimum Fusion Rule in Wireless Sensor Networks John Gubner, University of Wisconsin-Madison; Louis Scharf, Edwin Chong, Colorado State University
- TP8a3-4 Collaborative Estimation in Dispersive Environments: A Frequency Domain Approach
  Sriram Venkateswaran, Upamanyu Madhow, University of California, Santa Barbara
- TP8a3-5 Distributed Support Vector Machines in Sensor-Actuator Networks Juo-Yu (Joseph) Lee, Kung Yao, University of California, Los Angeles
- TP8a3-6 Step-Size Sequence Design for Finite-Time Distributed Average Consensus Alain Kibangou, University Joseph Fourier/CNRS
- TP8a3-7 Target Localization in Sensor Networks with Quantized Data in the Presence of Byzantine Attacks

  Keshav Agrawal, Aditya Vempaty, Indian Institute of Technology, Kanpur; Hao Chen, Boise State University;

  Pramod Varshney, Syracuse University
- TP8a3-8 Uniformly Most Powerful Distributed Detection and its Application in Cooperative Spectrum Sensing Hao Chen, Uri Rogers, Boise State University

#### Session TP8a4 Wireless Networks

Chair: Vivek Cadambe, University of California, Irvine

1:30 PM - 3:10 PM

- TP8a4-1 Dynamic Pricing under Binary Demand Uncertainty: A Multi-Armed Bandit with Correlated Arms

  Yixuan Zhai, Qing Zhao, University of California, Davis
- TP8a4-2 Optimal Routing with Mutual Information Accumulation in Wireless Networks

  Rahul Urgaonkar, Raytheon BBN Technologies; Michael

  Neely, University of Southern California
- TP8a4-3 Optimal Scheduling of Real-Time Messages in Peer-to-Peer Wireless Networks

  Juan Jose Jaramillo, Shihuan Liu, Lei Ying, Iowa State
  University
- TP8a4-4 State-Based Single Channel Selection in Multi-Channel Wireless Networks

  Brian Phillips, Murali Tummala, John McEachen, Naval Postgraduate School
- TP8a4-5 Robust Joint Transceiver Beamforming for Cognitive Radio Network Huiqin Du, Tharmalingam Ratnarajah, Queen's University Belfast; C. B. Papadias, Athens Information Technology
- TP8a4-6 Probabilistic Power Control for Heterogeneous Cellular Networks with Closed-Access Femtocells Ralf Bendlin, Yih-Fang Huang, University of Notre Dame; Josef A. Nossek, Munich University of Technology

- TP8a4-7 Pricing and Bandwidth Allocation Problems in Wireless Multi-Tier Networks

  Camila Maria Gabriel Gussen, Universidade Federal do Rio de Janeiro; Elena Veronica Belmega, Mérouane Debbah, Supélec
- TP8a4-8 Joint Power and Rate Control for Coded Wireless Packet Networks

  Ketan Rajawat, Nikolaos Gatsis, Emiliano Dall'Anese,
  Georgios B. Giannakis. University of Minnesota

# Session TP8b1 Machine-Learning-Based Statistical Signal Processing

Chair: Phil Schniter, The Ohio State University

3:30 PM - 5:10 PM

- TP8b1-1 Shrinkage Fisher Information Embedding of High Dimensional Feature Distributions

  Xu Chen, Yilun Chen, Alfred O. Hero, University of Michigan
- TP8b1-2 Adaptive Learning of Immunosignaturing Peptide Array Features for Biothreat Detection and Classification Anna Malin, Jun Jason Zhang, Bhavana Chakraborty, Narayan Kovvali, Antonia Papandreou-Suppappola, Stephen Johnston, Phillip Stafford, Arizona State University
- TP8b1-3 Sparse Classification of RF Transients Using Chirplets and Learned Dictionaries

  Daniela Moody, Steven Brumby, Kary Myers, Norma
  Pawley, Los Alamos National Laboratory
- TP8b1-4 Exploiting Random Matrix Theory to Improve Subspace-Based Classification
  Nicholas Asendorf, Raj Rao Nadakuditi, University of
  Michigan
- TP8b1-5 Non-Linear Unmixing of Hyperspectral Images with Kernels

  Jie Chen, Université de Technologie de Troyes; Cédric
  Richard, Université de Nice Sophia-Antipolis; Paul
  Honeine, Université de Technologie de Troyes
- TP8b1-6 Modulation Classification of MIMO-OFDM Signals by Independent Component Analysis and Support Vector Machines

  Handan Agirman-Tosun, Alexander M. Haimovich,
  Osvaldo Simeone, New Jersey Institute of Technology; Wei
  Su, U.S. Army CERDEC Aberdeen Proving Ground; Jason
  Dabin, U.S. Navy SPAWAR SCP; Emmanuel Kanterakis,
  CACI International
- TP8b1-7 A Measure of Difference between Discrete Sample Sets

  Debejyo Chakraborty, General Motors Company;

  Narayan Kovvali, Arizona State University
- TP8b1-8 On 11 Mean and Variance Filtering
  Bo Wahlberg, Cristian R. Rojas, Mariette Annergren, KTH
  Royal Institute of Technology

Session	TP8b2	<b>Network Information Theory</b>

Chair: Daniela Tuninetti, University of Illinois at Chicago

3:30 PM - 5:10 PM

TP8b2-1	Information-Theoretic Limits of Dense Underwater Networks Won-Yong Shin, Harvard University; Daniel Lucani, Universidade do Porto; Muriel Medard, Massachusetts Institute of Technology; Milica Stojanovic, Northeastern
	University; Vahid Tarokh, Harvard University
TP8b2-2	A Two-Way Secrecy Scheme for the Scalar Broadc

- TP8b2-2 A Two-Way Secrecy Scheme for the Scalar Broadcast Channel with Internal Eavesdroppers Chee Yen Leow, Imperial College London; Dennis L. Goeckel, University of Massachusetts; Kin K. Leung, Imperial College London
- TP8b2-3 Relaying for Multiple Sources in the Absence of Codebook Information

  Ye Tian, Aylin Yener, Pennsylvania State University
- TP8b2-4 Compound Codes for Optimal Repair in MDS Code Based Distributed Storage Systems Viveck Cadambe, University of California, Irvine; Cheng Huang, Microsoft Research; Jin Li, Sanjeev Mehrotra, Microsoft Research Redmond
- TP8b2-5 Effects of Range Expansion and Interference Coordination on Capacity and Fairness in Heterogeneous Networks Sayandev Mukherjee, Ismail Guvenc, DoCoMo USA Labs
- TP8b2-6 An Extended Etkin-Type Outer Bound on the Capacity of the Gaussian Interference Channel

  Anas Chaaban, Aydin Sezgin, University of Ulm
- TP8b2-7 Communication Strategies to Ensure Generic Networked Observability in Multi-Agent Systems

  Mohammadreza Doostmohammadian, Usman A. Khan,
  Tufts University
- TP8b2-8 Error Probability Bounds for Binary Relay Trees with Unreliable Communications

  Zhenliang Zhang, Ali Pezeshki, Colorado State University;

  William Moran, University of Melbourne; Stephen

  Howard, Defence Science and Technology Organization;

  Edwin Chong, Colorado State University

# Session WA1a Channel Estimation for Multi-Antenna Systems

Chair: Jakob Hoydis, Supélec

- WA1a-1 Close-Range Outdoor Wireless Channel 8:15 AM Sounding Scott E. Johnston, Paul D. Fiore, MIT Lincoln Laboratory
- WA1a-2 Channel Aging Effects in CoMP 8:40 AM
  Transmission: Gains from Linear Channel
  Prediction
  Lars Thiele, Bho Matthiesen, Michael Olbrich,
  Konstantinos Manolakis, Slawomir Stanczak, Fraunhofer
  Heinrich Hertz Institute

