

IEEE SAM 2016

The SAM Workshop is an important IEEE Signal Processing Society event dedicated to sensor array and multichannel signal processing. The organizing committee invites the international community to contribute with state-of-the-art developments in the field. IEEE SAM 2016 will feature plenary talks by leading researchers in the field as well as poster and oral sessions with presentations by the participants.

Welcome to Rio de Janeiro! - The workshop will be held at the Pontifical Catholic University of Rio de Janeiro, located in Gávea, in a superb area surrounded by beaches, mountains and the Tijuca National Forest, the world's largest urban forest. Rio de Janeiro is a world renowned city for its culture, beautiful landscapes, numerous tourist attractions and international cuisine. The workshop will take place during the first half of July about a month before the 2016 Summer Olympic Games when Rio will offer plenty of cultural activities and festivities, which will make SAM 2016 a memorable experience.

GENERAL CHAIRS

RODRIGO C. DE LAMARE *PUC-Rio, Brazil and University of York, United Kingdom*
MARTIN HAARDT *TU Ilmenau, Germany*

TECHNICAL CHAIRS

ALEKSANDAR DOGANDZIC *Iowa State University, USA*
VÍTOR NASCIMENTO *University of São Paulo, Brazil*

Special Sessions Chair

Cédric Richard *University of Nice, France*

Publicity Chair

Maria Sabrina Greco *University of Pisa, Italy*

Conference Management

Centre for Telecommunications Studies (CETUC), PUC-Rio

WELCOME MESSAGE FROM THE GENERAL CHAIRS OF IEEE SAM 2016

On behalf of the Organizing Committee of the Ninth IEEE Sensor Array and Multichannel Signal Processing Workshop (IEEE SAM 2016), it is our great pleasure to welcome you to Rio de Janeiro, Brazil, and to the Pontifical Catholic University of Rio de Janeiro. IEEE SAM 2016 is the ninth event in the series of biannual workshops, following the success of IEEE SAM 2014 in La Coruña, Spain, IEEE SAM 2012 in New Jersey, USA, and the previous editions.

This year, we are delighted to host the conference for the first time in Rio de Janeiro, Brazil. The scope of IEEE SAM 2016 includes a wide range of technical challenges in view of the growing interest in sensor array signal processing. The scope of the event includes a wide range of topics in sensor array signal processing such as beamforming, direction finding, compressive sensing, multiple antenna techniques and their applications to radar, sonar, wireless communications, wireless sensor networks and microphone array systems.

IEEE SAM 2016 is a forum for leading researchers and engineers to present new ideas and contributions in the form of technical papers and discussions. The total number of submissions this year was 220 papers, based on which a high quality technical programme comprising 156 papers has been produced. Moreover, IEEE SAM 2016 has obtained financial support from the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), Conselho Nacional de Pesquisa e Desenvolvimento (CNPq) and the US Office of Naval Research (US ONR).

Rio de Janeiro is a world renowned city for its culture, beautiful landscapes, numerous tourist attractions and international cuisine. The workshop will take place during the first half of July about a month before the 2016 Summer Olympic Games when Rio will offer plenty of cultural activities and festivities, which will make IEEE SAM 2016 a memorable experience. We hope you will take advantage of the local hospitality, the landscape, beaches, the southern part of the city and neighbourhoods such as Ipanema, Leblon and Gávea, enjoy the conference, and visit such a beautiful city that attracts millions of visitors and tourists from all over the world.

The organizers would like to thank all the members of the organising and the SAM technical committee for their constant support and valuable work. A special thank to all the sponsors for their support. We are very pleased to invite you to attend IEEE SAM 2016 and looking forward to meeting you in Rio de Janeiro.



RODRIGO C. DE LAMARE
General Chair
*PUC-Rio, Brazil and
University of York, UK*



MARTIN HAARDT
General Chair
TU Ilmenau, Germany

WELCOME MESSAGE FROM THE TECHNICAL PROGRAM CHAIRS of IEEE SAM 2016

Welcome to the Ninth IEEE Sensor Array and Multichannel Signal Processing Workshop (IEEE SAM 2016) in Rio de Janeiro.

The aim of this symposium is to provide a forum to bring together leading researchers in multichannel and sensor array signal processing to present and discuss new ideas that will undoubtedly help improve the lives of everyone. The scope of the conference includes a wide range of topics, including source localization, radar, multi-antenna systems, compressive sensing, and array processing for audio, biomedical and communications applications.

We are delighted to have five exceptional plenary speakers, Prof. Stephen P. Boyd (Stanford University, USA), Prof. P. P. Vaidyanathan (California Institute of Technology, USA), Prof. A. Lee Swindlehurst (University of California, Irvine, USA), Prof. Bhaskar Rao (University of California, San Diego, USA), and Mr. Hélio Libranz (Embraer, Brazil), whose presentations will start the program every morning and afternoon.

SAM 2016 has been organized to provide a high quality programme composed of a highly competitive selection of contributed papers, a carefully chosen set of invited papers on important and timely topics from well-known leaders in the field, special sessions on key topics and poster sessions that are both informative and interesting for the participants.

The program will start with tutorials and topical workshops on Sunday, 10 July 2016, that are included in the conference registration fee.

We would like to acknowledge and thank our Technical Program Committee members for their hard work and dedication in providing detailed reviews and informative discussion within a very tight timeframe. Thanks also to the organising committee, the organizers of special sessions, and the authors who submitted a large number of high-quality and thought-provoking papers, which resulted in an impressive technical program that will spark interesting discussions and promote new areas of research. Our special thanks go to Prof. Rodrigo C. de Lamare and Prof. Martin Haardt, the General Chairs of the conference, to Prof. Cédric Richard, the Special Sessions Chair and to Prof. Maria Sabrina Greco, the Publicity Chair. It was a pleasure to work with them on this project.

This year, we have received 220 submissions, of which 88 in the open call and four invited papers. We were able to accept 156 papers for the conference programme (53 % acceptance rate in the open call). During the closing ceremony on Wednesday, 13 July 2016, we plan to present the SAM 2016 Best Paper Awards.

It is our great pleasure to welcome you to SAM 2016 in Rio de Janeiro. We hope that you will enjoy the technical programme and that you will take advantage of the excellent group of people that have come together for the workshop. Some of the best opportunities come from the technical discussions and the chance to exchange ideas with other colleagues. We are looking forward to meeting all of you at the Welcome Reception on Monday, 11 July 2016 as well as at the workshop itself.



