

The Third International Workshop on Computational Advances in
Multi-Sensor Adaptive Processing

Technical Program

Sunday, Dec 13

17:00 - 20:00 - **Registration at reception** (Foyer Area)

18:30 - 20:00 - **Welcome Reception** (Laguna Restaurant)

Monday, Dec 14

8:00 - 12:00 - **Registration** (Foyer Area)

8:40 - 9:00 - **Opening Remarks** (Salon A)

9:00 - 9:45 - **Plenary 1: Resource Allocation and Game Theory**
Salon A (Eric G. Larsson, Linköping University, Sweden)

10:00 - 12:00 – **Invited Session: Game Theory**

Salon A Chair: Daniel P Palomar (Hong Kong University of Science and Technology, Hong Kong)

10:00 **Network Formation Games for Wireless Multi-hop Networks in the Presence of Eavesdroppers**

Walid Saad (University of Oslo, UniK, Norway);

Are Hjørungnes (University of Oslo, Norway);

Zhu Han (University of Houston, USA);

Tamer Basar (University of Illinois at Urbana-Champaign, USA)

10:20 **Pareto-Optimal Beamforming for the MISO Interference Channel With Partial CSI**

Eleftherios Karipidis (Linköping University, Sweden);

Andreas Gruendinger (Linköping University, Sweden);

Johannes Lindblom (Linköping University, Sweden);

Erik G. Larsson (Linköping University, Sweden)

10:40 **Alternative Bargaining Solutions for the Interference Channel**

Ephraim Zehavi (Bar-Ilan University, Israel);

Amir Leshem (Bar-Ilan University, Israel)

11:00 **On Proportional Power Sharing Mechanisms for Secondary Spectrum Markets**

Randall Berry (Northwestern University, USA)

11:20 **K-Player Bayesian Waterfilling Game for Fading Multiple Access Channels**

Gaoning He (Telecom ParisTech, France);

Merouane Debbah (Supelec, France);

Samson Lasaulce (CNRS/LSS, France)

11:40 **Pricing, Competition, and Routing in Multi-hop Networks**

Edmund Yeh (Yale University, USA)

10:00 - 12:00 - Invited Session: Robust Methods for SAM

Salon B Chair: Abdelhak Zoubir (Darmstadt University of Technology, Germany)

10:00 A Theoretical Framework for Problems Requiring Robust Behavior

Rafael Carrillo (University of Delaware, USA); Tuncer Aysal (Cornell University, USA);
Kenneth E Barner (University of Delaware, USA)

10:20 Measuring the Robustness of Sequential Methods

Petar Djuric (State University of New York at Stony Brook, USA); Monica F. Bugallo (Stony Brook University, USA);
Pau Closas (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain);
Joaquin Miguez (Universidad Carlos III de Madrid, Spain)

10:40 Outlier Elimination for Robust Ellipse and Ellipsoid Fitting

Jieqi Yu (Princeton University, USA); Haipeng Zheng (Princeton University, USA);
Sanjeev Kulkarni (Princeton University, USA); H. Vincent Poor (Princeton University, USA)

11:00 Accuracy of Source Localization Based on Squared-Range Least Squares (SR-LS) Criterion

Richard J. Kozick (Bucknell University, USA); Brian Sadler (Army Research Laboratory, USA)

11:20 Robust Semiparametric Amplitude Estimation of Sinusoidal Signals: The Multi-Sensor Case

Michael Muma (Darmstadt University of Technology, Germany); Ulrich Hammes (TU Darmstadt, Germany);
Abdelhak Zoubir (Darmstadt University of Technology, Germany)

11:40 Robust Short-term Load Forecasting Using Projection

Yacine Chakhchoukh (Paris sud XI, France); Pascal Bondon (LSS CNRS, France); Lamine Mili (Virginia Tech, USA)

13:00 - 13:45 - Plenary 2: Multilinear Rank Approximation Problems are Extremal

Salon A **Eigenvalue Problems (Bart De Moor, KU Leuven, Belgium)**

14:00 - 16:00 – Invited Session: Network Gossiping and Distributed Sensor Processing

Salon A Chair: Anna Scaglione (Cornell University, USA)

14:00 Self-Organization in Bird Flight Formations Using Diffusion Adaptation

Federico S Cattivelli (University of California, Los Angeles, USA);
Ali H. Sayed (University of California, Los Angeles, USA)