WA1a-3	A Modified Compressed Sampling Matching 9:05 AM
	Pursuit Algorithm on Redundant Dictionary and
	Its Application to Sparse Channel Estimation on
	OFDM
	Chulong Chen, Michael Zoltowski, Purdue University

WA1a-4 Asymptotic Analysis of Double-Scattering 9:30 AM Channels

Jakob Hoydis, Romain Couillet, Mérouane Debbah,
Supélec

#### Session WA1b MIMO Radar and SAR

Chair: Benjamin Friedlander, University of California, Santa Cruz

- WA1b-1 On Spatial Processing in MIMO Radar 10:15 AM
  Benjamin Friedlander, University of California, Santa
  Cruz
- WA1b-2 Subspace Fitting Based Autofocus for 10:40 AM Stripmap SAR
  Roger West, Jacob (Jake) Gunther, Todd Moon, Utah State University
- WA1b-3 Doppler Estimation and Compensation in 11:05 AM MIMO Radar with Unitary Waveform Scheduling Tariq Qureshi, Michael Zoltowski, Purdue University; Robert Calderbank, Duke University
- WA1b-4 On the Use of Fractional Autocorrelation to 11:30 AM
  Correct Mismatches for Chirp Scale Focusing for
  Real SAR Image Formation
  Judith Northrop, Antonia Papandreou-Suppappola,
  Arizona State University

#### Session WA2a OFDM

Chair: Antonia Maria Tulino, Bell-Labs

- WA2a-1 Low Complexity EM-Based Decoding for 8:15 AM
  OFDM Systems with Impulsive Noise
  Marcel Nassar; Brian Evans, The University of Texas at
  Austin
- WA2a-2 Accurate Characterization and Compensation 8:40 AM of Phase Noise in OFDM Receiver

  Pramod Mathecken, Taneli Rithonen, Stefan Werner, Risto
  Wichman, Aalto University
- WA2a-3 Linear Programming for Tone Reservation
  based IM/DD Optical OFDM Communications
  Liang Chen, NICTA Victoria Research Laboratory;
  Yusheng Ji, National Institute of Informatics; Brian
  Krongold, Jamie Evans, NICTA Victoria Research
  Laboratory
- WA2a-4 Analytical Link Performance Evaluation of 9:30 AM LTE Downlink with Carrier Frequency Offset *Qi Wang, Markus Rupp, Vienna University of Technology*

Session	WA2b Beamforming		WA3b-3	Sensor Calibration Errors in Compressive 11:05 AM
Chair: Mic	chael Joham, Technical University Munich			Distributed-Aperture Radar Sensing Peter Tuuk, Amy Sharma, Georgia Tech Research Institute
WA2b-1	Design of Beamforming in the Satellite Downlink with Static and Mobile Users Andreas Gründinger, Michael Joham, Wolfgang Utschensche Universität München		WA3b-4	Application of Compressive Sampling and 11:30 AM Detection to Spectral Target Signatures  Lawrence E. Hoff, Hoff Engineering; David Buck, Brian T. Williams, SPAWAR System Center; Edward M. Winter, Technical Research Associates; Miaoli Yu, SAIC
WA2b-2	Array and Beamformer Design for Optimal Directivity	10:40 AM	Session	, , ,
WA2b-3	Jean Jacques Fuchs, Université de Rennes 1 Coordinating Complementary Waveforms for	11:05 AM	Chair: Em	iliano Dall'Anese, University of Minnesota
WA20-3	Sidelobe Suppression Wenbing Dang, Ali Pezeshki, Colorado State Univer. Stephen Howard, Defence Science and Technology Organisation; William Moran, University of Melbou Robert Calderbank, Duke University	sity;	WA4a-1	The Gaussian Two-way Relay Channel With 8:15 AM Wiretapper Sungsoo Kim, The University of Texas at Austin; Won-Yong Shin, Harvard University; Koji Ishibashi, Shizuoka University
WA2b-4	Robust Transmit Nulling in Phased Array Antennas Peter Vouras, Jean DeGraaf, Naval Research Labora	11:30 AM atory	WA4a-2	On-Demand Cooperation with Power Control: 8:40 AM Protocol and Experimental Results Christopher Hunter, Myuran Kanga, Lin Zhong, Ashutosh
Session	WA3a Information Theoretic Signa	ıl	WA 4 - 2	Sabharwal, Rice University
	Processing		WA4a-3	A Practical Physical-Layer Network Coding Scheme for the Uplink of the Two-Way Relay
Chair: Joh	n Walsh, Drexel University			Channel Stephan Pfletschinger, Centre Tecnològic de
WA3a-1	Modeling Noisy Feedback in Decentralized Self-Configuring Networks Samir Medina Perlaza, Mérouane Debbah, Supélec	8:15 AM	WA4a-4	Telecomunicacions de Catalunya (CTTC) Empowering Full-Duplex Communication by 9:30 AM Exploiting Directional Diversity
WA3a-2	Local Failure Localization in Large Sensor Networks	8:40 AM		Exploiting Directional Diversity  Evan Everett, Melissa Duarte, Rice University; Chris  Dick, Xilinx, Inc.; Ashutosh Sabharwal, Rice University
	Romain Couillet, Supélec; Walid Hachem, CNRS-Tei ParisTech	ecom	Session	WA4b Multiuser Information Theory
WA3a-3	Cooperative Radar Techniques: The Two-Step Detector	9:05 AM	Chair: Ayl	in Yener, Pennsylvania State University
	Max Scharrenbroich, Michael Zatman, QinetiQ Nort America	h	WA4b-1	Intrinsic Multicast Region of Broadcast 10:15 AM Channel
WA3a-4	Studying on Performance Behavior of the Compressive Sensing Measurements for Multi	9:30 AM ple		Mohammad (Amir) Khojastepour, NEC Laboratories America, Inc; Alireza Keshavarz-haddad, Shiraz University
	Sensor System Sangjun Park, Hwanchol Jang, Heung-No Lee, Gwa Institute of Science and Technology	ngju	WA4b-2	On the Gaussian Z-Interference Channel with 10:40 AM Processing Energy Cost Xi Liu, Elza Erkip, Polytechnic Institute of New York
Session	WA3b Compressive Imaging and D	etection		University
Chair: Ale	ksandar Dogandzic, Iowa State University		WA4b-3	On the Sum Capacity of the Y-Channel 11:05 AM <i>Anas Chaaban, Aydin Sezgin, University of Ulm; Amir</i>
WA3b-1	Multi-Static Radar Imaging via Bayesian	10:15 AM		Salman Avestimehr, Cornell University

WA4b-4

10:40 AM

Raghu Raj, U.S. Naval Research Laboratory; Zachary

Algorithm for Sparse Image Reconstruction with

Aleksandar Dogandzic, Kun Qiu, Iowa State University

Chance, David Love, Purdue University

A Mask Iterative Hard Thresholding

Known Object Contour

WA3b-2

Interference Channels with Source

Paper Coding

Illinois, Chicago

Cooperation in the Strong Cooperation Regime: Symmetric Capacity to within 2 bits/s/Hz with Dirty