VÍTOR H. NASCIMENTO
Technical Programme Chair
University of São Paulo, Brazil



ALEKSANDAR DOGANDŽIĆ
Technical Programme Chair
Iowa State University, USA

09:30 | 01:00 **Room 1 | Tutorial 1**

Sparse Sensing for Statistical Inference

Prof. Geert Leus | TU Delft, The Netherlands

Dr. Sundeep Chopuri | TU Delft, The Netherlands

09:30 | 01:00 **Room 2 | Tutorial 2**

Polynomial Matrix Decompositions With Applications

Dr. Stephan Weiss | University of Strathclyde, Scotland, UK

Prof. John G. McWhirter | University of Cardiff, Wales, UK

09:30 | 01:00 **Room I012 | Tutorial 3**

Graph Signal Processing: Fundamentals and Applications to Diffusion Processes

Prof. Antonio G. Marques, King Juan Carlos University, Spain

Prof. Alejandro Ribeiro, University of Pennsylvania, USA

Santiago Segarra, University of Pennsylvania, USA

Prof. Gonzalo Mateos, University of Rochester, USA

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JULY
MON

Coffee Break: 10:00 | 10:30
03:00 | 03:30
Lunch: 12:10 | 02:00
Welcome reception: 06:00 | 09:00

08:40 | 09:00 AMEX Auditorium | Welcome Ceremony

09:00 | 10:00 AMEX Auditorium | Plenary I
Domain-Specific Languages for Convex Optimization
SPEAKER: Prof. Stephen Boyd | Stanford University, USA

10:30 | 12:10 Room 1 | MMIMO I
Recent Advances in Massive MIMO I

- **Channel Estimation and Uplink Achievable Rates in One-Bit Massive MIMO Systems**

Yongzhi Li | Beijing Jiaotong University, P.R. China
Cheng Tao | Beijing Jiaotong University, P.R. China
Liu Liu | Beijing Jiaotong University, P.R. China
Gonzalo Seco-Granados | Universitat Autònoma de Barcelona, Spain
Lee Swindlehurst | University of California at Irvine, USA

- **Long-term Antenna Selection for Large-scale MIMO Links**

Hans-Georg Engler and Eduard Jorswieck | TU Dresden, Germany

- **Hardware Design and Optimal ADC Resolution for Uplink Massive MIMO Systems**

Daniel Verenzuela | Linköping University, Sweden
Emil Björnson | Linköping University, Sweden
Michail Matthaiou | Queen's University Belfast, United Kingdom

- **Minimum BER Precoding in 1-Bit Massive MIMO Systems**

Hela Jedda | Technische Universität München, Germany
Amine Mezghani | University of California, Irvine
Josef A. Nossek | TU Munich, Germany

- **Optimal Pilot Length for Uplink Massive MIMO Systems with Low-Resolution ADC**

Li Fan and Dan Qiao | Southeast University, P.R. China
Chao-Kai Wen | National Sun Yat-sen University, Taiwan
Michail Matthaiou | Queen's University Belfast, United Kingdom
Shi Jin(Southeast University, P.R. China

10:30 | 12:10 Room 2: SOUND I

Distributed and Multichannel Smart Sound Processing

- **Multi-microphone Speech Enhancement Informed by Auditory Scene Analysis**

Axel Plinge | TU Dortmund University, Germany
Sharon Gannot | Bar-Ilan University, Israel

- **Gunshot detection and localization based on Non-negative Matrix Factorization and SRP-Phat**

Jennifer Lopez-Morillas | University of Jaen, Spain
Francisco Canadas-Quesada | University of Jaen, Spain
Pedro Vera-Candeas | University of Jaen, Spain
Nicolas Ruiz Reyes | University of Jaen, Spain
Raul Mata-Campos | University of Jaen, Spain
Violeta Zafra | University of Jaen, Spain

- **Affine-projection-like algorithm for active noise control over distributed networks**

Christian Antónanzas | Universidad Politécnica de Valencia & Audio and Communications Signal Processing Group at iTEAM, Spain
Miguel Ferrer | Universidad Politécnica de Valencia, Spain
María de Diego | Universitat Politècnica De València, Spain
Alberto Gonzalez | Universidad Politécnica de Valencia, Spain

10:30 | 12:10 Room I011

BayMeth: Recent Advances in Bayesian Methods for Signal Processing

• Cooperative Navigation and Coverage Identification with Random Gossip and Sensor Fusion

André R. Braga | Instituto Tecnológico de Aeronáutica & Universidade Federal do Ceará, Brazil

Carsten Fritsche | Linköping University, Sweden

Marcelo Bruno | ITA, Brazil

Fredrik Gustafsson | Linköping University, Sweden

• A Novel Algorithm for Adapting the Number of Particles in Particle Filtering

Víctor Elvira | University Carlos III of Madrid, Spain

Joaquín Míguez | Universidad Carlos III de Madrid, Spain

Petar M. Djurić | Stony Brook University, USA

• A Bayesian non parametric time-switching autoregressive model for multipath errors in GPS navigation

Audrey Giremus | Université de Bordeaux, France

Vincent Pereira | Université Bordeaux, France

• Modelling Time Series via Automatic Learning of Basis Functions

Felipe Tobar | Universidad de Chile, Chile

Richard Turner | University of Cambridge, United Kingdom

• Adaptive Population Importance Samplers: A General Perspective

Luca Marfino | University of Helsinki, Finland

Víctor Elvira | University Carlos III of Madrid, Spain

David Luengo | Universidad Politécnica de Madrid, UPM, Spain

Francisco Louzada | Universidade de São Paulo, USP, Brazil

10:30 | 12:10 Room I012: MSE

Performance Bounds on the Mean Square Error: What's Up Doc?

• New Observations on Efficiency of Variance Estimation of White Gaussian Signal with Unknown Mean

Shahar Bar and Joseph Tabrikian | Ben-Gurion University of the Negev, Israel

• Mean-Cyclic-Error Lower Bounds via Integral Transform of Likelihood-Ratio Function

Eyal Nitzan | Ben-Gurion University of the Negev, Israel

Tirza Routtenberg | Ben Gurion University of the Negev, Israel

Joseph Tabrikian | Ben-Gurion University of the Negev, Israel

• Bayesian Lower Bounds for Dense or Sparse | Outlier Noise in the RMT Framework

Virginie Ollier | ENS Cachan - Université Paris-Saclay & SATIE - L2S, France

Rémy Boyer | Université Paris-Sud, UPS, CNRS, CentraleSupélec, France

Mohammed Nabil El Korso | Paris 10 University & LEME-EA 4416, France

Pascal Larzabal | ENS-Cachan, France

• Lower bounds for non standard deterministic estimation

Jérôme Galy | LIRMM Montpellier, France

Eric Chaumette and François Vincent | ISAE, France

Alexandre Renaux | Université Paris 11, France

Pascal Larzabal | ENS-Cachan, France

• Weiss-Weinstein Bounds for Various Priors

Florian Xaver | TU Wien, Austria

Christoph F Mecklenbräuker | Vienna University of Technology, Austria

Peter Gerstoft | University of California, USA

Gerald Matz | Vienna University of Technology, Austria

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Coffee Break: 10:00 | 10:30

03:00 | 03:30

Lunch: 12:10 | 02:00

Welcome reception: 06:00 | 09:00

10:30 | 12:10

Room I013: BF

Beamforming

• An Iterative Approach to Nonconvex QCQP with Applications in Signal Processing

Ahmad Gharanjik | KTH/ University of Luxembourg & SNT Center, Luxembourg

Bhavani Shankar Mysore R | Interdisciplinary Centre for Security, Reliability and Trust & University of Luxembourg, Luxembourg