14:20 Directed Gossiping for Distributed Data Aggregation

Mehmet Yildiz (Cornell University, USA); Anna Scaglione (Cornell University, Italy)

14:40 Gossip and Consensus in Mobile Networks

Anand D. Sarwate (University of California, San Diego, USA);
Alex Dimakis (California Institute of Technology, USA)

15:00 Selective Gossip

Deniz Ustebay (McGill University, Canada); Rui Castro (Columbia University, USA);
Michael Rabbat (McGill University, Canada)

15:20 Distributed Sensor Localization Using Barycentric Coordinates

Usman Khan (Carnegie Mellon University, USA); Soumya Kar (Carnegie Mellon University, USA);
Jose Moura (Carnegie Mellon University, USA)

15:40 Quadratic Gaussian Gossiping

Han-I Su (Stanford University, USA); Abbas El Gamal (Stanford University, USA)

14:00 - 16:00 – Invited Session: Tensor-Based Signal Processing for Multi-Sensor Systems

Salon B Chair: Martin Haardt (Ilmenau University of Technology, Germany)

14:00 Methods for Factorization and Approximation of Tensors by Partial Fiber Sampling

Cesar Federico Caiafa (RIKEN BSI, Laboratory for Advanced Brain Signal Processing, Japan);
Andrzej S Cichocki (RIKEN BSI, Laboratory for Advanced Brain Signal Processing, Japan)

14:20 Analytical Performance Evaluation for HOSVD-Based Parameter Estimation Schemes

Florian Roemer (Ilmenau University of Technology, Germany);
Hanna Becker (Ilmenau University of Technology, Germany); Martin Haardt (Ilmenau University of Technology, Germany); Martin Weis (Ilmenau University of Technology, Germany)

14:40 Single Snapshot R-D Unitary Tensor-ESPRIT Using an Augmentation of the Tensor Order

Arpita Thakre (Indian Institute of Technology Madras, India);
Martin Haardt (Ilmenau University of Technology, Germany)

15:00 Higher-Order PCA for Anomaly Detection in Large-Scale Networks

Hayang Kim (Georgia Institute of Technology, USA); Sungeun Lee (Georgia Institute of Technology, USA);
Xiaoli Ma (Georgia Institute of Technology, USA); Chao Wang (Georgia Institute of Technology, USA)

15:20 A Link Between the Decomposition of a Third-Order Tensor in Rank-(L,L,1) Terms and Joint Block Diagonalization

Dimitri Nion (KU Leuven Belgium, Belgium); Lieven De Lathauwer (K.U.Leuven, Belgium)

15:40 A PARAFAC Decomposition Based Algorithm for Blind MIMO Source Separation

Rémi Dubroca (Université du Sud Toulon-Var, LSEET UMR 6017, France); Christophe De Luigi (Université du Sud Toulon-Var, LSEET UMR 6017, France); Eric Moreau (University of Sud Toulon Var, France)

16:20 - 17:40 - Invited Session: Network Beamforming and Distributed Space-Time Coding

Salon A Chairs: Alex Gershman (Darmstadt University of Technology, Germany),
Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada)

16:20 Cooperative Relaying with Side Information

Amir S. Avestimehr (Cornell University, USA)

16:40 A Semi-Closed-Form Solution To Optimal Decentralized Beamforming for Two-Way Relay Networks

Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada)

17:00 Joint Subcarrier Power Loading and Distributed Beamforming

Ahmed Abdelkader (Darmstadt University of Technology, Germany);
Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada);
Alex Gershman (Darmstadt University of Technology, Germany)

17:20 On Communication Protocol and Beamforming Design for Amplify-and-Forward N-Way Relay Networks

Feifei Gao (Jacobs University, Bremen, Germany); Tao Cui (California Institut of Technology, USA);
Bin Jiang (National Mobile Communications Research Lab., Southeast University, P.R. China);
Xiqi Gao (Southeast University, P.R. China)

16:20 - 18:00 - Sparsity-Based Signal Processing

Salon B Chair: Sergiy A. Vorobyov (University of Alberta, Canada)

16:20 Segmented Compressed Sampling for Analog-to-Information Conversion

Sergiy A. Vorobyov (University of Alberta, Canada); Omid Taheri (University of Alberta, Canada)