Shuang (Echo) Yang, Daniela Tuninetti, University of

11:30 AM

Session	WA5a	Signal Theory and Image Representation		WA6a-3	Cyclosta	roblems in the Analysis of Possibly ationary Data  Thomson, Queen's University	9:05 AM
WA5a-1	Theory a Analysis Asha Vija; Technolog	nthan, California Institute of Technology and Design of Unequal Order and Synthesis Filterbanks wakumar, Anamitra Makur, Nanyang mical University	8:15 AM	WA6a-4	Extende Distribu with Arl Siddhart / Harvare	Ad Summary for Sidelobe Level attion for Linear and Planar Random Art bitrary Element Distributions that Krishnamurthy, MIT Lincoln Laboratory of University; Daniel Bliss, MIT Lincoln bory; Vahid Tarokh, Harvard University	,
WA5a-2		Dictionaries for Local Sparse n Image Classification	8:40 AM	Session '		Source Separation	
		n J. Thiagarajan, Andreas Spanias, Arizoi	na	Chair: Win	g-Kin Ma	, Chinese University of Hong Kong	
WA5a-3 WA5a-4	Youngmi I Estimation	g Thin Wavelet Filters  Hur, Fang Zheng, The Johns Hopkins Univ on of Signal Subspace-Constrained  Linear Systems	9:05 AM versity 9:30 AM	WA6b-1	Algorith Audio S	ison of Varieties of Kalman Filtering ams Applied to Single Microphone Blin Jource Separation Jource Separation	
		Andreas Španias, Arizona State Universit	ty	WA6b-2	Insights Approac	into the Frequency Domain ICA/IVA	10:40 AM
Session Chair: Ma		<b>Biometrics</b> es Savvides, Carnegie Mellon Univer	sitv		Wenyi Zh	ang, UBS; Alireza Masnadi-Shirazi, Bhaski versity of California, San Diego	ar D.
WA5b-1	High Res Video Thang Ba University	Solution Face Log from Surveillance  Dinh, Jongmoo Choi, Gérard Medioni, of Southern California  Driven Face Recognition System for	10:15 AM	WA6b-3	Quasi-S Subspac <i>Ka-Kit L</i> <i>Kong; Yi</i>	lentification of Mixtures of tationary Sources Using a Khatri-Rao tee Approach ee, Wing-Kin Ma, Chinese University of Ho -Lin Chiou, Tsung-Han Chan, Chong-Yung	
	Surveilla Saad Bedi Swaminat	nce Cameras ros, Yadhunandan U.S., Gurumurthy han, Honeywell		WA6b-4	Improve Signed	Tsing Hua University  ed Subspace Intersection Based on URV Decomposition  , Alle-Jan van der Veen, Delft University of	11:30 AM
WA5b-3	Improved Texture S	d Iris Segmentation Based on Local	11:05 AM		Technolo	87	
	Vishnu Na	resh Boddeti, B.V.K. Vijaya Kumar, Krishi	nan	Session '		Multi-core/GPU Implement	ation
WA5b-4		r, Carnegie Mellon University equency Cardiopulmonary	11:30 AM	Chair: Jorn	n Jannick,	Lund University, Sweden	
	Waveform Marc O G Incorpora	m for Subject Identification riofa, Noninvasive Medical Technologies, ted; Rebecca Blue, Orlando Health; Robe , Noninvasive Medical Technologies,		WA7a-1	Decodir Guohui V	Accelerated Scalable Parallel ag of LDPC Codes Wang, Michael Wu, Yang Sun, Joseph R. o, Rice University	8:15 AM
	Incorpora Siying Hu	ted; Madhusudan Bhagavatula, Aaron Jac , Marios Savvides, Carnegie Mellon Unive	ersity	WA7a-2	Enciphe	Performance Area-Efficient AES or on a Many-Core Platform Bevan Baas, University of California, Davis	8:40 AM
Session Chair: Chair	<b>WA6a</b> rist Richmo	Computational Aspects in A Processing  nd, MIT	array	WA7a-3	Parallel Coherer Algorith	Implementation of the Wideband at Signal-Subspace (CSS) Based DOA am on Single core, Multicore and GPU and Wadood Majid, Mohsin Jamali, University	9:05 AM
WA6a-1	Covarian	lementation of Sparse Iterative ice-Based Estimation for Array Proce ing, Habii Abeida, Ming Xue, William Row		WA7a-4	Toledo A Fine-	Grained Parallel Implementation of a AVC Encoder on a 167-Processor	9:30 AM

8:40 AM

Computational Platform

Davis

Zhibin Xiao, University of California, Davis; Stephen Le, Intel Corporation; Bevan Baas, University of California,

Li, University of Florida

WA6a-2

Performance of Sample Covariance Based

Capon Bearing Only Tracker Christ Richmond, Robert Geddes, MIT Lincoln Laboratory; Ramis Movassagh, Alan Edelman,

Massachusetts Institute of Technology

# Session WA7b Reconfigurable Architectures, Algorithms and Applications

Chair: Kenneth Jenkins, Pennsylvania State University

- WA7b-1 Designs of Angle-Rotation in Digital 10:15 AM
  Frequency Synthesizer/Mixer Using Multi-Stage
  Architectures
  Shen-Fu Hsiao, Cheng-Han Lee, Yen-Chun Cheng,
  National Sun Yat-sen University; Andrew Lee, University
  of California, Berkeley
- WA7b-2 Exploration of Sign Precomputation-Based 10:40 AM CORDIC in Reconfigurable Systems

  Scott Miller, Dian Ross, Mihai Sima, Michael McGuire,
  University of Victoria
- WA7b-3 A Reduced Routing Network Architecture for 11:05 AM
  Partial Parallel LDPC Decoders
  Houshmand Shirani-Mehr, University of California,
  Davis; Tinoosh Mohsenin, University of Maryland,
  Baltimore County; Bevan Baas, University of California,
  Davis
- WA7b-4 Automatic FFT Code Generation for FPGA 11:30 AM with High Flexibility and Human Readability

  John O'Sullivan, Institute for System Level Integration

  / Steepest Ascent Ltd.; Stephan Weiss, University of

  Strathclyde; Garrey Rice, Steepest Ascent Ltd.

# **Author List**

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Acar, Umut	MP3a-4	Bean, Andrew	MP3b-4
Adams, lan	TP4b-2	Beaulieu, Norman	TP8a1-1
Affes, Sofiene		Bedros, Saad	
Affes, Sofiene		Beex, A. A. (Louis)	
Agirman-Tosun, Handan		Bellili, Faouzi	
Agrawal, Keshav		Belmega, Elena Veronica	
Ahmed, Ali		Bendlin, Ralf	
Ahmed, Khadeer		Bensaid, Siouar	
Ahmed, Mohammed		Berardinelli, Gilberto	
Ahmed, Tanvir		Berger, Christian	
Aittomaki, Tuomas		Berglund, Johan	
Akoum, Salam		Berioli, Matteo	
Alacogue, Laurent		Bermudez, Jose	
Al-Ani, Mustafa		Bernat, Edward	
Albera, Laurent		Besson, Olivier	
Alderson, David		Bhagavatula, Madhusudan.	
Al-Humaidi, Fadhel		Bhargava, Vijay K	
Allison, Dennis		Bhat, Surendra	
Alouini, Mohamed-Slim		Bhatnagar, Manay	
Algadah, Hatim		Bhattacharya, Tamoghna	
Amin, Mohamed H		Bidigare, Patrick	
Andrews, Jeffrey G		Bin Saeed, Muhammad	
Annergren, Mariette		Bin Saeed, Muhammad	
Antón-Haro, Carles		Bittner, Michael	
Asendorf, Nicholas		Björk, Marcus	
Ashe, James		Blanco, Justin	
Ashok, Amit		Bletsas, Aggelos	
Avestimehr, Amir Salman		Bliss, Daniel	
		Bliss, Daniel	
Aviyente, Selin Awan, Mehmood		Bliss, Daniel	
Baas, Bevan		Bliss, Daniel	
Baas, Bevan		Blue, Rebecca	
		Boche, Holger	
Baas, Bevan			
Baghdasaryan, Areg		Boche, Holger	
Bahmani, Sohail		Boldeti, Vishnu Naresh	
Bajcsy, Ruzena		Bolanos, Marcos	
Bakanoglu, Kagan	IA8D2-2	Bonny, Talal	
Bansal, Ankur		Borle, Kapil	
Baraniuk, Richard		Boufounos, Petros	
Baraniuk, Richard		Boussemart, Vincent	
Baras, John		Bovik, Alan	
Bar-Shalom, Yaakov		Braga-Neto, Ulisses	
Barthel, Andrew C		Braga-Neto, Ulisses	
Bartos, Anthony	IVIA8D3-/	Brebner, Gordon	INIP8a5-1