Mojtaba Soltanalian | University of Illinois at Chicago, USA

Björn Ottersten | University of Luxembourg, Luxembourg

• A Robust Beamformer with Main Beam Control

Bin Liao and Chongtao Guo | Shenzhen University, P.R. China

Lei Huang | Beijing Institute of Technology, P.R. China

Qiang Li | Shenzhen University, P.R. China

Hing Cheung So | City University of Hong Kong, Hong Kong

• On the Performance of a CFAR Matched Filter in the Presence of Signal Mismatch

Jun Liu | National Laboratory of Radar Signal Processing & Xidian University, P.R. China

Liu Hongwei | Xidian University, P.R. China

• Interpolation-and-Decimation-based Dimensionality Reduction Applied to Space-Time Processing

Aline Oliveira | Instituto de Pesquisas da Marinha, Brazil

Raimundo Sampaio-Neto | Cetuc-Puc-Rio, Brazil

Jose Mauro Fortes | PUC-Rio, Brazil

Fabian David Backx | Instituto de Pesquisas da Marinha, Brazil

• Reduced-rank Filtering on L1-norm Subspaces

Panos P. Markopoulos | Rochester Institute of Technology, USA

02:00 | 03:00

AMEX Auditorium: Plenary 2

Scale Mixture Modeling of Priors for Sparse Signal Recovery

SPEAKER: Prof. Bhaskar Rao | University of California at San Diego, USA

03:00 | 04:20

Poster Area: ASP I

Adaptive Signal Processing and Applications I

• Sliding-window homotopy adaptive filter for estimation of sparse UWA channels

Jianghui Li | University of York, UK

Yury Zakharov | University of York, UK

• Low-complexity correlated time-averaged variable forgetting factor mechanism for diffusion RLS algorithm in sensor networks

Ling Zhang | Zhejiang University, P.R. China

Yunlong Cai | Zhejiang University, P.R. China

Chunguang Li | Zhejiang University, P.R. China

Rodrigo C. de Lamare | Pontifical Catholic University of Rio de Janeiro, Brazil & University of York, UK

Minjian Zhao | Zhejiang University, P.R. China

• Mixed source prior for the fast independent vector analysis algorithm

Waqas Rafique | Newcastle University, UK

Syed Mohsen Naqvi | Newcastle University, UK

Jonathon Chambers | Newcastle University, UK

• On the Robustness of the Set-Membership NLMS Algorithm

Hamed Yazdanpanah | Federal University of Rio de Janeiro, Brazil

Markus V.S. Lima | Universidade Federal do Rio de Janeiro - UFRJ, Brazil

Paulo Diniz | Universidade Federal do Rio de Janeiro, Brazil

03:00 | 04:20 **Poster Area: ASP I - Cont.**

- **Incremental multiple error filtered-X LMS for node-specific active noise control over wireless acoustic sensor networks**

Jorge Plata-Chaves | Katholieke Universiteit Leuven, KU Leuven, Belgium

Alexander Bertrand | KU Leuven & iMinds Medical IT, Belgium

Marc Moonen | KU Leuven, Belgium

- **Serial-Inspired Diffusion Based on Message Passing for Distributed Estimation in Adaptive Networks**

Cornelius Healy | Newcastle University, UK

Rodrigo C. de Lamare | Pontifical Catholic University of Rio de Janeiro, Brazil & University of York, UK

- **Selective Detection with Adaptive Channel Estimation for MIMO OFDM**

Mohammed Kashoob | The University of York, UK

Yury Zakharov | University of York, UK

- **Efficient Linearized Bregman Iteration for Sparse Adaptive Filters and Kaczmarz Solvers**

Michael Lunglmayr | Johannes Kepler University Linz, Austria

Mario Huemer | Johannes Kepler University Linz, Austria

03:00 | 04:20 **Poster Area: EST**

Estimation Techniques

- **Location Estimation In Multipath Environments With Unsynchronized Base Stations**

Oded Bialer | University of Tel-Aviv, Israel

Dan Raphaeli | Tel Aviv University, Israel

Anthony J. Weiss | Tel Aviv University, Israel

- **Power and Direction of Transmission Estimation for a Directive Source: Identifiability Analysis and Estimation Algorithm**

Sina Maleki | University of Luxembourg, Luxembourg

Philippe Ciblat | Telecom ParisTech, France

Bhavani Shankar Mysore R | Interdisciplinary Centre for Security, Reliability and Trust & University of Luxembourg, Luxembourg

Symeon Chatzinotas | University of Luxembourg, Luxembourg

Björn Ottersten | University of Luxembourg, Luxembourg

- **Analysis of the Bayesian Cramér-Rao in Astrometry**

Alex Mauricio Echeverria | University of Chile, Chile

Jorge Silva | University of Chile, Chile

Marcos Orchard | University of Chile, Chile

Rene A Mendez | Universidad de Chile & Millenium Institute of Astrophysics, Chile

- **Mobile Nonlinear Sensor Calibration Using Informed Semi-Nonnegative Matrix Factorization with a Vandermonde Factor**

Clément Dorffer | Université du Littoral Côte d'Opale, France

Matthieu Puigt | Université du Littoral Côte d'Opale, France

Gilles Delmaire | Université du Littoral Côte d'Opale, France

Gilles Roussel | Université du Littoral Côte d'Opale, France

- **A Monte Carlo scheme for node-specific inference over wireless sensor networks**

Luca Martino | Univ. of Helsinki, Finland

Jorge Plata | University KU Leuven, Belgium

Francisco Louzada | Universidade de São Paulo, USP, Brazil

04:20 | 06:00 Room 1: TENSOR I

Tensor Signal Processing I

- Performance bounds for coupled models

Chengfang Ren | CNRS, University Grenoble Alpes, France
Rodrigo Cabral Farias | CNRS, University Grenoble Alpes, France
Pierre Olivier Amblard | GIPSA-LAB, CNRS, Grenoble, France
Pierre Comon | CNRS, University Grenoble Alpes, France

- Analytical Performance Evaluation of Multi-Dimensional Tensor-ESPRIT-Based Algorithms for Strictly Non-Circular Sources

Jens Steinwandt | Ilmenau University of Technology, Germany
Florian Roemer | Ilmenau University of Technology, Germany
Martin Haardt | Ilmenau University of Technology, Germany

- Rectified ALS Algorithm for Multidimensional Harmonic Retrieval

Rémy Boyer | Université Paris-Sud, UPS, CNRS, CentraleSupélec, France
Pierre Comon | CNRS, University Grenoble Alpes, France

- A coupled Joint Eigenvalue Decomposition Algorithm for Canonical Polyadic Decomposition of Tensors

Rémi André | Université de Toulon, France
Xavier Luciani | Université de Toulon, France
Eric Moreau | University of Toulon & LSIS UMR CNRS 7296, France

- Enhanced Block Term Decomposition for Atrial Activity Extraction in Atrial Fibrillation ECG

Lucas Ribeiro | Federal University of Ceará, Brazil
André de Almeida | Federal University of Ceará & Wireless Telecom Research Group - GTEL, Brazil
Vicente Zarzoso | University of Nice Sophia Antipolis, France

04:20 | 06:00 Room 2: OPT I

Recent Trends in Optimization I

- Algorithms for discrete nonlinear optimization in FICO Xpress

Pietro Belotti | Fair Isaac Europe Ltd, United Kingdom
Timo Berthold | Fair Isaac Germany GmbH, Germany
Kellington Neves | Fair Isaac do Brasil Ltda, Brazil

- Distributed Fractional Programming in Matched Multiple Access Channels

Alessio Zappone | TU Dresden, Germany
Eduard Jorswieck | TU Dresden, Germany
Amir Leshem | Bar-Ilan University, Israel

- Robust MISO downlink: An efficient algorithm for improved beamforming directions

Mostafa Medra | McMaster University, Canada
Timothy N. Davidson | McMaster University, Canada

04:20 | 06:00 Room I011: GRAPH

Signal Processing over Graphs

- Tell me where you are and I tell you where you are going: Estimation of dynamic mobility graphs

Marcelo Fiori | Universidad de la República, Uruguay
Mariano Tepper | Duke University, USA
Pablo Muse | Facultad de Ingeniería, UDELAR, Uruguay
Guillermo Sapiro | Duke University, USA

04:20 | 06:00 Room I011: GRAPH - Cont.