16:40 Exploiting Covariance-domain Sparsity for Dimensionality Reduction

Ioannis Schizas (University of Minnesota, USA); Georgios B. Giannakis (University of Minnesota, USA); Nikos Sidiropoulos (TUC, Greece)

17:00 Multi-Channel Reconstruction from a Randomly Sampled Array

Ryan Casey (Southwest Research Institute, USA); Kenneth Pesyna (Southwest Research Institute, USA); Christopher Smith (Southwest Research Institute, USA)

17:20 Collaborative Sparse Signal Recovery in Hierarchical Wireless Sensor Networks

Qing Ling (Michigan Technological University, USA); Zhi Tian (Michigan Technological University, USA)

17:40 Sparsity-Aware Estimation of Nonlinear Volterra Kernels

Vassilis Kekatos (University of Minnesota, USA); Daniele Angelosante (University of Cassino, Italy); Georgios B. Giannakis (University of Minnesota, USA)

17:40 - 19:00 - Invited Session: Adaptive Processing for Wireless Networks

Salon A Chairs: Robert Heath (The University of Texas at Austin, USA) ,
Angel Lozano (Universitat Pompeu Fabra (UPF), Spain)

17:40 Adaptive Wireless Networking Primitives for Distributed Scheduling: Can Radios Swarm?

Roberto Pagliari (Cornell University, USA); Yao-Win Peter Hong (National Tsing Hua University, Taiwan); Anna Scaglione (Cornell University, Italy)

18:00 Stochastic Routing and Scheduling in Wireless ad-hoc Networks Using Soft Backpressure Algorithms

Alejandro Ribeiro (University of Pennsylvania, USA)

18:20 A Cognitive Multi-Antenna Transceiver with a Multimodal-Pilot-Use Modem for Increased Wireless Network Throughput, Coverage and Power Efficiency

Sofiene Affes (INRS-EMT, Canada); Imen Mrissa (INRS-EMT, Canada); Karim Cheikhrouhou (INRS-EMT, Canada); Alex Stephenne (INRS - Centre Energie, Matériaux et Télécommunications, Canada)

18:40 On Low Complexity Cooperative Spectrum Sensing for Cognitive Networks

Gang Xiong (Lehigh University, USA); Shalinee Kishore (Lehigh University, USA); Aylin Yener (Pennsylvania State University, USA)

18:00 - 19:00 - Invited Session: MIMO Radar – Part I

Salon B Chairs: Marco Lops (University of Cassino, Italy) , Maria Greco (University of Pisa, Italy)

18:00 Co-Located MIMO radar with Orthogonal Waveform coding : Cramér-Rao Lower Bound

Rémy Boyer (CNRS, Université Paris-Sud (UPS), Supelec, France)

18:20 An Analysis of Phase Synchronization Mismatch Sensitivity for Coherent MIMO Radar Systems

Hana Godrich (New Jersey Institute of Technology, USA); Alexander Haimovich (NJIT, USA); H. Vincent Poor (Princeton University, USA)

18:40 Cramér-Rao Bounds for Bistatic Radars

Maria Greco (University of Pisa, Italy); Fulvio Gini (University of Pisa, Italy); Alfonso Farina (SELEX-SI, Italy)

Tuesday, Dec 15

8:40 - 9:25 - Plenary 3: Statistical Design and Imaging of Ultra-High Density 3D Microarrays
Salon A (Arye Nehorai, Washington University, USA))

9:40 - 12:00 – Invited Session: Compressed Sensing

Salon A Chair: Yonina C. Eldar (Technion---Israel Institute of Technology, Israel)

9:40 On the Role of Sparsity in Compressed Sensing and Random Matrix Theory

Roman Vershynin (University of Michigan, USA)

10:00 An Adaptive and Information Theoretic Method For Compressed Sampling

Akram Aldroubi (Vanderbilt University, USA)

10:20 Universal Priors for Sparse Modeling

Ignacio Ramirez (University of Minnesota, USA);

Federico Lecumberry (Universidad de la República, Uruguay);

Guillermo Sapiro (University of Minnesota, USA)

10:40 Multipath Medium Identification Using Efficient Sampling Schemes

Kfir Gedalyahu (Technion - Israel Institute of Technology, Israel);

Yonina C. Eldar (Technion-Israel Institute of Technology, Israel)

11:00 Distributed Spatio-Temporal Sampling of Diffusion Fields from Sparse Instantaneous Sources