NAME Brogioli, Michael	SESSION	NAME Chen, Hao	SESSION TP8a3-7
Brown, D. R		Chen, Harry (Zhibing)	
Brown, Gerald		Chen, Huizhong	
Brown, Kevin		Chen, Huizhong	TA5a-2
Browne, David		Chen, Jie	
Brumby, Steven		Chen, Jie	
Brunie, Nicolas		Chen, Jie	
Buck, David		Chen, Liang	
Bugallo, Monica		Chen, Ting	
Burgess, Neil		Chen. Wei	
Butt, Naveed Razzaq		Chen, Xiaofei	
Cabric, Danijela		Chen, Xu	
Cadambe, Viveck		Chen, Yang	
Caglar, Mehmet Umut		Chen, Yi	
Cai, Fang		Chen, Yilun	
Cai, Liyu		Cheng, Yen-Chun	
Caire, Giuseppe		Cheong Took, Clive	
Calderbank, Robert		Chi, Chong-Yung	
Calderbank, Robert		Chi, Chong-Yung	
Candreva, Enzo A		Chi, Yuejie	
Cao, Zhigang		Chiani, Marco	
Caramanis, Constantine		Chiarotto, Davide	
Cardarilli, Gian Carlo		Chiou, Yi-Lin	
Cardinale, Janick		Cho, Sungrae	
Carin, Lawrence		Cho, Sungyoon	
Carin, Lawrence		Choi, Jongmoo	
Carlson, Jean		Choi, Wan	
Cattoni, Andrea F		Chong, Edwin	
Cavallaro, Joseph R		Chong, Edwin	
Caves, Kevin		Chorti, Arsenia	
Celikkaya, E. Busra		Christensen, Mads	
Cevher, Volkan		Christensen, Mads	
Chaaban, Anas		Christopoulos, Dimitrios	
Chaaban, Anas		Chung, Moo	
Chae, Hyukjin		Ciblat, Philippe	
Chakrabarti, Chaitali		Claussen, Heiko	
Chakraborty, Bhavana		Clements, Mark	
Chakraborty, Bhavana		Clerckx, Bruno	
Chakraborty, Debejyo		Codreanu, Marian	
Chan, Tsung-Han		Codreanu, Marian	
Chance, Zachary		Coloigner, Julie	
Chandrasekhar, Vijay	TA5a-2	Colom Ikuno, Josep	
Chang, Hong	ΜΔ8h5_1	Comer, Mary	
Chang, Nicholas		Conti Andrea	
Chang, Tsung-Hui		Corazza, Giovanni E	
Chang, Tsung-Hui		Costa, Mário	
Chatzinotas, Symeon		Cotter, Matthew	
Chatzinotas, Symeon		Couillet, Romain	
-		Couillet, Romain	
Chen, Biao		Creusere, Charles	
		Crouse, David	
Chen, Chulong			
Chen, David		Cui, Shuguang Dabin, Jason	
Chen, David		,	
Chen, Hao	12083-8	Dall'Anese, Emiliano	1 1 2 6 8 4 - 8

NAME	SESSION
Dalton, Lori A	
Dang, Jian	
Dang, Wenbing	
Dash, Shishir	
Datta, Aniruddha	
Datta, Aniruddha	
Daum, Fred	
Day, Brian	TA8b2-8
de Dinechin, Benoit	MA8b1-6
de Dinechin, Florent	MA8b1-6
De Kerret, Paul	TP1b-2
de Lamare, Rodrigo C	
De Lathauwer, Lieven	MP6a-4
Debbah, Mérouane	MP4b-2
Debbah, Mérouane	TP8a4-7
Debbah, Mérouane	
Debbah, Mérouane	
DeBole, Michael	
DeBrunner, Linda S	MA8b1-5
DeBrunner, Linda S	
DeBrunner, Victor	MA8h5-7
DeBrunner, Victor	
DeGraaf, Jean	
DeMino, Alicia	
Deng, Qingxiong	
DeVilbiss, Stewart	
Devillers, Bertrand	
Di Nunzio, Luca	IVIP885-5
Dick, Chris	
Dietl, Guido	
Dimakis, Alexandros G	
Dimakis, Alexandros G	IMA5D-3
Dimakis, Alexandros G	
Ding, Quan	
Dinh, Thang Ba	
Djuric, Petar	
Djuric, Petar	
Dobigeon, Nicolas	
Doerschuk, Peter C	TA1b-4
Dogandzic, Aleksandar	WA3b-2
Dolecek, Lara	
Dolecek, Lara	
Dolecek, Lara	MP2b-1
Doostmohammadian, Moh	ammadreza
	TP8b2-7
Doroslovacki, Miloš	
Dougherty, Edward R	TA8a1-7
Dougherty, Edward R	
Dougherty, Edward R	
Dougherty, Edward R	
Du, Huiqin	
Du, Huiqin	
Duan, Ling-Yu	TA5a-3
Duarte Melissa	WA4a-4

NAME	SESSION
Duman, Tolga	TA8a3-4
Dupret, Antoine	MA8b4-5
Dupuy, Florian	TA8a2-2
Durisi, Giuseppe	TP3a-1
Edelman, Alan	
Edla, Shwetha	
Eghbali, Homa	TA2b-1
Eksin, Ceyhun	
El Ayach, Omar	
El Rouayheb, Salim	
El Rouayheb, Salim	
Eldar, Yonina C	
El-Gamal, Hesham	
El-Gamal, Hesham	
Elmedyb, Thomas Bo	
Elsayed, Khaled	
ElTantawy, Ahmed M	
Ercegovac, Milos D	
Erdogmus, Deniz	
Erkip, Elza	
Erkip, Elza	
Ertin, Emre	
Eryilmaz, Atilla	
Estrela, Vania V.	
Etesami, Seyed Rasoul	
Evans, Brian	
Evans, Jamie	
Evans, Jamie	
Everett, Evan	
Fahmy, Hossam A. H	
Faiz, Mohammed	
Fakoorian, S. Ali A	
Fan, H. Howard	
Fan, H. Howard	
Fan, Jiancun	
Fan, Jing	MP5a-1
Fannjiang, Albert	MP6b-1
Farhang-Boroujeny, Behrouz	z IA8a2-8
Fazel, Fatemeh	
Fazel, Maryam	
Fazzolari, Rocco	
Fink, Alex	
Fiore, Paul D	
Flynn, Michael J	
Forero, Pedro	
Foroozan, Foroohar	
Fowler, James	
Fowler, Mark	
Fragouli, Christina	TA2a-2
Frankford, Mark	
Friedlander, Benjamin	MP6b-2
Friedlander, Benjamin	
Friedlander, Benjamin	WA1b-1
Friedman, Robert	