• Subsampling for Graph Power Spectrum Estimation

Sundeep Prabhakar Chepuri and Geert Leus | Delft University of Technology, The Netherlands

• Plant-wide Fault Detection Using Graph Signal Processing

Diego Silva | Universidade Federal do Rio Grande do Norte, Brazil

Antonio Ortega | University of Southern California, USA

• Stationary Graph Processes: Nonparametric Spectral Estimation

Santiago Segarra | University of Pennsylvania, USA

Antonio G. Marques | Universidad Rey Juan Carlos, Spain

Geert Leus | Delft University of Technology, The Netherlands

Alejandro Ribeiro | University of Pennsylvania, USA

04:20 | 06:00 Room I012: MIMO & Rel

Recent Results on MIMO and Relaying

• Stream Selection Methods for Non-regenerative MIMO Relay Networks

Cong Sun | School of Sciences, Beijing University of Posts and Telecommunications, P.R. China

Eduard Jorswieck | TU Dresden, Germany

• Relaying with Finite Blocklength: Challenge vs. Opportunity

Yulin Hu and Anke Schmeink | RWTH Aachen University, Germany

James Gross | KTH Royal Institute of Technology, Sweden

• Joint MSINR and Relay Selection Algorithms for Distributed Beamforming

Hang Ruan | University of York, United Kingdom

Rodrigo C. de Lamare | Pontifical Catholic University of Rio de Janeiro, Brazil & University of York, UK

• Optimal Transmission with Per-antenna Power Constraints for Multiantenna Bidirectional Broadcast Channels

Phuong L. Cao | KTH Royal Institute of Technology, Sweden

Tobias J. Oechtering | KTH Royal Institute of Technology & School of Electrical Engineering, EE, Sweden

Mikael Skoglund | KTH Royal Institute of Technology, Sweden

• On Quantization and Network Coding in Wireless Relay Networks

Alister G. Burr and Qinhui Huang | University of York, United Kingdom

04:20 | 06:00 Room I013: DF

Direction Finding

• Wideband Sparse Bayesian Learning for DOA Estimation from Multiple Snapshots

Peter Gerstoft | University of California, San Diego, USA

Christoph F Mecklenbräuker | Vienna University of Technology, Austria

• Joint frequency and direction of arrival estimation with space-time array

Achanna Anil Kumar | TCS Innovation Labs, India

Sirajudeen Gulam Razul | Nanyang Technological University, Singapore

Girish Chandra | Tata Consultancy Services, India

Chong Meng Samson See | TL@NTU, Singapore

P. Balamuralidhar | Tata Consultancy Services, India

• Single Snapshot DOA Estimation in the Presence of Mutual Coupling for Arbitrary Array structures

Ahmet M Elbir | Middle East Technical University, Turkey

T. Engin Tuncer | Middle East Technical University, Turkey

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Coffee Break: 10:00 | 10:30

03:00 | 03:30

Lunch: 12:10 | 02:00

Welcome reception: 06:00 | 09:00

04:20 | 06:00

Room: I013:DF - Cont.

- **Performance Improvement for Wideband DOA estimation with White Noise Reduction Based on Uniform Linear Arrays**

Mohammad Reza Anbiyai and Wei Liu | University of Sheffield, United Kingdom

Desmond McLernon | The University of Leeds, United Kingdom

- **Array of Sensors: A Spatiotemporal-State-Space Model for Target Trajectory Tracking**

Athanasios Manikas and Vidhya Sridhar | Imperial College London, United Kingdom

Yousif I. Kamil | Schlumberger London Technology Centre, United Kingdom

06:00 | 09:00

Patio: Welcome Reception

09:00 | 10:00 **AMEX Auditorium: Plenary 3**
The Mathematician Ramanujan and Digital Signal Processing
SPEAKER: Prof. P. P. Vaidyanathan | California Institute of Technology, USA

10:30 | 12:10 **Room 1: SOUND II**
Distributed and Multichannel Smart Sound Processing II

- **Multi-task wireless acoustic sensor network for node-specific speech enhancement and DOA estimation**
Amin Hassani | KU Leuven, Belgium
Jorge Plata-Chaves | Katholieke Universiteit Leuven | KU Leuven, Belgium
Alexander Bertrand | KU Leuven & iMinds Medical IT, Belgium
Marc Moonen | KU Leuven, Belgium
- **Improving learning efficiency in multi-objective simulated annealing programming for sound environment classification**
Alberto Cocaña-Fernández | University of Oviedo, Spain
Jose Ranilla and Luciano Sanchez | University of Oviedo, Spain
Roberto Gil-Pita | University of Alcalá, Spain
Héctor Adrián Sánchez-Hevia | University of Alcalá, Spain
- **Distributed and collaborative sound environment information extraction in binaural hearing aids**
Roberto Gil-Pita | University of Alcalá, Spain
Héctor Adrián Sánchez-Hevia | University of Alcalá, Spain
Cosme Llerena | University of Alcalá, Spain
Inmaculada Mohino-Herranz | University of Alcalá, Spain
Manuel Utrilla and Manuel Rosa | University of Alcalá, Spain

10:30 | 12:10 **Room 2: MMIMO II**
Recent Advances in Massive MIMO II

- **Improving Spectral Efficiency in Large-Array FDD Systems with Hybrid Beamforming**
Daniel Araújo | Federal University of Ceará, Brazil
Eleftherios Karipidis | Ericsson Research, Sweden
André de Almeida | Federal University of Ceará & Wireless Telecom Research Group - GTEL, Brazil
João Cesar Mota | Wireless Telecom Research Group - Federal University of Ceará, Brazil
- **A Channel Matching Based Hybrid Analog-Digital Strategy for Massive Multi-User MIMO Downlink Systems**
Jianshu Zhang and Martin Haardt | Ilmenau University of Technology, Germany
Ilya Soloveychik | HUJI, Israel
Ami Wiesel | Hebrew University in Jerusalem, Israel
- **Simplified Matrix Polynomial-Aided Block Diagonalization Precoding for Massive MIMO Systems**
Wence Zhang | Pontifical Catholic University of Rio de Janeiro, Brazil
Rodrigo C. de Lamare | Pontifical Catholic University of Rio de Janeiro, Brazil & University of York, UK
Cunhua Pan | University of Kent, UK
Ming Chen | Southeast University, P.R. China
Jian-xin Dai | School of Science, Nanjing University of Posts and Telecommunications, China
Bingyang Wu | Southeast University, P.R. China
- **Large-Scale Iterative Decision Feedback with Constellation Constraints Receiver for Cloud Radio Access Networks**
César A Medina | Pontifical Catholic University of Rio de Janeiro, Brazil
Rodrigo C. de Lamare | Pontifical Catholic University of Rio de Janeiro, Brazil & University of York, UK
- **D2D CSI Feedback for D2D Aided Massive MIMO Communications**
Laura Cottatellucci | EURECOM, France