Yue Lu (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland);

Martin Vetterli (EPFL, Switzerland)

11:20 A Sublinear Algorithm for Sparse Reconstruction with l_2 / l_2 Recovery Guarantees

Robert Calderbank (Princeton University, USA);

Stephen D Howard (DSTO, Australia);

Sina Jafarpour (Computer Science, Princeton University, USA)

11:40 Fast Algorithms for Recovering a Corrupted Low-Rank Matrix

Arvind Balasubramanian (University of Illinois, Urbana-Champaign, USA);

Zhouchen Lin (Microsoft Research, Asia, P.R. China);

John Wright (Microsoft Research Asia, P.R. China);

Leqin Wu (Chinese Academy of Sciences, P.R. China);

Minming Chen (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China);

Yi Ma (University of Illinois at Urbana-Champaign, USA)

9:40 - 11:40 – Invited Session: MIMO Radar – Part II

Salon B Chairs: Marco Lops (University of Cassino, Italy) , Maria Greco (University of Pisa, Italy)

9:40 MIMO Radar Waveform Design: a Divergence-Based Approach for Sequential and Fixed-Sample Size Tests

Emanuele Grossi (Università degli Studi di Cassino, Italy); Marco Lops (University of Cassino, Italy)

10:00 Alternating Projection for MIMO Radar Waveform Design

Yang Yang (Lehigh University, USA); Rick Blum (Lehigh University, USA);
Daniel Fuhrmann (Michigan Technological University, USA)

10:20 OFDM MIMO Radar Design for Low-Angle Tracking Using Mutual Information

Satyabrata Sen (Washington University in St. Louis, USA); Arye Nehorai (Washington University in St. Louis, USA)

10:40 Golay Complementary Waveforms for Sparse Delay-Doppler Radar Imaging

Yuejie Chi (Princeton University, USA); Robert Calderbank (Princeton University, USA);
Ali Pezeshki (Colorado State University, USA)

11:00 Direction Finding for MIMO Radar with Collocated Antennas using Transmit Beam-space Preprocessing

Aboulnasr Hassanien (University of Alberta, Canada); Sergiy A. Vorobyov (University of Alberta, Canada)

11:20 MIMO Radar: From a Different Perspective

Chris J Baker (Australian National University, Australia)

13:00 - 13:45 - Plenary 4: On the Use of Acoustic Arrays in Blind Separation of Convolutional Mixtures (Shoji Makino, University of Tsukuba, Japan)

14:00 - 16:00 - Invited Session: Physics-Based Signal Processing and Imaging

Salon A Chair: Sven Nordebo (Vaxjo University, Sweden) , Mats Gustafsson (Lund University, Sweden)

14:00 Fisher Information Analysis in Microwave Tomography

Sven Nordebo (Vaxjo University, Sweden); Andreas Fhager (Chalmers University of Technology, Sweden);
Mats Gustafsson (Lund University, Sweden); Borje Nilsson (Vaxjo University, Sweden)

14:20 Passive Imaging Using Cross Correlations of Ambient Noise Signals

Josselin Garnier (Universite Paris 7, France);
George Papanicolaou (Stanford University, USA)

14:40 Passive Imaging and Detection in Cluttered Media

Knut Solna (UC Irvine, USA); Josselin Garnier (Universite Paris 7, France)

15:00 Underground Imaging of Irregular Terrains Using RF Tomography

Lorenzo Lo Monte (University of Illinois at Chicago, USA); Danilo Erricolo (University of Illinois at Chicago, USA);
Francesco Soldovieri (CNR, Italy); Michael C Wicks (Air Force Research Laboratory, USA)

15:20 Multi-static Synthetic Aperture Radar Image Formation

Venky Krishnan (Rensselaer Polytechnic Institute, USA); John Swoboda (MITRE Corporation, USA);
Can Evren Yarman (WesternGeco - Schlumberger, USA); Birsen Yazici (Rensselaer Polytechnic Institute, USA)

15:40 Nonparametric Learning of Dictionaries for Sparse Representation of Sensor Signals

Lawrence Carin (Duke University, USA)

14:00 - 16:00 - Acoustic Arrays and Localization

Salon B Chair: Kristine L Bell (George Mason University, USA)

14:00 Feature-Aided Localization and Tracking of Ground Vehicles Using Passive Acoustic Sensor Networks