NAME	SESSION	NAME	SESSION
Fried-Oken, Melanie		Guo, Meng	
Fuchs, Jean Jacques		Guo, Rui	
Fuchs, Jean Jacques		Gustafsson, Oscar	
Fuchs, Jean Jacques		Guvenc, Ismail	
Gabriel Gussen, Camila Ma		Haardt, Martin	
Gabrys, Ryan		Haardt, Martin	
Gans, Michael		Hachem, Walid	
Ganti, Radha Krishna		Hachem, Walid	
Gao, Wen		Haddow, Pauline	
Gao, Xiqi		Haimovich, Alexander M	
Garani Srinivasa, Shayan		Haimovich, Alexander M	
Garg, Umang		Han, Zhu	
Garrido, Mario		Han, Zhu	
Gatsis, Nikolaos		Hansen, Lars Kai	
Geddes, Robert		Hanson, Jamie	
Georgiev, Todor		Hardin, Joe	
Gerbracht, Sabrina		Harris, David	
Gershman, Alex		Harris, Fredric	
Gesbert, David		Harris, Fredric	
Geyer, Alex		Harris, Fredric	
Ghaboosi, Kaveh		Hasegawa, Madoka	
Gharavol, Ebrahim A		Hasegawa, Madoka	
Ghauri, Irfan		Hassibi, Babak	
Ghrayeb, Ali		Haupt, Jarvis	
Giannakis, Georgios B		Heath, Jr., Robert W	
Giannakis, Georgios B		Heath, Jr., Robert W	
Giannakis, Georgios B		Heath, Jr., Robert W	
Giannakis, Georgios B		Heath, Jr., Robert W	
Gibson, Jerry		Heidarpour, Reza	
Gilani, Syed Z		Hermundstad, Ann	
Girod, Bernd		Hero, Alfred O	
Girod, Bernd		Hero, Alfred O	
Girod, Bernd		Hero, Alfred O	
Glick, Rebecca		Hild II, Kenneth E	
Godrich, Hana		Himed, Braham	
Godrich, Hana	TA6a-1	Hjørungnes, Are	
Goeckel, Dennis L		Hlawatsch, Franz	
Goeckel, Dennis L	MA8b3-3	Hlinka, Ondrej	TP3b-2
Goeckel, Dennis L		Ho, Tracey	TA2a-4
Goksu, Fikri		Hoff, Lawrence E	
Goma, Sergio		Honeine, Paul	
Gomes, Joao Pedro		Honeine, Paul	
Goutsias, John		Hong, YW. Peter	MA8b2-5
Greenwood, Garrison	TP7a-4	Ho-Phuoc, Tien	MA8b4-5
Gribonval, Rémi	TA3b-2	Hopkins, Joseph	MA8b3-7
Gründinger, Andreas		Hoshi, Masaru	
Grzeszczuk, Radek	TA5a-1	Hou, Jianjun	TA8b1-16
Grzeszczuk, Radek	TA5a-2	Hovareshti, Pedram	TP4a-4
Gubner, John	TP8a3-3	Howard, Stephen	TP8b2-8
Guérin-Dugué, Anne	MA8b4-5	Howard, Stephen	
Gunther, Jacob (Jake)		Hoydis, Jakob	
Gunther, Jacob (Jake)		Hsiao, Shen-Fu	WA7b-1
Gunther, Jacob (Jake)		Hu, Siying	
Gunther, Jacob (Jake)	WA1b-2	Hu, Y. Charlie	TA6b-1

NAME	SESSION
Hua, Chen	
Hua, Kai-Lung	
Huang, Chao-Wei	MA8b2-5
Huang, Cheng	
Huang, Hsu-Chang	MP8a1-6
Huang, Jane Wei	
Huang, Jing	MA8b2-2
Huang, Junzhou	TP5-5
Huang, Kaibin	MA1b-2
Huang, Kaibin	TA8b1-10
Huang, Kaibin	
Huang, Kaibin	TA8b1-14
Huang, Tiejun	
Huang, Yichao	
Huang, Yih-Fang	
Huang, Yufei	
Huang, Yufei	
Huemer, Mario	
Hult, Tommy	
Hunter, Christopher	
Hur, Seong-Ho (Paul)	
Hur, Youngmi	
Hush, Don	
Hwang, Suk-seung	
Ibrahimi, Morteza	
lenne, Paolo	
Ihler, Alexander	
Inamori, Mamiko	
Ince, Nuri F	
Indic, Premananda	
Irudayaraj, Arokia	
Ishibashi, Koji	
Islam, Toufiqul	
lutzeler, Franck	
Ivanov, Ivan	
lwen, Mark	
Jääskeläinen, Pekka	
Jaberipur, Ghassem	
Jadbabaie, Ali	
Jaech, Aaron	WA5b-4
Jafar, Syed	TA2a-1
Jafar, Syed	TP1b-1
Jahanchahi, Cyrus	TP3b-3
Jain, Nitin	TA7-4
Jajamovich, Guido Hugo	TA8a1-8
Jakobsson, Andreas	
Jakubowicz, Jérémie	
Jamali, Mohsin	
Jang, Hwanchol	
Jang, Hwanchol	
Janneck, Jorn W	
Jaramillo, Juan Jose	
Javanmard, Adel	
Javidi, Tara	
ouviui, iuiu	IVI/\ZU-4

N	NAME	SESSION
1-4	Jenkins, Kenneth	
-2	Jenkinson, Garrett	
2-5	Jensen, Jesper	
2-4	Jensen, Søren Holdt	
-6	Jeremic, Aleksandar	
ı-4	Ji, Rongrong	TA5a-3
2-2	Ji, Yusheng	
5-5	Jiang, Hua	
)-2	Jiang, Yuebing	
10	Jiao, Bingli	
12	Jin, Shi	
14	Jing, Yindi	
1-3	Joham, Michael	WA2b-1
3-3	Johansson, Karl Henrik	TP4a-3
-6	Johansson, Karl Henrik John, Gallagher	TP7a-3
11	Johnson, Joel	TA8a4-5
2-2	Johnston, Scott E	WA1a-1
-1	Johnston, Stephen	
-5	Jorswieck, Eduard	
1-2	Jose, Jubin	
1-2	Joshi, Satya	TA8b2-5
i-3	Joshi, Satya	
5-3	Jung, Bang-Chul	MP1a-2
5-1	Jung, Byunghoo	
)-4	Kachenoura, Amar	
5-3	Kandula, Viswanadh	
1-4	Kanga, Myuran	
1 <del>-4</del> )-1	Kanoria, Yashodhan	
)- I )-1	Kanterakis, Emmanuel	TD0h1 6
)-1 )-2	Kar, Soummya	
)-2 7-4	Kato, Shigeo	
-4 1-1		
1- 1 )-4	Kato, Shigeo	
	Katsaggelos, Aggelos K	
)-3	Kavusi, Sam	MP8a4-1
-7	Kay, Steven	
3-2	Keeter, Matthew	
)-4	Keller, Lorenzo	
-4	Keshavarz-haddad, Alirez	
1-3	Keviczky, Tamas	
<b>-</b> 4	Khajehnejad, Amin	
ı-1	Khan, Usman A	
)-1	Khan, Usman A	
)-3	Khandani, Amir	
<b>'-4</b>	Khedr, Alhassan F	
-8	Khisti, Ashish	MA2b-3
l-6	Khisti, Ashish	
)-3	Khojastepour, Mohammad	d (Amir) WA4b-1
a-3	Kibangou, Alain	TP8a3-6
2-3	Kim, Dongku	TA8b1-12
a-4	Kim, Nam Sung	
-3	Kim, Seong-Wan	MP8a4-4
1-3	Kim, Seung-Jun	
-4	Kim, Sungsoo	WA4a-1
-4	Kim Taeioon	TA8h1-6