10:30 | 12:10 Room I011: ALT

Signal Processing for Assisted Living Technologies

• **Prediction of stride interval time series**

Etienne Zahnd | University of Pittsburgh, USA
Jennifer Brach | University of Pittsburgh, USA
Subashan Perera | University of Pittsburgh, USA
Ervin Sejdić | University of Pittsburgh, USA

• **Effect of Data Representations on Deep Learning in Fall Detection**

Branka Jakanovic | Villanova University, USA
Moeness G. Amin | Villanova University, USA
Fauzia Ahmad | Villanova University, USA

• **Multi-Sensor Range-Doppler Radar Monitoring for Fall Detection**

Baris Erol | Villanova University, USA
Moeness G. Amin | Villanova University, USA

• **Ultra-wideband Radar and Vision Based Human Motion Classification for Assisted Living**

Zhichong Zhou | University of Denver, USA
Jun Zhang | University of Denver, USA
Yimin D. Zhang | Temple University, USA

10:30 | 12:10 Room I012: RADAR I

Radar Signal Processing: from Transmit Waveforms to Receiver Designs I

• **Performance Analysis of a Persymmetric Adaptive Matched Filter**

Jun Liu | Xidian University, P.R. China
Hongbin Li | Stevens Institute of Technology, USA
Braham Himed | AFRL, USA

• **Coordinated Waveform Design and Receiver Filter Optimization for Cognitive Radar Networks**

Gaia Rossetti | Loughborough University, UK
angarapillai Lambotharan | Loughborough University, UK

• **One-bit Compressive Sampling with Time-Varying Thresholds for Sparse Parameter Estimation**

Christopher D Gianelli | University of Florida, USA
Luzhou Xu and Jian Li | University of Florida, USA
Petre Stoica | Uppsala University, Sweden

• **Simplified Performance Comparison Metric Based on Asymptotic Threshold Ranking for MIMO Radar Estimation**

Qian He | University of Electronic Science and Technology of China, P.R. China
Xiongwei Wu | UESTC, P.R. China
Rick Blum | Lehigh University, USA

• **Low-Complexity Robust Radar-Embedded Sidelobe Level Modulation using Linear Constrained Optimization Design**

Aline Oliveira | Instituto de Pesquisas da Marinha, Brazil
Raimundo Sampaio-Neto | Cetic-Puc-Rio, Brazil
Jose Mauro Fortes | PUC-Rio, Brazil

10:30 | 12:10 **Room I013: SAMP I**

Structured Sampling and Covariance-Driven Estimation I

- **Two-dimensional DOA Estimation Using Parallel Coprime Subarrays**

Si Qin | Villanova University, USA

Yimin D. Zhang | Temple University, USA

Moeness G. Amin | Villanova University, USA

- **Spatial Spectral Estimation Using a Co-prime Sensor Array With the Min Processor**

Yang Liu | University of Massachusetts Dartmouth, USA

John Buck | University of Massachusetts Dartmouth, USA

- **Deterministic Fourier-Based Dictionary Design for Sparse Reconstruction**

Dyonisius Dony Ariananda | Universitas Gadjah Mada, Indonesia

Hadi Jamali-Rad | Shell Global Solutions, The Netherlands

Zijian Tang | Shell Global Solutions International B. V., The Netherlands

Geert Leus | Delft University of Technology, The Netherlands

Xander Campman | Shell Global Solutions International B. V., The Netherlands

- **New Cramér-Rao Bound Expressions for Coprime and Other Sparse Arrays**

Chun-Lin Liu | California Institute of Technology, USA

P. p. Vaidyanathan | Cal Tech., USA

- **Comparison of Comb and Pulse Train Signal Designs for Active Sonar**

Jonathan Soli | Duke University, USA

Granger Hickman | Duke University, USA

02:00 | 03:00 **AMEX Auditorium: Plenary 4**

One-Bit Quantization in Massive MIMO Systems

SPEAKER: Prof. A. Lee Swindlehurst | University of California at Irvine, USA

03:00 | 04:20 **Poster Area: ASP II**

Adaptive Signal Processing and Applications II

- **Adaptation with Reduced-size Message Pass to Precoder Selection in Multi-cell MIMO Systems**

Igor M. Guerreiro | Federal University of Ceara - UFC & Wireless Telecommunications Research Group - GTEL, Brazil

Dennis Hui | Ericsson Research, USA

Charles Casimiro Cavalcante | Federal University of Ceará, Brazil

- **Adaptive sparse linear prediction: A promising tool for blind deconvolution**

Kenji Nose Filho | State University of Campinas, Brazil

João Romano | State University of Campinas, Brazil

- **Decentralized Cooperative Detection Based on Averaging Consensus**

Wassim Suleiman | TU Darmstadt & Institut für Nachrichtentechnik, Germany

Marius Pesavento | Technische Universität Darmstadt & Merckstr. 25, Germany

Abdelhak M Zoubir | Darmstadt University of Technology, Germany

- **Privacy Preserving Decentralized Power System State Estimation with Phasor Measurement Units**

Neelabh Kashyap | Aalto University, Finland

Stefan Werner | Aalto University, Finland

Yih-Fang Huang | University of Notre Dame, USA

Reza Arablouei | CSIRO, Australia

03:00 | 04:20 **Poster Area: ASP II - Cont.**

• An L_1 -norm Linearly Constrained Affine Projection Algorithm

José Andrade, Jr. | Federal University of Rio de Janeiro, UFRJ & Brazilian Navy, Brazil
Marcello Campos | Federal University of Rio de Janeiro, Brazil
José Antonio Apolinário Jr. | IME, Brazil

• Position Estimation from Range Measurements Using Adaptive Networks

Guilherme Vicinansa | Universidade de São Paulo, Brazil
Yannick Bergamo | University of São Paulo, Brazil
Cassio Lopes | University of São Paulo, Brazil

• Empirical Signal Decomposition for Acoustic Noise Perception

Leonardo Zão | Instituto Militar de Engenharia, Brazil
Rosângela Fernandes Coelho | Instituto Militar de Engenharia, IME & Laboratory of Acoustic Signal Processing, LASP, Brazil

• Low-complexity Affine Projection Subband Algorithm for Robust Adaptive Filtering in Impulsive Noise

Mariane R Petraglia | Federal University of Rio de Janeiro, Brazil
Diego B. Haddad | Federal University of Rio de Janeiro, Brazil
Elias Marques, UFRJ & INPI, Brazil