Vishal Ravindra (University of Connecticut, USA); Yaakov Bar-Shalom (University of Connecticut, USA);
Thyagaraju Damarla (U.S. Army Research Laboratory, USA)

14:20 Fast Sequential Source Localization Using the Projected Companion Matrix Approach

Mohammed El korso (Laboratoire des Signaux et Systèmes (L2S), France);
Rémy Boyer (CNRS, Université Paris-Sud (UPS), Supelec, France);
Sylvie Marcos (Laboratoire des Signaux et Systems, Supélec, CNRS UMR8506, France)

14:40 Fast and Versatile Blind Separation of Diverse Sounds Using Closed-Form Estimation of Probability Density Functions of Sources

Hiroshi Saruwatari (Nara Institute of Science and Technology, Japan); Yu Takahashi (Nara Institute of Science and Technology, Japan); Kentaro Tachibana (Nara Institute of Science and Technology, Japan); Yoshimitsu Mori (Nara Institute of Science and Technology, Japan); Shigeki Miyabe (Nara Institute of Science and Technology, Japan); Kiyohiro Shikano (Nara Institute of Science and Technology, Japan); Akira Tanaka (Hokkaido University, Japan)

15:00 BSS for Improved Interference Estimation for Blind Speech Signal Extraction with Two Microphones

Yuanhang Zheng (University of Erlangen-Nuremberg, Germany);
Klaus Reindl (University of Erlangen-Nuremberg, Germany);
Walter Kellermann (University Erlangen-Nuremberg, Germany)

15:20 Explicit Ziv-Zakai Bound for DOA Estimation with Sparse Linear Arrays

Diba Khan (George Mason University, USA); Kristine L Bell (George Mason University, USA)

15:40 Orientation-Aware Indoor Localization using Affinity Propagation and Compressive Sensing

Feng Chen (University of Beijing Jiaotong, Canada); Wain Sy Anthea Au (University of Toronto, Canada);
Shahrokh Valaee (University of Toronto, Canada); Zhen-hui Tan (Beijing Jiaotong University, P.R. China)

16:20 - 18:00 - Invited Session: Network Beamforming and Distributed Space-Time Coding –

Salon A **Part II** Chairs: Shahram Shahbazpanahi (University of Ontario Institute of Technology, Canada),
Alex Gershman (Darmstadt University of Technology, Germany)

16:20 Improving Network Distributed Space-Time Coding Through Combining at Multiple-Antenna Relay

Yindi Jing (University of Alberta, Canada)

16:40 On the Capacity of Bidirectional Relaying with Unknown Varying Channels

Rafael F. Wyrembelski (Technische Universität Berlin, Germany);
Igor Bjelakovic (Berlin University of Technology, Germany);
Holger Boche (Technical University of Berlin, Germany)

17:00 Relay Selection for Grouped-Relay Networks Using the Average SLNR Measure

Jingon Joung (University of California, Los Angeles, USA);
Ali H. Sayed (University of California, Los Angeles, USA)

17:20 Cooperative Amplify-and-Forward Beamforming with Multi-Antenna Source and Relays

Yang-wen Liang (University of British Columbia, Canada); Robert Schober (University of British Columbia, Canada)

17:40 Near-far robustness and optimal power allocation for two-way relaying with MIMO amplify and forward relays

Florian Roemer (Ilmenau University of Technology, Germany);
Martin Haardt (Ilmenau University of Technology, Germany)

16:20 - 18:00 - Theory and Applications

Salon B Chair: Tomas McKelvey (Chalmers University of Technology, Sweden)

16:20 Can Maximum-Likelihood "Threshold Performance" be Improved by Random Matrix Theory Tools?

Yuri Abramovich (DSTO, Australia)

Ben A. Johnson (JORN Technical Director, Australia);

Nicholas Spencer (Adelaide Research & Innovation Pty Ltd (ARI), Australia)

16:40 The Marginalized Auxiliary Particle Filter

Carsten Fritsche (Technische Universität Darmstadt, Germany);

Thomas B. Schön (Linköping University, Sweden);

Anja Klein (TU Darmstadt, Germany)

17:00 Basis Pursuit with Sequential Measurements and Time Varying Signals

M. Salman Asif (Georgia Institute of Technology, USA);

Justin K Romberg (Georgia Tech, USA)