NAME	SESSION	NAME	SESSION
Kirachaiwanich, Davis	TA3a-3	Li, Hui	TA8b3-4
Klein, Andrew	TA2b-3	Li, Jian	TA6a-2
Knopp, Raymond	TA8b2-3	Li, Jian	WA6a-1
Koch, Peter	TA7-7	Li, Jiangyuan	MA8b2-4
Koivunen, Visa		Li, Jin	TP8b2-4
Koivunen, Visa	TA6a-3	Li, Lin	MP3b-2
Koksal, Can Emre		Li, Liying	TA8a3-7
Koksal, Emre		Li, Peng	
Kommi, Mahesh		Li, Qiang	
Kountouris, Marios		Li, Shang	
Kovvali, Narayan		Li, Xiao	
Kovvali, Narayan		Li, Yang	
Kovvali, Narayan		Li, Ying-Yi	
Krishnamurthy, Ram		Li, Zhi	MA2b-3
Krishnamurthy, Siddhartha		Liang, Qilian	
		Liang, Qilian	
Krishnamurthy, Vikram			
Krishnamurthy, Vikram		Liang, Ying-Chang Liang, Ying-Chang	IVIP 18-1
Kristem, Vinod			
Kroger, Jim		Lin, Chao	
Krongold, Brian		Lin, Yenting	
Krzymien, Witold		Lindhé, Magnus	
Kubichek, Robert		Litt, Brian	
Kullberg, Joel		Liu, Bin	
Kultala, Heikki		Liu, Chih-Hao	
Kumar, B.V.K. Vijaya		Liu, Guangyi	
Kumatani, Kenichi		Liu, Guifeng	
Kyriakides, Alexandros		Liu, Hao	
Larsson, Erik G	TP8a1-8	Liu, Juan	TA8b1-13
Laska, Jason N	MP3a-1	Liu, Shihuan	TP8a4-3
Laska, Jason N	MP8a4-3	Liu, Xi	WA4b-2
Latva-aho, Matti	TA8b2-6	Liu, Yong	TP8a3-2
Latva-aho, Matti	TA8b2-5	Liu, Yupeng	MA6b-4
Latva-aho, Matti	TP8a1-4	Lombardo, Francesco	TP6b-3
Lau, Vincent K.N	MP1a-3	Long, Darrell	TP4b-2
Layek, Ritwik	TA8a1-14	Loubaton, Philippe	TA8a2-2
Le, Stephen	WA7a-4	Love, David	TA8b1-6
Learned, Rachel	TP1b-5	Love, David	WA3b-1
Lederer, Christian	MP8a1-1	Lozano, Angel	TP1b-4
Lee, Andrew	WA7b-1	Lu, Wu-Sheng	TA3b-4
Lee, Cheng-Han		Lu, Yung-Hsiang	
Lee, Heung-No		Lucani, Daniel	
Lee, Heung-No		Luk, Wayne	
Lee, Junghsi		Lumsdaine, Andrew	
Lee, Juo-Yu (Joseph)		Luo, Zhi-Quan	
Lee, Ka-Kit		Luo, Zhi-Quan	
Lee, Sang Hyun		Lutz, David	
Lehman, Jill		Lyubeznik, Gennady	
Leow, Chee Yen		Ma, Wing-Kin	
Lepistö, Mikael		Ma, Wing-Kin	
Leung, Kin K		Ma, Wing-Kin	
Leury, Kiri K Leus, Geert		Ma, Xiaoli	
		Maashri, Ahmed Al	
Li, Geoffrey Ye			
Li, Hongbin		Macagnano, Davide Macrae, Andrew	
Li, Huaying	17082-3	wider at, Andrew	IVIAOD I-7

NAME	SESSION
Madhow, Upamanyu	MA6b-1
Madhow, Upamanyu	
Madhow, Upamanyu	
Madsen, Kristoffer Hougaard	
Mahabalagiri, Anvith	MP7a-4
Mailhes, Corinne	TP8a2-1
Maina, Ciira	MP3a-3
Makur, Anamitra	WA5a-1
Malin, Anna	
Mallada, Enrique	
Mallik, Ranjan K	
Malloy, Matthew	
Mandic, Danilo	TP3b-3
Manduca, Armando	MA5b-1
Mangharam, Rahul	TA4a-1
Manolakis, Konstantinos	WA1a-2
Mao, Zhoujia	MP2a-4
Mardani, Morteza	
Margetts, Adam	TA8b2-8
Margetts, Adam	
Marshall, Alan	MP8a5-8
Marzetta, Thomas	MA1b-3
Masmoudi, Ahmed	
Masnadi-Shirazi, Alireza	
Masouros, Christos	TA8b1-3
Matamoros, Javier	MP4b-1
Mateos, Gonzalo	MP4a-2
Mathecken, Pramod	WA2a-2
Mathew, Sanu	TP7b-2
Matthaiou, Michail	TP6b-1
Matthews, Brett	
Matthiesen, Bho	
Matz, Gerald	MP4b-1
Maymon, Shay	MP8a4-5
Mazzotti, Matteo	
McDonough, John	MA8b5-4
McEachen, John	TP8a4-4
McGuire, Michael	
McIlhenny, Robert	
McKay, Matthew	
McKay, Matthew	
McKay, Matthew	TP8a1-7
McMichael, Joseph G	
McPherson, D.B	
Meas-Yedid, Vannary	
Medard, Muriel	
Medard, Muriel	
Medina Perlaza, Samir	
Medioni, Gérard	
Mehrotra, Sanjeev	
Mehta, Neelesh B	
Mencer, Oskar	
Meng, Jia	TA8a1-11
Meng. Jia	TP8a2-2

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-1	Merched, Ricardo	TP3b-5
-6	Merz, Ruben	TA8b2-3
-4	Mettu, Ramgopal	
-1	Miller, Ethan	
-4	Miller, Scott	
-1	Min, Jae Hong	
-3	Mittal, Anish	MP5b-3
-1	Moallemi, Nasim	
-2	Mogensen, Preben	TA8a3-2
-4	Moh, Melody	TP8a3-1
-4	Mohammed, Abbas	
-3	Mohsenin, Tinoosh	WA7b-3
-3	Molisch, Andreas	MA1b-4
-1	Mondragon-Torres, Antonio.	TA7-2
-1	Monga, Vishal	
-2	Montanari, Andrea	MA3b-3
-4	Montanari, Andrea	
-2	Moody, Daniela	TP8b1-3
-8	Moon, Todd	MP2b-4
-3	Moon, Todd	MP8a4-2
-8	Moon, Todd	
-3	Moon, Todd	
-4	Moorthy, Anush	
-2	Moran, William	
-3	Moran, William	
-1	Morrison, Kyle	
-2	Mørup, Morten	
-2 -2	Mørup, Morten	
- <u>2</u> -2	Moshksar, Kamyar	
-2 -1	Mostofi, Yasamin	TD/1
- i -5	Moura, Jose'	
-5 -2	Moussa, May	
-2 -1	Movassagh, Ramis	IAOD3-1
-5 -4	Mudumbai, Raghu	
-	Muhaidat, Sami	IA20-1
-4	Muharar, Rusdha	
-4	Mukherjee, Amitav	MA8b3-1
-2	Mukherjee, Sayandev	MP1a-4
-5	Mukherjee, Sayandev	TP8b2-5
-7	Murch, Ross	TP8a1-7
-3	Mutlu, Ali Yener	
-7	Myers, Kary	MA8b5-3
-5	Myers, Kary	TP8b1-3
-2	Myllyla, Markus	TA7-6
-4	Nadakuditi, Raj Rao	
-1	Nadakuditi, Raj Rao	
-1	Nafie, Mohammed	
-1	Nafie, Mohammed	TA8b3-7
-1	Naguib, Ahmed	TA8b2-4
-4	Naguib, Ayman	
-4	Narayanan, Ram	TP6a-4
-2	Narayanan, Vijaykrishnan	
11	Nascimento, Vitor	
-2	Nassar, Marcel	