03:00 | 04:20 **Poster Area: RADAR APP**

Radar Applications

• On Spatial Aspect Decorrelation in SAR and ISAR

Stefan Briskeen | Fraunhofer FHR, GermanyHai-Tan Tran, DSTO, Australia

• Using Wavelet Packets to Analyze FM LPI Radar Signals

Sergio Neves | Instituto de Pesquisas da Marinha, Brazil
Aline Oliveira | Instituto de Pesquisas da Marinha, Brazil
Rafael Serra | Instituto de Pesquisas da Marinha, Brazil
Luiz Eugênio Segadilha | Instituto de Pesquisas da Marinha, Brazil
Fátima Monteiro | Instituto de Pesquisas da Marinha, Brazil
Jean-marc Lopez | DGA-Technique Navale

• Sparse Antenna Array Design for Directional Modulation

Bo Zhang | University of Sheffield, UK
Wei Liu | University of Sheffield, UK
Xiaoming Gou | Beijing Institute of Technology, P.R. China

• Compressive Sensing in Time Reversal Radars: Incoherency Analysis

Mohammad Sajjadih | York University, Canada
Amir Asif | Concordia University, Canada

03:00 | 04:20 **Poster Area: SAM APP**

Sensor Array and Multichannel Signal Processing Applications

• Array Interpolation Based on Multivariate Adaptive Regression Splines

Marco Marinho | University of Brasilia, Brazil
João Paulo C. L. da Costa | University of Brasília & Ilmenau University of Technology and Fraunhofer Institute for Integrated Circuits IIS, Brazil
Felix Antreich | German Aerospace Center | DLR, Germany
André de Almeida | Federal University of Ceará & Wireless Telecom Research Group - GTEL, Brazil
Giovanni Del Galdo | Fraunhofer Institute for Integrated Circuits IIS & Technische Universität Ilmenau, Germany
Edison Pignaton de Freitas | Federal University of Rio Grande do Sul, Brazil
Alexey Vinel(Halmstad University, Sweden

03:00 | 04:20 **Poster Area: SAM APP - Cont.**

• Low-Complexity DoA Estimation Based on Hermitian EVDs

Tadeu Ferreira | Fluminense Federal University, Brazil

Sergio Lima Netto | UFRJ, Brazil

Marcello Campos | Federal University of Rio de Janeiro, Brazil

Paulo Diniz | Universidade Federal do Rio de Janeiro, Brazil

• Order-Controlled Multiple Shift SBR2 Algorithm for Para-Hermitian Polynomial Matrices

Zeliang Wang | Cardiff University, UK

John G McWhirter | Cardiff University, UK

Jamie Corr | University of Strathclyde, UK

Stephan Weiss | University of Strathclyde, UK

04:20 | 06:00 **Room 1: TENSOR II**

Tensor Signal Processing II

• Shift Invariance, Incomplete Arrays and Coupled CPD: a Case Study

Mikael Sorensen | Leuven, Belgium

Lieven De Lathauwer | K.U.Leuven, Belgium

• Modeling time warping in tensor decomposition

Bertrand Rivet | GIPSA-Lab, Grenoble INP, France

Jeremy Cohen | CNRS Gipsa-lab, France

• Joint Analysis of Multiple Datasets by Cross-Cumulant Tensor | Block Diagonalization

Dana Lahat | Gipsa-Lab, France

Christian Jutten | GIPSA-Lab, France

• On JEVD of Semi-Definite Positive Matrices and CPD of Nonnegative Tensors

Rémi André | Université de Toulon, France

Laurent Albera | Université de Rennes 1 & Inserm, France

Xavier Luciani | Université de Toulon, France

Eric Moreau | University of Toulon & LSIS UMR CNRS 7296, France

04:20 | 06:00 **Room 2: MEAS I**

Investigating Wireless Communication through Measurements I

• Experimental Assessment of 5G-Candidate Modulation Schemes at Extreme Speeds

José Rodríguez-Piñeiro | University of A Coruña, Spain

Martin Lerch | TU Wien, Austria

Tomás Domínguez-Bolaño | University of A Coruña, Spain

José A. García-Naya | University of A Coruña, Spain

Sebastian Caban | Vienna University of Technology, Austria

Luis Castedo | University of A Coruña, Spain

• Experimental Evaluation of FBMC-OQAM Channel Estimation Based on Multiple Auxiliary Symbols

Ronald Nissel | TU Wien, Austria

Sebastian Caban | Vienna University of Technology, Austria

Markus Rupp | TU Wien, Austria

• Experimental Signal-Quality Characterization of a High-Capacity mmWave Link for Backhaul Applications

Nicholas Preyss | EPFL, Switzerland

Andreas Burg | EPFL, Switzerland

04:20 | 06:00 Room 2: MEAS I - Cont.

• Resolving the Angular Profile of 60 GHz Wireless Channels by Delay-Doppler Measurements

Erich Zöchmann | TU Wien, Austria
Sebastian Caban | Vienna University of Technology, Austria
Martin Lerch | TU Wien, Austria
Markus Rupp | TU Wien, Austria

• Frequency-Domain Analysis of Linear Periodically Time-Varying FBMC Systems

Tobias Laas | Technische Universität München, Germany
Leonardo Gomes Baltar | Intel Corporation, Germany
Josef A. Nassek | TU Munich, Germany

04:20 | 06:00 Room I011: INF GEO

Information Geometry for Signal Processing and Communications

• Median Burg robust spectral estimation for inhomogeneous and stationary segments

Alexis Decurninge | Huawei Technologies, France
Frederic Barbaresco | Thales Air Systems, France

• Parameters estimate of Riemannian Gaussian distribution in the manifold of covariance matrices

Paolo Zanini | Gipsa-Lab, University of Grenoble Alpes, France
Marco Congedo | GIPSA-lab, France
Salem Saïd | Université de Bordeaux, Laboratoire IMS, Signal and Image Group, France
Yannick Berthoumieu | University of Bordeaux, France
Christian Jutten | GIPSA-Lab, France

• Riemannian Coding for Covariance Interpolation in Massive MIMO Frequency Division Duplex Systems

Alexis Decurninge | Huawei Technologies, France
Maxime Guillaud | Huawei Technologies & Mathematical and Algorithmic Sciences Lab, France
Dirk Slock | EURECOM, France

• Clustering Using The Fisher-Rao Distance

Joao Strapasson | FCA- University of Campinas, Brazil
Julianna Pinele | University of Campinas, Brazil
Sueli I. R. Costa | State University of Campinas, UNICAMP | Brazil

• Modified Maximum Likelihood Estimator

David de Souza | Federal University of Ceará, Brazil
Charles Casimiro Cavalcante | Federal University of Ceará, Brazil
Rui F Vigelis | Federal University of Ceará, Brazil

04:20 | 06:00 Room I012: OPT II

Recent Trends in Optimization II

• l1 Adaptive Trend Filter via Fast Coordinate Descent

Mario Souto | PUC-Rio, Brazil

• Low-Rank Robust Adaptive Beamforming Techniques using Joint Iterative Optimization

Hang Ruan | University of York, United Kingdom
Rodrigo C. de Lamare | Pontifical Catholic University of Rio de Janeiro, Brazil & University of York, UK