17:20 Fast Nonnegative Tensor Factorization for Very Large-Scale Problems Using Two-Stage Procedure

Anh Huy Phan (RIKEN, Japan);

Andrzej S Cichocki (RIKEN BSI, Laboratory for Advanced Brain Signal Processing, Japan)

17:40 Classification of Microwave Scattering Data based on a Subspace Distance with Application to Detection of Bleeding Stroke

Mohammad Ali Khorshidi (Chalmers University of Technology, Sweden);

Tomas McKelvey (Chalmers University of Technology, Sweden);

Mikael Persson (Chalmers University of Technology, Sweden);

Hana Dobsicek Trefna (Chalmers University of Technology, Sweden)

19:30 - 21:30 - **Banquet** (Pool Deck)

Wednesday, Dec 15

8:40 - 9:25 - **Plenary 5: Trends in Radar Sensor Information Fusion**
Salon A (Rabinder N. Madan, Office of Naval Research, Arlington, VA, USA)

9:40 - 11:40 - **Invited Session: Approximate Joint Diagonalization**
Salon A Chair: Arie Yeredor (Tel-Aviv University, Israel)

9:40 **Joint Diagonalization: Is Non-Orthogonal always preferable to Orthogonal?**
Antoine Souloumiac (CEA, LIST, Laboratoire Processus Stochastiques et Spectres, France)

10:00 **Extension of Joint Diagonalization for Moving Targets**
Gen Hori (Asia University, Japan);
Toshihisa Tanaka (TUAT and RIKEN, Japan)

10:20 **On hybrid Exact-Approximate Joint Diagonalization**
Arie Yeredor (Tel-Aviv University, Israel)

10:40 **Block Decomposition for Very Large-Scale Nonnegative Tensor Factorization**
Anh Huy Phan (RIKEN, Japan);
Andrzej S Cichocki (RIKEN BSI, Laboratory for Advanced Brain Signal Processing, Japan)

11:00 **An Optimal Step Size Relative Gradient Based Joint Diagonalization Algorithm**
Hicham Ghennioui (I.S.I.T.V, France);
Nadège Thirion (Institut des Sciences de l'ingénieur de Toulon et du Var, France);
Eric Moreau (University of Sud Toulon Var, France)

11:20 **Bias-Variance Dilemma in Joint Diagonalization and Blind Source Separation**
Bijan Afsari (University of Maryland, USA)

9:40 - 12:00 - Wireless Networks

Salon B Chair: Richard K. Martin (Air Force Institute of Technology, USA)

9:40 Power Allocation in Decode-and-Forward Cooperative Networks via SEP Minimization

Sergiy A. Vorobyov (University of Alberta, Canada);
Arash Khabbazi-basmenj (University of Alberta, Canada)

10:00 Distributed Space-Time Code Designs Via Cayley Transform

Yindi Jing (University of Alberta, Canada)

10:20 Wireless Network Discovery Via RSS-based Estimation of Multi-transmitter RF Footprint

Richard K. Martin (Air Force Institute of Technology, USA)

10:40 Distributed Projection Approximation Subspace Tracking based on Consensus Propagation

Carolina Reyes (Vienna University of Technology, Austria);
Thibault Hilaire (Vienna University of Technology, Austria);
Christoph F Mecklenbräuker (Vienna University of Technology, Austria)

11:00 Optimal Network Size and Encoding Rate for Random Field Estimation with Wireless Sensor Networks

Javier Matamoros (Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain);
Carles Anton-Haro (Telecommunications Technological Center of Catalonia (CTTC), Spain)

11:20 Randomized Transmission Power for Accelerated Consensus in Asymmetric WSNs

Silvana Silva Pereira (Technical University of Catalonia, Spain);
Alba Pagès-Zamora (Technical University of Catalonia, Spain)

11:40 On Achieving the Optimum Sum Rate of Regenerative Multi-Antenna Multi-Way Relaying

Aditya Umbu Tana Amah (TU Darmstadt, Germany);
Anja Klein (TU Darmstadt, Germany)

13:00 - 13:45 - Plenary 6: A Physics Based Approach to Nonlinear Filters

Salon A (Fred Daum, Raytheon, USA)

14:00 - 16:00 – Invited Session: Monte-Carlo Methods

Salon A Chair: Monica F. Bugallo (Stony Brook University, USA)