Nataon Domonium II.	SESSION	NAME	SESSIO
Natesan Ramamurthy, Kar	tnikeyan TP3a-3	Pappas, George J	
Nedic, Angelia		Pappas, George J	
Neely, Christopher		Parag, Parimal	
Neely, Michael		Parandeh Afshar, Hadi	
Negro, Francesco		Parhami, Behrooz	
Nehorai, Arye		Parhi, Keshab K. Parh	
Neifeld, Mark		Park, Sangjun	
Nejati, Saeed		Parker, Jason	
Nelson, Douglas		Parker, Lyndsi	
Nelson, Douglas		Pattichis, Marios	
Nelson, Jill		Paul, Grégory	
Nelson, Jill		Paul, Steffen	
		Pawar, Sameer	
Nemzek, Robert		Pawar, Sameer	
Newstadt, Gregory Noorshams, Nima		Pawley, Norma	
		Pawley, Norma	
Nooshabadi, Saeid		Paydarfar, David	
Northrop, Judith		Pearce, Allison	
Nosrat-Makouei, Behrang.		Pellizzer, Guiseppe	
Nossek, Josef A		Pennanen, Harri	
Nowak, Robert		Pérez-Neira, Ana	
O Griofa, Marc		Peroulis, Dimitrios	
O'Connor, Sean J		Pesavento, Marius	
Odeh, Maha		Petropulu, Athina	
Ogunfunmi, Tokunbo	MP8a2-5	Petropulu, Athina	
Okeke, Godfrey		Petropulu, Athina	
Oken, Barry		Petropulu, Athina	
Olbrich, Michael		Pezeshki, Ali	
Olivo-Marin, Jean-Christop		Pezeshki, Ali	
Ong, Madeleine		Pezeshki, Ali	
Oppenheim, Alan V		Pfletschinger, Stephan	WA4a
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Ortega, Antonio		Plank, James	
O'Sullivan, John		Plawecki, Martin H	TA1b
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Ozel, Omur		Pollak, Seth	MP4a
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Ozil, Ipek		Poor, H. Vincent	
Pahlavan, Kaveh		Poor, H. Vincent	MA8b2
Pajic, Miroslav		Poor, H. Vincent	TA6a
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Papadias, C. B		Preciado, Victor	TA4a
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Papandreou-Suppappola,		Qian, Xiaoning	
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Raj, Bhiksha		
Raj, Bhiksha		
Raj, Raghu		
Rajawat, Ketan		
Rajesh, Ramachandran		
Rambo-Rodenberry, Michelle	:TA8a4-3	
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Rebeiz, Eric		
Reise, Günter		
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Rezaee, Arman		
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Ritcey, James		
Roark, Brian		
Rodriguez, Paul		
Roemer, Florian		
Rogers, Uri		
Rojas, Cristian R		
Romberg, Justin		
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Rosca, Justinian		
Rosenthal, Daniel		
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Roufarshbaf, Hossein	
Rowe, William	
Ruan, Liangzhong	
Rueetschi, Andrea	
Rupp, Markus	
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Sabharwal, Ashutosh	
Sadek, Ahmed	
Salama, Khaled Nabil	
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Salim, Umer	
Salisbury, Elisabeth	
Sanada, Yukitoshi	
Sánchez Castillo, Manuel	
Sarder, Pinaki	
Sarkar, Md. Zahurul I	
Sarmadi, Nima	
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Sauvonnet, Nathalie	
Savvides, Marios Sayed, Ali H	
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* *	
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Sayed, Faten	
Sayilir, Serkan	
Sbalzarini, Ivo F.	
Scaglione, Anna	
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Scharf, Louis	
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Scharrenbroich, Max	
Schauer, Justin	
Schlereth, Fred	
Schniter, Philip	
Schober, Robert	
Schulte, Michael J	
Schulte, Michael J	
Sellathurai, Mathini	
Sen Gupta, Ananya	
Seng, Shay	
Senhadji, Lotfi	
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ShahbazPanahi, Shahram		Stojanovic, Milica	
Shamai, Shlomo		Stojanovic, Milica	
Shamaiah, Manohar		Strohmer, Thomas	
Shannon, Lesley		Studer, Christoph	
Sharma, Amy		Sturm, Bob	
Sharma, Vinod		Sturm, Bob	
Shellhammer, Stephen		Su, Wei	
Shelton, Christian		Sullivan, Michael	
Shen, Cong		Sumer, Ozgur	
Shi, Wei		Sun, Chang	
Shia, Victor		Sun, Liang	
Shim, Byonghyo		Sun, Shaohui	
Shin, Won-Yong		Sun, Yang	
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Shirani-Mehr, Houshmand		Sundaram, Shreyas	
Shroff, Ness B		Svensson, Lennart	
Shynk, John J		Swami, Ananthram	
Shynk, John J		Swaminathan, Gurumurthy.	
Siddenki, Srikant		Swar, Pranay Pratap	
Sigworth, Fred J.		Swartzlander, Earl	
Sima, Mihai		Swartzlander, Earl	
Simeone, Osvaldo		Swartzlander, Earl	
Simeone, Osvaldo		Swindlehurst, A. Lee	
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Simko, Michal		Swindlehurst, A. Lee	
Singer, Andrew		Tadipatri, Vijay Aditya	
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Singh Alvarado, Alexander .		Tagare, Hemant	
Sinopoli, Bruno		Takacs, Gabriel	
Sklivanitis, George		Takahashi, Keita	
Slavinsky, J.P.		Takala, Jarmo	
Slivinski, Laura		Takeda, Hiroyuki	
Slock, Dirk		Tan, Kenneth	
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Sluciak, Ondrej		Tang, Ao Kevin	
So, Anthony Man-Cho Soderstrand, Michael		•	
Song, Bin		Tapparello, Cristiano Taranetz, Martin	
Song, Lingyang		Tarczynski, Andrzej	
Soni, Akshay		Tarokh, Vahid	
Sorensen, Mikael		Tarokh, Vahid Tewfik. Ahmed H	
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Spanias, Andreas		Thiagarajan, Jayaraman J	
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Vanelli-Coralli, Alessandro	
Varshney, Pramod	
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Vempaty, Aditya	
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Weiss, Stephan         WA7b-4           Weng, Ching-Chih         TA8a4-4           Weng, Zhiyuan         TP5-4           Werner, Stefan         WA2a-2           West, Roger         MP8a4-2           West, Roger         WA1b-2           Wichman, Risto         TP1a-4           Wichman, Risto         WA2a-2           Wiegand, Till         TA7-5           Wiese, Thomas         MP8a3-5           Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Wirth, Thomas         TA1b-2           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wu, Say         TP4b-4           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b3-6           Xia, Chen         MP7b-1           Xia, Zhibin         WA7a-4           Xiong, Chen	weeraddana, Fradeep Chall	TA8b2-5
Weiss, Stephan         WA7b-4           Weng, Ching-Chih         TA8a4-4           Weng, Zhiyuan         TP5-4           Werner, Stefan         WA2a-2           West, Roger         MP8a4-2           West, Roger         WA1b-2           Wichman, Risto         TP1a-4           Wichman, Risto         WA2a-2           Wiegand, Till         TA7-5           Wiese, Thomas         MP8a3-5           Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Wirth, Thomas         TA1b-2           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wu, Say         TP4b-4           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b3-6           Xia, Chen         MP7b-1           Xia, Zhibin         WA7a-4           Xiong, Chen	weeraddana, Pradeep Chat	nuranga
Weng, Ching-Chih         TA8a4-4           Weng, Zhiyuan         TP5-4           Werner, Stefan         WA2a-2           West, Roger         MP8a4-2           West, Roger         WA1b-2           Wichman, Risto         TP1a-4           Wichman, Risto         WA2a-2           Wiegand, Till         TA7-5           Wiese, Thomas         MP8a3-5           Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Williamson, James         TA1b-2           Winter, Edward M         WA3b-4           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wulsin, Drausin         MP7a-1           Wile, Ag	Waisa Ctanhan	1F0d1-4