• An Optimal Polarization Tracking Algorithm for Lithium-Niobate-based Polarization Controllers

Joaquim Dias Garcia | Pontifical Catholic University of Rio de Janeiro, Brazil
Gustavo Amaral | Pontifical Catholic University of Rio de Janeiro, Brazil

04:20 | 06:00 Room I013: MIMO

MIMO Systems and Applications

- **Comparing Antenna Selection and Hybrid Precoding for Millimeter Wave Wireless Communications**

Erich Zöchmann | TU Wien, Austria

Stefan Schwarz | TU Wien, Austria

Markus Rupp | TU Wien, Austria

- **Adaptive Limited Feedback Scheme for Stream Selection Based Interference Alignment in Heterogeneous Networks**

Esra Ayçan | Izmir Institute of Technology, Turkey

Berna Özbek | Izmir Institute of Technology, Turkey

Didier Le Ruyet | CNAM, France

- **Interference Mitigation based on Precoded SRS**

Lászlón Costa | Federal University of Ceará & Wireless Telecom Research Group | GTEL, Brazil

Darlan C. Moreira | Federal University of Ceará, Brazil

Sara Sandberg | Ericsson Research, Sweden

Arne Simonsson | Ericsson Research, Sweden

Yuri C. B. Silva | Federal University of Ceará & Wireless Telecom Research Group, GTEL, Brazil

- **Beamforming Designs for Multiuser Transmissions in FDD Massive MIMO Systems Using Partial CSIT**

Ming-Fu Tang | National Taiwan University, Taiwan

Szu-Yu Wang | National Taiwan University, Taiwan

Borching Su | National Taiwan University, Taiwan

- **Avoiding divergence in the constant modulus algorithm for blind equalization of MIMO systems**

Flávio Renê Miranda Pavan | University of Sao Paulo, Brazil

Magno T. M. Silva | University of São Paulo, Brazil

Maria D. Miranda | University of Sao Paulo, Brazil

07:00 | 12:00 CAIÇARAS CLUB: Banquet

Address: Clube dos Caiçaras | Av. Epitácio Pessoa s/n, Lagoa

09:00 | 10:00 **AMEX Auditorium: Plenary 5**
Multi-sensor applications in aircraft technology: Embraer experience
SPEAKER: Mr. Helio Librantz | Embraer, Brazil

10:30 | 12:10 **Room 1: MMIMO III**
Recent Advances in Massive MIMO III

- **Wireless Energy Harvesting Massive MIMO Relays**

Gayan Amarasuriya | Southern Illinois University, USA

Shang Liu | Beijing University of Posts and Telecommunications, P.R. China

H. Vincent Poor | Princeton University, USA

- **Full-Duplex Massive MIMO with Physical Layer Network Coding for the Two-Way Relay Channel**

Francisco A. Monteiro | Instituto de Telecomunicações & ISCTE - University Institute of Lisbon, Portugal

João S Lemos | Instituto de Telecomunicações/Instituto Superior Técnico, Portugal

- **Parallel Low-Complexity M-PSK Detector for Large-Scale MIMO Systems**

Ganapati Hegde | Technische Universität Darmstadt Germany

Yang Yang | Intel Deutschland GmbH, Germany

Christian Steffens | Technische Universität Darmstadt, Germany

Marius Pesavento | Technische Universität Darmstadt & Merckstr. 25, Germany

- **Downlink Path-Based Precoding in FDD Massive MIMO Systems Without CSI Feedback**

Ming-Fu Tang | National Taiwan University, Taiwan

Chih-Chi Chen | National Taiwan University, Taiwan

Borching Su | National Taiwan University, Taiwan

- **On One-Bit Quantized ZF Precoding for the Multiuser Massive MIMO Downlink**

Amodh Kant Saxena | University of California, Irvine, USA

Inbar Fijalkow | ETIS / ENSEA - University Cergy-Pontoise CNRS, France

Lee Swindlehurst | University of California at Irvine, USA

10:30 | 12:10 **Room 2: SAMP II**
Structured Sampling and Covariance-Driven Estimation II

- **Synthetic Aperture Imaging with Thinned Linear Sensor Arrays for Medical Ultrasound**

Juan Ramirez, Jr. | Duke University, USA

Nick Bottenus | Duke University, USA

Gregg Trahey | Duke University, USA

Jeffrey Krolik | Duke University, USA

- **A Method to Solve the Permutation Problem in Blind Source Deconvolution for Audio Signals Based on Phase Linearity Estimation**

Hidekazu Fukai | Gifu University, Japan

- **A Subspace Method for Array Covariance Matrix Estimation**

Mostafa Rahmani | University of Central Florida, USA

George Atia | University of Central Florida, USA

- **Finite Sample Analysis of Covariance Compression Using Structured Samplers**

Heng Qiao and Piya Pal | University of Maryland, College Park, USA

- **High-Order Super Nested Arrays**

Chun-Lin Liu | California Institute of Technology, USA

P. p. Vaidyanathan | Cal Tech., USA

10:30 | 12:10 Room I011:IMAG

Sensor Imaging and Applications

• Switched-Randomized Robust PCA for Foreground and Background Separation in Video Surveillance

Maboud Farzaneh Kaloorazi | Pontifical Catholic University of Rio de Janeiro, Brazil

Rodrigo C. de Lamare | Pontifical Catholic University of Rio de Janeiro, Brazil & University of York, UK

• Super-Resolution in SAR Imaging: Analysis With the Atomic Norm

Zhihui Zhu | Colorado School of Mines, USA

Gongguo Tang | Colorado School of Mines, USA

Pawan Setlur | Wright State University & Wright State Research Institute, USA

Sandeep Gogineni | Wright State University, USA

Michael Wakin | Colorado School of Mines, USA

Muralidhar Rangaswamy | AFRL, USA

• Sparsity-Driven Radar Auto-Focus Imaging Under Over-Wavelength Position Perturbations

Dehong Liu | Mitsubishi Electric Research Laboratories, USA

• Acoustic Image Estimation using Fast Transforms

Vitor H Nascimento | USP, Brazil

Mateus Silva | University of Sao Paulo, Brazil

Bruno S Masiero | University of Campinas, Brazil

• Channelized Facies Recovery based on Weighted Compressed Sensing

Hernan Calderon | Universidad de Chile, Chile

Felipe Santibanez | Universidad de Chile, Chile

Jorge Silva | University of Chile, Chile

Julian Ortiz and Alvaro Egana | Universidad de Chile, Chile

10:30 | 12:10 Room I012: RADAR II

Radar Signal Processing: from Transmit Waveforms to Receiver Designs II

• Joint Optimization of Transmit Beam-Width and Time-On-Target in Sea-Search Radars

Emanuele Grossi | University of Cassino and Southern Lazio & Consorzio Nazionale Inter-universitario per le Telecomunicazioni, CNIT, Italy

Marco Lops | University of Cassino & CNIT - Consorzio Universitario Nazionale per le Telecomunicazioni, Italy

Luca Venturino | Universita' degli Studi di Cassino e del Lazio Meridionale & Consorzio Nazionale Interuniversitario per le Telecomunicazioni | CNIT, Italy