14:00 Particle Filters with Approximation Steps

Boris N Oreshkin (McGill University, Canada);
Mark Coates (McGill University, Canada)

14:20 On MCMC-Based Particle Methods for Bayesian Filtering : Application to Multitarget Tracking

Francois Septier (University of Cambridge, UK);
Sze Kim Pang (University of Cambridge, UK);
Avishy Carmi (University of Cambridge, UK);
Simon Godsill (University of Cambridge, UK)

14:40 A Monte Carlo Based Energy Efficient Source Localization Method for Wireless Sensor Networks

Engin Masazade (Sabanci University, Turkey);
Ruixin Niu (Syracuse University, USA);
Pramod Varshney (Syracuse University, USA);
Mehmet Keskinoz (Sabanci University, Turkey)

15:00 Hybrid Probabilistic Data Association and Variational Filtering for Multi-Target Tracking in Wireless Sensor Networks

Jing Teng (University of Technology of Troyes, France);
Hichem Snoussi (University of Technology of Troyes, France);
Cedric Richard (UT Troyes, France);
Yi Zhou (Shanghai Jiao Tong university, P.R. China)

15:20 Subspace-based Bayesian blind source separation for hyperspectral imagery

Nicolas Dobigeon (University of Toulouse, France);
Saïd Moussaoui (IRCCyN, France);
Martial Coulon (University of Toulouse, France);
Jean-Yves Tournet (IRIT/ENSEEIH/TéSA, France);
Alfred Hero (University of Michigan, USA)

15:40 Fragment-based Variational Visual Tracking

Yi Zhou (Shanghai Jiao Tong university, P.R. China);
Hichem Snoussi (University of Technology of Troyes, France);
Shibao Zheng (Shanghai Jiao Tong University, P.R. China);
Cedric Richard (UT Troyes, France);
Jing Teng (University of Technology of Troyes, France)

14:00 - 15:00 - MIMO Communications

Salon B Chair: Lee Swindlehurst (University of California at Irvine, USA)

**14:00 Downlink Resource Allocation for Multi-user MIMO-OFDMA Systems:
The Kalai-Smorodinsky Bargaining Approach**

Jie Chen (University of California, Irvine, USA);
Lee Swindlehurst (University of California at Irvine, USA)

14:20 MSE Uplink-Downlink Duality of MIMO systems Under Imperfect CSI

Tadilo Endeshaw (University of Catolique de Louvain, Belgium);
Batu Chalise (University Catholique de Louvain, Belgium);
Luc Vandendorpe (University of Louvain, Belgium)

14:40 Comparison of Precoding Methods for Broadband MIMO Systems

Waleed Al-Hanafy (Strathclyde University, UK)

15:00 - 16:40 – Invited Session: Cognitive Radio

Salon B Chair: Geert Leus (Delft University of Technology, The Netherlands)

15:00 Spectrum Sensing for Cognitive Radios Using Kriged Kalman Filtering

Seung-Jun Kim (University of Minnesota, USA);
Emiliano Dall'Anese (University of Padua, Italy);
Georgios B. Giannakis (University of Minnesota, USA)

15:20 Energy-efficient Distributed Spectrum Sensing with Convex Optimization

Sina Maleki (TU Delft, The Netherlands);
Ashish Pandharipande (Philips Research Laboratories, The Netherlands);
Geert Leus (Delft University of Technology, The Netherlands)

15:40 Time Delay Estimation in Cognitive Radio Systems

Fatih Kocak (Bilkent University, Turkey);
Hasari Celebi (Texas A&M University at Qatar, Qatar);
Sinan Gezici (Bilkent University, Turkey);
Khalid A. Qaraqe (Texas A&M University at Qatar, Qatar);
Huseyin Arslan (University of South Florida, USA);
Vincent Poor (Princeton University, USA)

**16:00 Joint Optimization of Detection Thresholds and Power Allocation for Opportunistic Access in
Multicarrier Cognitive Radio Networks**

Sergio Barbarossa (University of Rome, Italy);
Stefania Sardellitti (University of Cassino, Italy);
Gesualdo Scutari (University of Rome "La Sapienza", Italy)

16:20 Optimal Scheduling and QoS Power Control for Cognitive Underlay Networks

Eleftherios Karipidis (Linköping University, Sweden);
Erik G. Larsson (Linköping University, Sweden);
Kaj Holmberg (Linköping University, Sweden)