Weng, Zhiyuan         TP5-4           Werner, Stefan         TP1a-4           Werner, Stefan         WA2a-2           West, Roger         MP8a4-2           Wichman, Risto         TP1a-4           Wichman, Risto         WA2a-2           Wiegand, Till         TA7-5           Wiese, Thomas         MP8a3-5           Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Williamson, James         TA1b-2           Winter, Edward M         WA3b-4           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wulsin, Drausin         MP7a-1           Wyle, Jay         TP4b-4           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b3-6           Xia, Chen         MP7b-1           Xia, Zhibin         WA7a-4           Xi		
Werner, Stefan.         TP1a-4           Werner, Stefan.         WA2a-2           West, Roger.         MP8a4-2           West, Roger.         WA1b-2           Wichman, Risto.         TP1a-4           Wichman, Risto.         WA2a-2           Wiegand, Till.         TA7-5           Wiese, Thomas.         MP8a3-5           Willett, Peter.         TP5-3           Williams, Brian T.         WA3b-4           Williamson, James.         TA1b-2           Winter, Edward M.         WA3b-4           Wirth, Thomas.         MP4b-4           Wong, Kai-Kit.         TA8b1-16           Wong, Stephen.         MP5a-1           Woods, Roger.         MP8a5-8           Wu, Gang.         TA8a3-7           Wu, Jinhong.         TP8a3-2           Wu, Michael.         WA7a-1           Wu, Ting.         TA8a1-5           Wulsin, Drausin.         MP7a-1           Wyle, Jay.         TP4b-4           Wyrembelski, Rafael F.         MA8b2-8           Wyrembelski, Rafael F.         MA8b2-8           Wyrembelski, Rafael F.         MA8b2-8           Wyrembelski, Rafael F.         MA8b2-8           Xia, Chen.         MP7b-1 </td <td></td> <td></td>		
Werner, Stefan.         WA2a-2           West, Roger.         MP8a4-2           West, Roger.         WA1b-2           Wichman, Risto.         TP1a-4           Wichman, Risto.         WA2a-2           Wiegand, Till.         TA7-5           Wiese, Thomas.         MP8a3-5           Willett, Peter.         TP5-3           Williams, Brian T.         WA3b-4           Williamson, James.         TA1b-2           Winter, Edward M.         WA3b-4           Wirth, Thomas.         MP4b-4           Wong, Kai-Kit.         TA8b1-16           Wong, Stephen.         MP5a-1           Woods, Roger.         MP8a5-8           Wu, Gang.         TA8a3-7           Wu, Jinhong.         TP8a3-2           Wu, Michael.         WA7a-1           Wu, Ting.         TA8a1-5           Wulsin, Drausin.         MP7a-1           Wylenbelski, Rafael F.         MA8b2-8           Wyrembelski, Rafael F.         MA8b2-8           Wyrembelski, Rafael F.         MA8b3-6           Xia, Chen.         MP7b-1           Xia, Chen.         MP5a-1           Xiao, Zhibin.         WA7a-4           Xiong, Chenrong.         TA7-3 </td <td></td> <td></td>		
West, Roger         MP8a4-2           West, Roger         WA1b-2           Wichman, Risto         TP1a-4           Wichman, Risto         WA2a-2           Wiegand, Till         TA7-5           Wiese, Thomas         MP8a3-5           Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Williamson, James         TA1b-2           Winter, Edward M         WA3b-4           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wulsin, Drausin         MP7a-1           Wyle, Jay         TP4b-4           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b3-6           Xia, Chen         MP7b-1           Xia, Xiaofeng         MP5a-1           Xiao, Zhibin         WA7a-4           Xiong, Chenrong         TA7-3           Xu, Hongbing         TA8a3-7           Xu, Luzhou </td <td></td> <td></td>		
West, Roger         WA1b-2           Wichman, Risto         TP1a-4           Wichman, Risto         WA2a-2           Wiegand, Till         TA7-5           Wiese, Thomas         MP8a3-5           Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Williamson, James         TA1b-2           Winter, Edward M         WA3b-4           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wulsin, Drausin         MP7a-1           Wyle, Jay         TP4b-4           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b3-6           Xia, Chen         MP7b-1           Xia, Xiaofeng         MP5a-1           Xiao, Zhibin         WA7a-4           Xiong, Chenrong         TA7-3           Xu, Hongbing         TA8a3-7           Xu, Luzhou         TA6a-2		
Wichman, Risto         TP1a-4           Wichman, Risto         WA2a-2           Wiegand, Till         TA7-5           Wiese, Thomas         MP8a3-5           Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Williamson, James         TA1b-2           Winter, Edward M         WA3b-4           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wulsin, Drausin         MP7a-1           Wyle, Jay         TP4b-4           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b3-6           Xia, Chen         MP7b-1           Xia, Xiaofeng         MP5a-1           Xiao, Zhibin         WA7a-4           Xiong, Chenrong         TA7-3           Xu, Hongbing         TA8a3-7           Xu, Luzhou         TA6a-2		
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Willett, Peter         TP5-3           Williams, Brian T         WA3b-4           Williamson, James         TA1b-2           Winter, Edward M         WA3b-4           Wirth, Thomas         MP4b-4           Wong, Kai-Kit         TA8b1-16           Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wulsin, Drausin         MP7a-1           Wylie, Jay         TP4b-4           Wyrembelski, Rafael F         MA8b2-6           Xia, Chen         MP7b-1           Xia, Chen         MP7b-1           Xia, Chen         MP7b-1           Xia, Chen         MP7b-1           Xia, Chenrong         TA7-3           Xu, Hongbing         TA8a3-7           Xu, Luzhou         TA6a-2		
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Wong, Stephen         MP5a-1           Woods, Roger         MP8a5-8           Wu, Gang         TA8a3-7           Wu, Jinhong         TP8a3-2           Wu, Michael         WA7a-1           Wu, Ting         TA8a1-5           Wulsin, Drausin         MP7a-1           Wylie, Jay         TP4b-4           Wyrembelski, Rafael F         MA8b2-8           Wyrembelski, Rafael F         MA8b3-6           Xia, Chen         MP7b-1           Xia, Xiaofeng         MP5a-1           Xiao, Zhibin         WA7a-4           Xiong, Chenrong         TA7-3           Xu, Hongbing         TA8a3-7           Xu, Luzhou         TA6a-2		
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Zhang, Zhenliang	
Zhao, Chen	
Zhao, Qing	
Zhao, Qing	TP8a4-1
Zheng, Fang	
Zheng, Gan	
Zhong, Lin	
Zhou, Haichuan	
Zhou, Meng	
Zhou, Mu	
Zhou, Weiwei	
Zhou, Xiangrong	MP7b-1
Zhou, Xiangyun	
Zhou, Xiangyun	
Ziniel, Justin	
Zoltowski, Michael	WA1a-3
Zoltowski, Michael	WA1b-3
Zorzi, Michele	TP2b-4
Zummo, Salam	MP8a1-4

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