• Optimizing Polarimetric Radar Waveform and Filter Bank for Extended Targets in Clutter

Xu Cheng | National University of Defense Technology, P.R. China

Augusto Aubry | Universita degli studi di Napoli, Italy

Domenico Ciunzio | University of Naples Federico II, Italy

Antonio De Maio | University of Naples "Federico II", Italy

Yongzhen Li and Xuesong Wang | National University of Defense Technology, P.R. China

• Radar System Design for Dual-Functionality Platforms

Aboulnasr Hassanien | Villanova University, USA

Moeness G. Amin | Villanova University, USA

• Ambiguity Function for Sequential Antenna Selection

Shahar Villeval | General Motors & General Motors, Israel

Joseph Tabrikian | Ben-Gurion University of the Negev, Israel

Igal Bitlik | General Motors, Israel

10:30 | 12:10 Room I013: WLP I

Non-Circular Signals and Widely Linear Processing I

- **On Spectral Noncircularity of Natural Signals**

Scott Wisdom | University of Washington, USA

Les Atlas | University of Washington, USA

James Pitton | University of Washington, USA

- **Widely-Linear Gaussian Sum Filter**

Arash Mohammadi | Concordia University, Canada

Argin Margoosian | University of Toronto, Canada

Konstantinos Plataniotis | University of Toronto, Canada

- **On the Characterization, Generation, and Efficient Estimation of the Complex Multivariate GGD**

Rami Mowakeea | University of Maryland, Baltimore County, USA

Zois Boukouvalas | University of Maryland, Baltimore County, USA

Charles Casimiro Cavalcante | Federal University of Ceará, Brazil

Tulay Adali | University of Maryland, Baltimore County, USA

02:00 | 03:40 Room 1: CS

Compressive Sensing and Sparsity-Aware Techniques

- **Point and Beam-Sparse Radio Astronomical Source Recovery Using Non-Negative Least Squares**

Shahzad Naghibzadeh | Delft University of Technology, The Netherlands

Ahmad Mouri Sardarabadi | Delft University of Technology, The Netherlands

Alle-Jan van der Veen | TU Delft, The Netherlands

- **Practical Sub-Nyquist Sampling via Array-based Compressed Sensing Receiver Architecture**

Andrew Bolstad | MIT Lincoln Laboratory, USA

James Vian | MIT Lincoln Laboratory, USA

Jonathan Chisum | University of Notre Dame, USA

Youngho Suh | MIT Lincoln Laboratory, USA

- **Correlation Learning on Joint Support Recovery for More Sources than Measurements**

Sung-En Chiu | University of California, USA

Bhaskar Rao | University of California, USA

- **Revisiting Maximal Response-Based Local Identification of Overcomplete Dictionaries**

Zahra Shakeri | Rutgers University, USA

Waheed U. Bajwa | Rutgers University, USA

- **Differential phase-contrast computed tomography reconstruction based on the projection theorem for Laplacian image**

Naoki Sunaguchi | Gunma University, Japan

Tetsuya Yuasa | Yamagata University & Graduate School of Science and Engineering, Japan

Rajiv Gupta | Massachusetts General Hospital, USA

Shu Ichihara | Nagoya Medical Center, Japan

Masami Ando | Tokyo University of Science, Japan

02:00 | 03:40 Room 2: DET

Detection and Signal Separation

- **Privacy-aware decentralized detection using linear precoding**

Xin He | Nanyang Technological University, Singapore

Wee Peng Tay | Nanyang Technological University, Singapore

Meng Sun | Nanyang Technological University, Singapore

02:00 | 03:40 Room 2: DET - Cont.

• Improving the Scan Statistic to Design Sensor Detection Systems

Benedito J. B. Fonseca, Jr | Northern Illinois University, USA

• On Parameter Estimation of A Swerling IV Target With Gaussian Receiver Noise

Xiufeng Song | Faraday Future

Peter Willeit | University of Connecticut, USA

Shengli Zhou | University of Connecticut, USA

• A multi-objective approach for blind source extraction

Guilherme Dean Pelegrina | University of Campinas & School of Applied Sciences, Brazil

Leonardo T Duarte | University of Campinas, Brazil

• Multi-Sensor Signal Processing on a PSD Matrix Manifold

Max Wong | McMaster University, Canada

Jian-Kang Zhang | McMaster University, Canada

Huiying Jiang | McMaster University, Canada

02:00 | 03:40 Room I011: WLP II

Non-Circular Signals and Widely Linear Processing II

• Sparsity-Aware Direction Finding for Strictly Non-Circular Sources Based on Rank Minimization

Jens Steinwandt | Ilmenau University of Technology, Germany

Christian Steffens | Technische Universität Darmstadt, Germany

Marius Pesavento | Technische Universität Darmstadt & Merckstr. 25, Germany

Martin Haardt | Ilmenau University of Technology, Germany

• Reception Filter Impact on Widely Linear FRESH Receiver Performance for SAIC/MAIC with Frequency Offsets

Pascal Chevalier | CNAM, France

Jean-Pierre Delmas | Telecom-Sudparis, France

Rémi Chauvat | CNAM, France

• Widely-linear transceiver design for amplify-and-forward MIMO relaying

Donatella Darsena | University of Napoli Parthenope, Italy

Giacinto Gelli | University of Napoli - Federico II, Italy

Ivan Iudice | CIRA, Italian Aerospace Research Centre, Italy

Francesco Verde | University of Napoli Federico II & National Inter-University Consortium for Telecommunications, Italy

02:00 | 03:40 Room I012: MEAS II

Investigating Wireless Communication through Measurements II

• Prototyping and Measurements for a LiFi System

Kun Chen Hu | Universidad Carlos III de Madrid, Spain

Ana Garcia Armada | Universidad Carlos III de Madrid, Spain

Matilde Sánchez-Fernández | Universidad Carlos III de Madrid, Spain

Antonio Royo | Uvax Concepts, Spain

• Quantifying the Repeatability of Wireless Channels by Quantized Channel State Information

Martin Lerch | TU Wien, Austria

Sebastian Caban | TU Wien, Austria

Erich Zöchmann | TU Wien, Austria

Markus Rupp | TU Wien, Austria

• Antenna Selection in Massive MIMO Systems: Full-array Selection or Subarray Selection?

Yuan Gao | University of Duisburg-Essen, Germany

Thomas Kaiser | Universität Duisburg-Essen, Germany

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JULY

Coffee Break: 10:00 | 10:30
Happy Hour: 04:00 | 05:00

02:00 | 03:40

Room I012: MEAS II

- **Adaptive Self-Interference Cancellation in LTE-A Carrier Aggregation FDD Direct-Conversion Transceivers**

Andreas Gebhard | Johannes Kepler University Linz, Austria

Ram Sunil Kanumalli | Danube Mobile Communications Engineering GmbH & Co KG/Burkhard, Neurauter | Danube Mobile Communications Engineering GmbH & Co KG, Austria

Mario Huemer | Johannes Kepler University Linz, Austria

03:00 | 04:00

AMEX Auditorium: Closing Ceremony

04:00 | 05:00

Patio: Happy Hour

